Provision of Resources in the Implementation of Tuberculosis-Multi Drugs Resistance Treatment Service in “X” Hospital

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INDEXING

Keywords:

Tuberculosis-Multi

Drugs Resistance

Treatment;

Hospital Service;

ABSTRACT

The purpose of the study is to evaluate the provision of resources in the implementation of Tuberculosis-Multi Drugs Resistance (MDR-TB) treatment service in “X” Hospital. The research type is qualitative research with in-depth interviews, observations, and documentation. The main informants are health workers who have been trained and involved in MDR-TB treatment service while the triangulation informants are MDR-TB patients and the Head of Community Health Center. Existing data is collected, reduced, presented, evaluated, drawn conclusion and verified with 5 components of resources studied, namely the components of labor, facilities, logistics, funding and work methods or procedures. In this study, information was obtained that the implementation of MDR-TB treatment service in “X” Hospital must be supported by adequate preparation of resources by following applicable regulations. Therefore, an appropriate and measurable planning mechanism is needed so that in the preparation of resource requirements namely personnel, funding, facilities and logistics as well as working methods or procedures in MDR-TB treatment service can be calculated accurately and measurably to develop service.

Kata kunci:

Pengobatan

Tuberculosis-Multi

Drugs Resistance;

Pelayanan Rumah Sakit;

Tujuan penelitian ini untuk mengevaluasi penyediaan sumber daya dalam pelaksanaan pelayanan pengobatan Tuberculosis-Multi Drugs Resistance (TB-MDR) di Rumah Sakit Umum Daerah dr. Loekmono Hadi Kudus. Jenis penelitian ini adalah penelitian kualitatif dengan wawancara mendalam dan observasi. Informan utama adalah tenaga kesehatan yang terlatih dan terlibat dalam layanan pengobatan TB-MDR sedangkan informan triangulasinya adalah pasien TB-MDR dan Kepala Puskesmas. Data yang ada dikumpulkan, selanjutnya direduksi, disajikan, dievaluasi, ditarik kesimpulan dan diverifikasi dengan 5 komponen sumber daya yang diteliti yaitu komponen ketenagaan, sarana, logistik, pendanaan dan metode atau prosedur kerja. Pada penelitian ini didapatkan informasi bahwa pelaksanaan pelayanan pengobatan TB-MDR di rumah sakit harus didukung dengan persiapan sumber daya yang memadai sesuai dengan regulasi yang berlaku. Oleh karena itu, mekanisme perencanaan yang tepat dan terukur sangat dibutuhkan sehingga dalam penyiapan kebutuhan sumber daya yaitu ketenagaan, pendanaan, sarana dan logistik serta metode atau prosedur kerja dalam pelayanan pengobatan TB-MDR dapat dihitung secara tepat dan terukur dalam rangka pengembangan pelayanan.

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Article History: Received 2019-Oct-25; Revised 2019-Dec-20; Accepted 2019-Dec-30

INTRODUCTION

One type of health service in a hospital is a Tuberculosis (TB) treatment service. TB is a contagious disease caused by the bacterium *Mycobacterium tuberculosis*. Based on the 2018 World Health Organization (WHO) Global Report's on Tuberculosis, Indonesia is among the 30 countries with the highest TB burden which accounts for 87% of all estimated incident cases worldwide. Also, Indonesia is also included in 8 countries contributing two-thirds of the total global TB, namely India (27%),

China (9%), Indonesia (8%), Philippines (6%), Pakistan (5%), Nigeria (4 %), Bangladesh (4%) and South Africa (3%).¹ TB treatment is one of the treatments whose healing process requires quite a long time. Based on Arda Yuni's research which states that with the need for a long duration of treatment followed by the magnitude of side effects caused during treatment, it is possible for TB patients who do not follow the rules or are not compliant with treatment.² This is the cause of resistance to TB drugs or better known as TB - Multi Drugs Resistance (MDR-TB). The process of

treating MDR-TB is far more complicated and more attention is needed than the treatment of TB sufferers themselves.^{3,4}

The standard guidelines used in the treatment of MDR-TB are the Directly Observed Treatment Short Course (DOTs) guidelines as well as the guidelines for TB treatment. The DOTs Guidelines are TB prevention and control efforts that have been recommended by WHO. The main focus of DOTs activities is the discovery and healing of TB patients including those with MDR-TB. From the results of Otu's study which reflects the WHO recommendations which state that the concept of DOTs plays an important role in TB control, especially in developing countries.⁵ In another study conducted by Prameswari, it was stated that the optimization of DOTs strategy especially DOTs in hospitals can increase the success of TB treatment.⁶ Since 1994, the DOTs strategy has been adopted in Indonesia and has been implemented nationally. However, the use of strategies that have been implemented have not shown encouraging results.⁴

The Hospital as one of the health facilities and are part of the health system have an important role in handling MDR-TB, according to the results of the study as presented by Vries et al. and Utomo et al.^{7,8} To be able to serve MDR-TB treatment service, "X" Hospital opened MDR-TB treatment service in August 2018. Until now, "X" Hospital is listed as one of 8 hospitals in Central Java designated by the Ministry of Health and the Central Java Provincial Government Health Office as a referral hospital for MDR-TB treatment. MDR-TB treatment service activities in "X" Hospital is held comprehensively, where medical service is provided in an integrated manner within 1 service time which includes the provision of medical service, non-medical service, and support service, each of which is served by health workers according to their fields. This is intended to achieve optimal MDR-TB treatment service and the success of treatment by following MDR-TB treatment standards. According to the results of research from Akshata which states that the success of MDR-TB treatment is characterized by the occurrence of adequate treatment that is the lack of a risk of side effects during treatment and increased therapeutic outcomes in MDR-TB patients.⁹

Since the first MDR-TB treatment service in "X" Hospital was opened to the community until February 2019, recorded to have served MDR-TB treatment to 54 outpatients and 30 inpatients. These patients come from referral patients from other health facilities (hospitals or health center) or case findings made passively by "X"

Hospital. After the researchers carried out preliminary observational results, it was found that the majority of patients who were undergoing treatment in "X" Hospital often experience side effects from the treatments he has received. The frequency of side effects varies from the level of mild to severe side effects. Besides to the data acquisition above, other data that was successfully obtained was that 17 MDR-TB had experienced a condition of dropping out of treatment so that it was suspected that the appropriate standard of MDR-TB treatment had not yet been obtained.

The above conditions are in line with several previous studies related to MDR-TB treatment. One of them is the result of research from El-Din et al. which states that the success of MDR-TB treatment is strongly influenced by the side effects that often occur during MDR-TB treatment. Besides, the success of MDR-TB treatment is also largely determined by the patient's compliance in undergoing treatment.¹⁰ While the results of research from Karuniawati et al. stated that the success of MDR-TB treatment is influenced by the long duration of treatment, the level of patient compliance in treatment, the presence of comorbidities in patients and also the nutritional status of patients.¹¹ Besides to the above research, there are also other research results from Munir et al. which explains that the availability of MDR-TB treatment guidelines which includes guidelines on the provision of regimens, dosages and how to use affect the success of MDR-TB treatment.¹² There are also research results from Yang et al. which states that hospitals play a role in optimizing early detection of MDR-TB events so that future MDR-TB treatment strategies will be more optimal and the implementation of MDR-TB infection transmission can be well programmed.¹³

With the initial description as found by the researchers and referring to the results of several previous studies related to MDR-TB treatment service, to improve, an in-depth analysis is needed so that the root causes of the condition can be immediately found and corrected so that it complies with the regulations, and hope.

RESEARCH METHODS

This type of research is an evaluation study with a qualitative approach through in-depth interviews, observation and documentation.¹⁴ The purpose of this study was to obtain accurate information about the description of the provision of resources in the implementation of MDR-TB treatment service in "X" Hospital. The desired data were obtained directly through in-depth interviews with

informants while secondary data was obtained from a document review of the implementation of MDR-TB treatment service at “X” Hospital with the equipment used is a recorder and interview guide. The concepts examined in this study include 5 components, namely power, facilities, logistics, funds, and methods.

The main informants were health workers who were trained and involved in MDR-TB treatment service, namely 4 informants with details of Nurses (IU 1), Pharmacists (IU 2), Health Analysts (IU 3) and Lung Specialists (IU 4). For triangulation, the informants came from MDR TB patients and The Head of Community Health Center elements with details of 3 MDR TB patients (IT 1, IT 2, IT 3) whose treatment had reached advanced treatment and a Head of The Community Health Center (IT 4) where The Community Health Center which he leads has collaborated with “X” Hospital in handling MDR-TB.

RESULTS AND DISCUSSION

Personnel

One of the success factors of a health program is the availability of good health human resources and in this study it is shown that the element of energy is one of the most important issues in MDR-TB treatment service. An overview of the elements of personnel involved as presented in Table 1. The table shows that the types of trained health workers that have been owned by “X” Hospital in MDR-TB treatment service have not fully met the requirements according to MDR-TB treatment regulations.

By only having 1 trained General Practitioner and the absence of trained Nurses for MDR-TB care wards, the minimum requirements for skilled personnel according to regulations have not been fulfilled. In the implementation of MDR-TB treatment service, the hospital initially had 2 MDR TB-trained General Practitioners, both of whom had permanent status as hospital staff. But what happened then, one of the General Practitioners who was involved and trained in MDR-TB treatment moved to work in another hospital.

As for the vacancy, trained nurses on the MDR-TB care ward have existed since the MDR-TB service was opened to the community. One impact of the vacancy is the presence of trained nurses in polyclinics who often have to carry out additional tasks in nursing care for MDR-TB treatment in MDR-TB inpatient service. In the interviews with other staff, namely Pharmacists and Laboratory Analysts, the following information was obtained:

“The Pharmacist has been trained by following regulatory requirements, but the fact is not fully involved in MDR-TB treatment service” (IU 2)

“5 trained laboratory analysts carry out rapid molecular test examinations. But no one has been specifically assigned to the rapid test examination” (IU 3)

From the results of the interview, it is necessary to add more personnel related to the need for MDR-TB treatment service in “X” Hospital to comply with regulatory requirements without compromising the quality of MDR-TB treatment service. For the needs of the MDR-TB molecular rapid test, there is a need for analysts who are specialized in the examination unit. So that the power problems do not recur, a policy is needed at the “X” Hospital that the personnel requirements that will be placed in the MDR-TB treatment service have become state civil servants in the hope that the commitment of health workers involved in MDR-TB treatment service can be maintained.

When viewed from the competency factor, health workers who have been directly involved in MDR-TB treatment service have been trained in MDR-TB treatment. The training in question is an effort to improve staff knowledge, attitudes, and skills to improve the quality and performance of officers in MDR-TB treatment service. To be able to create a cadre of health workers in MDR-TB treatment service, the need for the inclusion of untrained health workers in various organizing training for MDR-TB treatment, both organized by the Provincial Health Office and the Ministry of Health. The need for health workers by following the requirements is one important input in the realization of quality and quality MDR-TB treatment service.

Infrastructure

The most important element in MDR-TB health service is the provision of facilities. Facilities are everything that is used as a tool to achieve certain goals. Information from the results of this study shows that facilities such as molecular rapid test kits, biological safety cabinets, sputum chambers, the presence of outpatient polyclinics and MD-TB inpatients, whose locations are separated from other service areas, are a form of commitment from “X” Hospital to be able to provide care service according to regulations without having to neglect quality service for patients with MDR-TB.

Tabel 1. Suitability of Trained Personnel Type based on MDR-TB Treatment Regulations

Type of Trained Health Workers	Number of People According to Regulations	Reality	Age (Year)	Education	Explanation
Medical Specialist (Lung/ Internist)	1	1	39	Lung Specialist	
General Practitioners	2	2	31 28	General Practitioners General Practitioners	Status as a contract employee in "X" Hospital and stopped working since April 2019 due to a change of job
Nurse	1	1	37	Diploma of Nursing	Nurse on duty in MD-TB outpatient care
Nurse	1	-	-	-	Nurses on duty in MD-TB outpatient polyclinics consist of 5 Professional Nurses, 14 Diploma of Nursing but all of them have not been trained in MDR-TB treatment
Pharmacist	1	1	38	Pharmacist	The Pharmacists is mostly in charge of inpatient pharmacy service
Laboratory staff		5	40 50 34 52 43	Diploma in Health Analyst Diploma in Health Analyst Diploma in Health Analyst Applied Bachelor of Health Analyst Diploma in Health Analyst	Besides to the MDR-TB examination, all laboratory personnel are also scheduled to work shifts in the clinical laboratory examination

However, based on the conclusions from the following interviews, several obstacles were found :

"The lack of repairs and improvements to some unrepresentative building facilities, including MDR-TB inpatient wards whose treatment classes are not differentiated, waiting rooms for MD-TB outpatient polyclinics and workplaces of poly-outpatient officers or MD-TB inpatient wards. Besides, intensive care facilities for MDR-TB patients must be fulfilled as meeting the regulatory requirements for MDR-TB service" (IU 1, IU 4)

"Utilization of rapid test kits has exceeded its capacity due to the large number of samples that must be examined so that later the purchase of the rapid test kits is needed at the Community Health Center" (IU 3)

Utilization of technology, especially in the diagnosis of MDR-TB with rapid test methods is very useful in the diagnosis and treatment of patients as early as possible. As the results of research conducted by Sirait et al. which states that molecular rapid test kits are suggested as the primary screening tool for MDR-TB.¹⁵ Likewise with research that has been done by Cox et al., Gomez et al.,

Saeed et al. and Evan et al. which all state that the enforcement of MDR-TB diagnoses should have used the rapid examination method.^{16,17,18,19}

The rapid test can work in as little as 2 hours as stated in the research of Saeed et al.¹⁹ The results of examinations that we're able to be carried out briefly were found no significant differences when compared with the results of examinations conducted by microscopy or culture methods, as stated by Lebina et al. in his research.²⁰ In another study conducted by Narasimooloo and Ross which stated that examinations with conventional methods allegedly slowed the diagnosis and delayed the initial initiation of MDR-TB treatment.²¹

Therefore, as stated in the research of Htun et al. that ideally, these rapid test kits should be available at other health facilities so that MDR-TB referral hospitals can play a more effective role in the diagnosis and initiation of MDR-TB treatment.²² For this reason, the hospital must fulfill the lack of appropriateness of some facilities with the first step that must be taken, namely the commitment to provide a budget for improving the facilities.

The lack of available facilities was also felt by patients as identified in the following conclusions from the interviews:

“The waiting room for outpatient service available is not representative so sometimes the family of patients who deliver cannot get a seat” (IT 2)

“I was hospitalized once and the place was mixed. Hopefully, these facilities can be immediately repaired to fit the nursing class” (IT 3)

All of the conditions stated can be explained that the means are all things that are used as tools to achieve certain goals. These facilities must be available and in good condition or not damaged, complete, of sufficient quality and sufficient quantity so that they can assist officers in carrying out their work properly. This condition is confirmed by the results of research by Naidoo et al. which states that completeness in the provision of facilities contributes significantly to optimizing the smooth delivery of MDR-TB treatment service.²³

Logistic

Good logistics planning is an indicator in the success of logistics and to avoid logistics gaps as presented in the results of the study of Jatau et al.²⁴ The logistical inventory gap is often constrained by planning errors and can also be caused by improper logistics distribution constraints.²⁵

By following the information the results of this study indicate that requests for logistics by the hospital to the Ministry of Health through the health service have been carried out according to a schedule that is 3 months and stock analysis is carried out every month. The vacancy condition caused by calculation errors in planning and also caused by obstacles in the logistics distribution channel. The planning error in question is not yet able to estimate the amount of logistics needed because of the number of new case findings.

While for the obstacles in the logistics distribution path, among others, it is caused by the logistical delivery stages that have to be tiered from the Ministry of Health, the Provincial Health Office until it is resumed to the hospital through the Regency/City Health Office. Besides, the delivery schedule itself cannot be predicted so that it results in a logistical vacuum in the hospital. It is well known that the lack of continuity in logistical supplies will have an impact on the success of MDR-TB treatment.

Therefore, if a logistical inventory is found for a type of drug, it is by following the directions from the Central

Java Provincial Health Office and as stipulated in the existing operational standards “X” Hospital will borrow the logistics inventory from another MDR-TB referral hospital and will be replaced if the planned logistics for hospital needs have been received from the District/ City Health Office. Specifically for non-drug logistics vacancies, the hospital will facilitate the logistics supply itself using the hospital budget, as in the following interview:

“If there is a non-drug logistics vacuum, this will be facilitated by the hospital budget” (IU 2)

Fund

The other most important resource element in health service besides personnel, facilities and logistics is funding as stated in Minister of Health Regulation No. 13/2013. Sufficient funds are one of the capitals in the implementation of MDR-TB treatment service. The results of this study indicate that funding for facilities in MDR-TB treatment service is sourced from hospital budgets as summarized in the following interview results:

“The hospital has provided funds in MDR-TB service which have been used for the construction of outpatient poly facilities, sputum booths, repair of MDR-TB inpatient wards and purchase of biosafety cabinets to match the MDR-TB service requirements” (IU 1, IU 2, IU 3, IU 4)

Funding is also needed to finance logistics distribution which has not been specifically budgeted by hospitals. This indicates that in the process of preparing the budgeting mechanism, it has not yet considered carefully how the planned activities in MDR-TB treatment service will be carried out. Logistics mobilization as mentioned above is the sending of test samples to a laboratory that has been appointed by the Ministry of Health as well as the delivery of logistics for Anti-TB drugs (OAT) and other logistics delivery to health facilities that have collaborated with hospitals in MDR-TB treatment.

The funding has been facilitated by donor agencies. Due to the realization of his claims that can not be determined, then to realize the acceleration of service officers use their money. This step was taken by officers as a practical solution for the continuation of MDR-TB treatment activities. This study is in line with the research of Tamsil et al. which states that implementing MDR-TB treatment requires financial support to improve the quality of MDR-TB treatment service.²⁶

Method

The method is a work system that must be carried out systematically and sequentially. The form of this method can be in the form of clear or structured guidelines or implementation guidelines or standard service procedures. Based on the results of the study, for the need for standardization of service quality in MDR-TB, "X" Hospital has compiled several guidelines for MDR-TB service which include guidelines on drug management and logistics, lost patient tracking, referral service, inpatient MDR-TB service and outpatient MDR-TB service which are then translated again in the form of several standards operational procedure.

Besides the results presented above, there are several other things as in the conclusions in the following interview results :

"After registering for treatment, we were directed to the location where MDR-TB outpatient service was located. Besides this direction, the flow of MDR-TB service that has been provided is very helpful for patients and their families" (IT 2)

"The flow of service that have been provided is very clear and easy to understand" (IT 4)

Based on the results of the interview it can be concluded that the existence of some guidelines for MDR-TB service has an impact on the optimization of MDR-TB treatment service felt by MDR-TB patients in "X" Hospital and The Community Health Center as one of the partners for "X" Hospital in the treatment of MDR-TB.

CONCLUSION

Implementation of MDR-TB treatment service in "X" Hospital must be supported by adequate preparation of resources by following applicable regulations. Therefore, an appropriate and measurable planning mechanism is needed so that in preparing the resource requirements which include energy, funding, facilities and logistics as well as working methods or procedures needed in MDR-TB treatment service can be calculated accurately and measurably to develop service for a certain period of time.

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