Original Article

FACTORS RELATED TO THE SUCCESS OF THE TREATMENT PROGRAM OF MULTIDRUG-RESISTANT TUBERCULOSIS IN POLYCLINIC OF MDR-TB OF THE GENERAL HOSPITAL OF UNDATA PALU, INDONESIA

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ABSTRACT

Background: Incidence of Multi Drug Resistant Tuberculosis remains high in Indonesia. Thus, understanding the factors related to the success of the Government Program on the treatment of Multidrug-resistant is necessity.

Objective: This study aims to determine the factors related to the success of government programs on the treatment of MDR-TB patients in Polyclinic of MDR-TB of Undata Palu Hospital.

Methods: This was a correlational study with cross-sectional design conducted in the polyclinic of MDR-TB of the General Hospital of Undata Palu from October 2016 to November 2016. There were 46 patients recruited by total sampling. Chi-square was used for data analysis.

Results: Findings showed that there were statistically significant correlations between knowledge (p = 0.002), the regularity of treatment (p = 0.000), the role of drug control (p = 0.010), drug side effects (p = 0.000) and quality of service of health workers (p = 0.001) with the success of multidrug-resistant tuberculosis program. There was no correlation between distance to health facilities (p = 0.315) and the success of the treatment.

Conclusion: There were significant relationships between knowledge, regularity of treatment, drug control, drug side effects, quality of health staffs and the success of multidrug-resistant tuberculosis program. These factors could be considered important for the government to the success of multidrug-resistant tuberculosis program, especially in the polyclinic of MDR-TB of the General Hospital of Undata Palu.

Key words: Multi Drug Resistant Tuberculosis, MDR-TB, Government Program, Indonesia

INTRODUCTION

Multi Drug Resistant Tuberculosis (MDR-TB) is a form of tuberculosis (TB) infection caused by bacteria that are resistant to treatment with at least two of the most powerful first-line anti-TB medications (drugs), isoniazid and rifampin.[1] The number of TB- MDR cases in Indonesia in 2012 was 2,441 cases, and increased to 3,833 cases in 2013; in 2014 the number of MDR-TB cases was 9.399, and then drastically increase to 15,280 cases in 2015.[2]

The prevalence of MDR-TB in Palu City in 2014 was 10%, and increased to 12% in 2015. It is stated that Undata Palu Regional Hospital is one of the hospitals with the highest TB-MDR cases in Palu City with the number of prevalence amounted to 46 cases from 2014-2016. [2] Therefore, broader understanding about the factors related to the prevalence of TB-MDR is needed. The purpose of this study was to determine the factors related to the success of government programs on the treatment of MDR-TB patients in Polyclinic of MDR-TB of Undata Palu Hospital.

METHODS

Design

This was a correlational study with cross-sectional design.

Setting

This study was conducted in the polyclinic of MDR-TB of the General Hospital of Undata Palu from October 2016 to November 2016.

Research subjects

The population in this study was all patients in the polyclinic of MDR-TB. There were 46 patients recruited by total sampling.

Instrument

The instrument was modified from Mulyono (2014)[1] with good validity (r-count 0.915) and reliability (0.981), consisted of 7 parts, namely: 1) Knowledge, which was considered good knowledge if the score >50% and poor knowledge if the score ≥ 50%; 2) Regularity of treatment, which was considered regular if the score ≥50% and irregular if the score <50%; 3) Distance to health facility, which is considered far if ≥ 5 Km and close if < 5 Km; 4) Drug control, which was good if the score ≥ 50% and poor if the score < 50%; 5) Drug side effects, which was considered yes if ≥ 50% and no if < 50%; 6) Quality of health staffs, which was good if score ≥ 50% and poor if score < 50%; and 7) Multidrug-resistant Tuberculosis program, which is considered success if score > 50% and not success if score <50%.

Ethical consideration

The ethical approval was obtained from the Department of Health of West Sulawesi, and study permission was obtained from the General Hospital of Undata Palu. The researchers have confirmed that all respondents have obtained an appropriate informed consent.

Data analysis

Mean and frequency distribution were described. The success of multidrug-resistant Tuberculosis program and its related factors were analyzed using Chi-square.

RESULTS

Table 1 shows that there were 24 participants had poor knowledge with 50% of successful program and 50% of unsuccessful program; and 22 participants (48%) had good knowledge with 21 participants (95.5%) were successful and 1 participant was unsuccessful (4.5%), with p-value (0.002), which indicated that there was a significant relationship between knowledge and the success of multidrug-resistant tuberculosis program.

Table 1. The success of multidrug-resistant Tuberculosis program and its related factors using Chi-square

Variable	Scale	Multidrug-resistant Tuberculosis program				Total		ρ
		Not Success		Success				
		n	%	n	%	n	%	
Knowledge	Poor	12	50.0	12	50.0	24	100	0.002
	Good	1	4.5	21	95.5	22		
Regularity of treatment	Irregular	10	76.9	3	23.1	13	100	0.000
	Regular	3	9.1	30	90.9	33		
Distance to health facility	Far	10	34.5	19	65.5	29	100	0.315
	Close	3	17.6	14	82.4	17		
Role of drug control	Poor	8	57.1	6	42.9	14	100	0.010
	Good	5	15.6	27	84.4	32		
Drug side effects	No	7	87.5	1	12.5	8	100	0.000
	Yes	6	15.8	32	84.2	38		
Quality of health staffs	Poor	8	72.7	3	27.3	11	100	0.001
	Good	5	14.3	30	85.7	35		

For regularity of treatment, of 13 participants who had irregular treatment, 10 participants (76.9%) were unsuccessful and 3 participants (23.1%) were successful; and of 33 participants who had regular treatment, 30 participants (90.9%) were successful and 3 participants (9.1%) were unsuccessful. Chi-square showed p-value 0.000 (<0.05), which indicated that there was a significant correlation between the regularity of treatment and the success of multidrug- resistant tuberculosis program.

For distance to health facility, of 29 participants who stayed far from health facility, 19 participants (65.5%) were successful and 10 participants (34.5%) were unsuccessful; and of 17 participants who stayed close to health facility, 14 participants (82.4%) were successful and 3 participants (17.6%) were unsuccessful. Chi-square showed p-value 0.315 (>0.05), which indicated that there was no significant correlation between distance to health facility and the success of multidrug-resistant tuberculosis program.

For role of drug control, of 14 participants who had poor role of drug control, 6 participants (42.9%) were successful and 8 participants (57.1%) were unsuccessful; and of 32 participants who had good role of drug control, 27 participants (84.4%) were successful and 5 participants (15.6%) were unsuccessful. Chi-square showed p-value 0.010 (<0.05), which indicated that there was a significant correlation between drug control and the success of multidrug-resistant tuberculosis program.

For drug side effects, of 8 participants who experienced drug side effects, 1 participant (12.5%) were successful and 7 participants (87.5%) were unsuccessful; and of 38 participants who experienced drug side effects, 32 participants (84.2%) were successful and 6 participants (15.8%) were unsuccessful. Chi-square showed p-value 0.000 (<0.05), which indicated that there was a significant correlation between drug side effects and the success of multidrug-resistant tuberculosis program.

For quality of health staffs, of 11 participants who had poor quality of health

staffs, 3 participants (27.3%) were successful and 8 participants (72.7%) were unsuccessful; and of 35 participants who had good quality of health staffs, 30 participants (85.7%) were successful and 5 participants (14.3%) were unsuccessful. Chi-square showed p-value 0.001 (<0.05), which indicated that there was a significant correlation between quality of health staffs and the success of multidrug-resistant tuberculosis program.

DISCUSSION

Findings of this study revealed that there were significant relationships between knowledge, regularity of treatment, role of drug control, drug side effects, quality of health staffs and the success of multidrug-resistant tuberculosis program with p-value <0.05. These findings were in line support the findings of previous study[1] stated that knowledge,[3] regularity of treatment, role of drug control,[4] drug side effects, quality of health staffs[4,5] related to the success of multidrug-resistant tuberculosis program. Supported by previous study[6] showed a strong influence between regular treatment and the success of multidrug-resistant tuberculosis program. However, there was no significant relationship between distance to health facility and the success of multidrug-resistant tuberculosis program with p-value >0.05. This is in contrast with Mulyono[1] who stated there was a significant relationship between distance to health facility and the success of multidrug-resistant tuberculosis program.

In this study, most of respondents have a good knowledge of the illness, even though they have low education level. This is because patients often get information from health workers and other media about the disease suffered. Study said that low knowledge about treatment of MDR-TB can be caused by several factors, such as the low education and lack of information and understanding of MDR-TB.[7,8]

Patients are aware of how the impact caused by illness suffered if not taking regular treatment. This is supported by an important role of drug control or family support in performing regular medication and health care workers who always provide information on MDR-TB. One of determinants that can affect a person's behavior to regularly in the treatment is the support of the surrounding community or family. Patients will feel happy when they get the attention and support from their family. However, the role of drug control plays an important role in the healing of patients with TB-MDR, either in the form of support and motivation including monitoring patients to seek treatment on a regular basis. Good family support will lead to confidence in patients to face the disease.[4]

In addition, the health worker plays an important role in the handling of drug side effects where the patient's complaints can be solved by explanation of the effect that will occur when taking the drug through counseling. The side effects that may be perceived by patients include headache, nausea, ear disorders and swollen feet. Thus they should know and understand the treatment, which is related to their recovery.

Health services provided by health workers to patients strongly support the success of treatment, where patients need good service in the form of hospitality and motivate patients to run treatment regularly. An effective counseling and communication provided by health workers will provide motivation for patients to be obedient to take medicine.[9] On the other hand, respondents who stay far to health services may have less motivation to have their treatment routinely. However, this study showed that there was no significant effect of distance

to health facility and the success of the treatment.

CONCLUSION

It is concluded that there were significant relationships between knowledge, regularity of treatment, drug control, drug side effects, quality of health staffs and the success of multidrug-resistant tuberculosis program. These factors could be considered important for the government to the success of multidrug-resistant tuberculosis program, especially in the polyclinic of MDR-TB of the General Hospital of Undata Palu.

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