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Multi-Drug Resistant Tuberculosis in Semarang City

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Abstract

The number of cases of Multi Drug Resistant Tuberculosis (MDR-TB) in Semarang City increased from year to year. Case data from 2016-2019 is 22 cases, 35 cases, 68 cases, and 63 cases. The purpose of this research is to describe the incidence of MDR-TB in Semarang City. The research was conducted from August - October 2020 with a simple type of descriptive analysis quantitative research. The number of samples is 52 with purposive sampling techniques. The instruments used are questionnaires and medical records. Data is analyzed with descriptive analysis. The results showed that the majority of MDR-TB patients in Semarang City area are productive (76.9%), male gender (61.5%), elementary education level (46.2%), not working (47.1%), low income (46.2%), low income (46.2%), 90.4%), severe Anti-Tuberculosis Drugs side effects (76.9%), no previous treatment history (46.2%), contact with people with TB/MDR-TB (53.8%), low drug compliance (59.6%), smokers passive (53.8%), no comorbidity (53.8%), high motivation (84.6%), malnutrition status (71.2%), low health costs (67.3%), good health facilities (67 ,3%), good health officer attitude (83.7%), access to close health services (73.1%), high family support (63.5%), and active role of watchdog swallows drugs good (51.9%).

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INTRODUCTION

Multi Drug Resistant Tuberculosis (MDR-TB) can be defined as the resistance of the two most important Anti-Tuberculosis Drugs in first-line TB therapy, namely rifampicin and isoniazid (Aristiana & Wartono, 2018). MDR-TB is a major problem in the world. According to the World Health Organization (WHO) the number of MDR-TB cases in the world in 2016 amounted to 490,000 cases (6.2% were XDR-TB cases) (WHO, 2017). In 2017 there were 558,000 cases. 8.5% of MDR-TB cases are XDR-TB cases (WHO, 2018).The number of new cases of MDR-TB increased from the previous year. The number of deaths from MDR-TB worldwide in 2017 was 230,000. The success of MDR-TB treatment in 2017 is considered low. This is recorded globally, the success rate of MDR-TB treatment in 2017 is only 54%, while the success target is 85%. The proportion of people who died (case fatality rate) due to TB in 2017 was 16%, decreasing when compared to the proportion in 2000 of 23%. The Case Fatality Rate (CFR) decreased by 7% in 2017 from 2000. The figure is expected to drop to 10% in 2020 to reach the first phase of the End TB Strategy (WHO, 2018). In 2018, there were 484,000 cases of TB-RR, of which 80% were TB-MDR cases in the world (WHO, 2019).

Indonesia is one of the 5 (five) countries with the largest TB burden among India, Indonesia, China, Philippines, and Pakistan (Global Tuberculosis Report, 2017). In addition, there are challenges that need attention, namely the increasing cases of MDR-TB, TB with HIV, TB with Diabetes Mellitus (DM), Tuberculosis in children, and other vulnerable communities. This spurs national TB control to continue intensification, acceleration, expansion, and program innovation (Kemenkes RI, 2018).

The number of Drug-Resistant Tuberculosis cases in Indonesia from 2016-2018 has always increased. In 2016 there were 2,731 cases (0.001%) Drug-Resistant Tuberculosis with a patient treatment rate of 71%. The number of cases continued to increase in the following year, but this was not offset by the declining number of Drug-Resistant Tuberculosis patients. In 2017 there were 5,201 cases (0.002%) Drug-Resistant Tuberculosis with a patient treatment rate of 59%. In 2018 there were 8,527 cases (0.003%) Drug-Resistant Tuberculosis with a patient treatment rate of 51%. The success rate of Drug-Resistant Tuberculosis treatment in 2018 is still low, which is an average of only 50% of the target of treatment success in all cases of 90% (Kemenkes RI, 2019).

TB is still the main public health problem in Indonesia, both in terms of prevalence and the problems it causes. The number of new TB cases in Indonesia is around 450,000 (0.17%) 6,620 cases (0.002%) MDR-TB cases. MDR-TB cases from 2009 to 2015 have always increased. Based on data from the Ministry of Health of the Republic of Indonesia (2016), the number of confirmed MDR-TB cases in 2014 was 1,752 cases, and increased in 2015 to reach 1,860 cases (Kemenkes RI, 2017). According to who in 2017 TB cases in Indonesia recorded a total of 442,000 cases (0.17%) of these cases there are estimated to be 8,600-15,000 MDR-TB/RR-TB (2.4% of new cases and 13% of previously treated TB patients), but the treated coverage is only about 27.36%. Global Report MDR TB data in 2018 shows that Indonesia is included in the 30 countries with the most TB-MDR burden in the world (WHO, 2018).

Based on data from the Health Profile of Central Java Province, the prevalence for all TB cases in 2017 was 38.8%, and increased in 2018 to 41.7% (Dinas Kesehatan Provinsi Jawa Tengah, 2019). According to the Communication and Information Office of Central Java Province, the number of MDR-TB cases in Central Java in 2017 was 310 cases (0.0009%) increased in 2018 to 518 cases (0.0010%) (Diskominfo Provinsi Jateng, 2019).

In Semarang, Drug-Resistant Tuberculosis cases from 2016-2018 have always increased. The highest number of cases occurred in 2018 at 68 (0.0041%) Case. In 2016 there were 22 (0.0013%) cases and in 2017 as many as 35 (0.0021%) Case. In 2019, the number of Drug-Resistant Tuberculosis cases was 64 (0.0035%) 63 (0.0034%) MDR-TB cases and 1 (0.0001%) –XDR-TB cases. Where there are 44 (65%) patients have started treatment and 24 (35%) the patient has not started treatment. This figure is reported from 37 health centers in the city of Semarang (Dinas Kesehatan Kota Semarang, 2019).

There are several factors that influence MDR-TB known from previous research. According to Syahrezki (2015) that the risk factors for drug resistance in MDR-TB patients in general there are 4 (four) factors, namely patient factors, doctor factors, drug factors, and health care factors. Doctor factors include how good doctors are in providing education

about TB itself, as well as establishing that a person is exposed to MDR-TB or the possibility of drug repression. Patient factors include the presence of supervisors taking Anti-Tuberculosis Drugs, family support, the level of economic capability of the patient, the distance of the house to the place of health care, the level of education and knowledge of the patient to TB itself. Drug factors include the patient's knowledge of the type, dosage, use, and side effects of Anti-Tuberculosis Drugs. Health system servant factors include distance from home to health care, health programs, and drug availability (Syahrezki, 2015).

From the explanation above, researchers are interested in conducting research with the aim of describing the incidence of Multi Drug Resistant Tuberculosis (MDR-TB) in semarang city based on age, gender, level of education, type of work, income level, Anti-Tuberculosis Drugs side effects, history of previous treatment results, history of contact with TB/MDR-TB sufferers, smoking status, history of drug compliance, comorbidities, patient motivation, nutritional status of sufferers, history of alternative medicine, health costs, health facilities, attitudes of health workers, distance home to health services, family support and active role of Drug Swallowing Supervisor.

METHOD

The type of research used is quantitative research using simple descriptive analysis. The research was conducted in August – October 2020 and has been approved by the Health Research Ethics Commission of Semarang State University Number: 062/KEPK/EC/2020. Data collection is done at the Semarang City Health Office and in the Primary Health Care (PHC) of Semarang City. The data used are data of MDR-TB patients from January 2017 to December 2019 who are recorded as MDR-TB patients at the Semarang City Health Office and in the Primary Health Care (PHC) in Semarang City. The study population was 166, but only 52 MDR-TB patients met the inclusion criteria, namely recorded as MDR-TB patients in the Primary Health Care (PHC) of Semarang City, had/still undergone treatment at the Primary Health Care (PHC) in Semarang City, and the address could be found. As for the exclusion criteria, namely MDR-TB patients who died, patients moved to live outside the city of Semarang, and were not willing to become respondents.

Research instruments use questionnaires and medical records that have been tested for validity and reliability. Data retrieval techniques are carried out by interview using questionnaires and observations.

Data analysis is done using data analysis program available in computer, IBM SPSS Statistic version 22 application, to process descriptive data (*Descriptive Statistics Frequencies analysis*).

RESULTS AND DISCUSSIONS

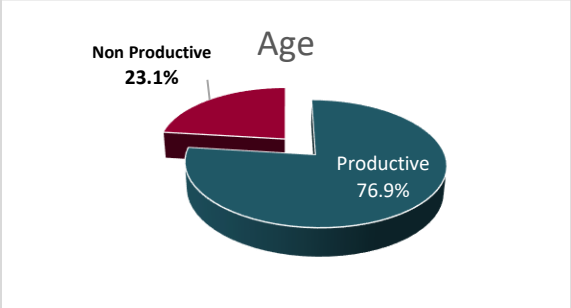

Figure 1. Demographics of Respondents' Characteristics by Age

The data showed that the majority of MDR-TB patients in Semarang city are of productive age (15-58 years), which is 76.9%. From some previous research results showed that most of the incidence of MDR-TB occurs at the productive age of 15-58 years. As in the research conducted by Triandari and Rahayu (2018), which showed that the number of MDR-TB patients who fall into the category of productive age is more than those with non-productive age MDR-TB (77.8%).

MDR-TB is often found in productive age because at that age it is very vulnerable to transmission of TB germs. Where patients can easily interact with others, high mobility, and allow to transmit to others as well as the surrounding environment of residence (Aristiana & Wartono, 2018).

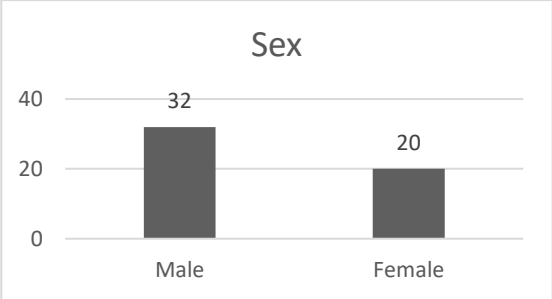

Figure 2. Demographics of Respondents' Characteristics by Gender

The majority of MDR-TB sufferers in this study were male (32 respondents). This is because men are considered to be relatively indifferent to regular Anti-Tuberculosis Drugs intake than women, and this fact may lead to more men than women suffering from MDR-TB (Ahmad et al., 2012). In line with the research Aderita et al. (2016) which states that MDR-TB sufferers are most found in patients who are male rather than female. Different results were found in Maharjan et al (2017) research conducted in Nepal, where MDR-TB patients who are female are more likely than MDR-TB sufferers who are male (62.3%).

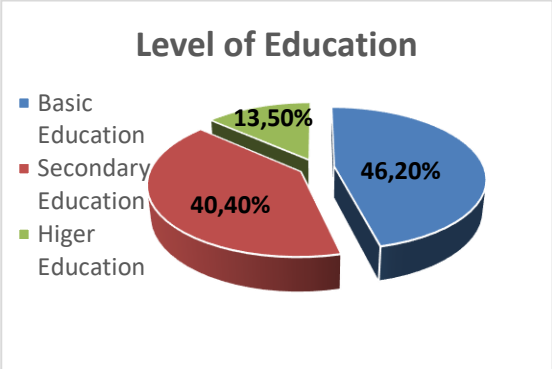

Figure 3. Demographics of Respondents' Characteristics by Level Education

Education level is one of the things that can affect one's knowledge, access to information, and mindset. A person with a low level of education will affect the awareness and motivation of patients in taking Anti-Tuberculosis Drugs. A person's ability to digest the information obtained, differs at every level of education, although researchers have not yet obtained research that states so, but this assumption is built on the argument that the higher one's education, the more critical the decision will be more mature (Janan, 2019).

The results of the analysis showed that most of the respondents only attended the elementary education level (SD/MI/Equivalent and SMP/MTs/Equivalent) of 46.2%. Low levels of education are at risk for MDR-TB events (Workicho et al., 2018). Different results were found in the study Ndungu et al. (2013), where the results showed that the level of education owned by most sufferers is the level of secondary education.

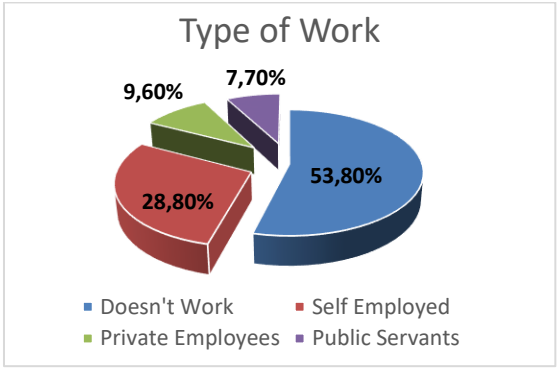

Figure 4. Demographics of Respondents' Characteristics by Type of Work

This type of work can affect a person to contract a disease. A person who works in an environment that contains a lot of dust, pollution, smoke, will affect the time needed in the healing of TB, so it can cause the onset of MDR-TB (Linda, 2012). Work can also affect a person in the utilization of health services. A person's work can reflect the amount of information received, the information will influence a person in making the decision to take advantage of existing health services, the provision of nutritious food, a healthy home environment and the maintenance of health status (Merzistya & Rahayu, 2018). The results of this study showed that MDR-TB patients in Semarang City are mostly people with MDR-TB who do not work, and the least are people with MDR-TB who work as civil servants. In line with mulisa et al. (2015) research, which states that farmers and someone who does not work is a risk factor for a person suffering from MDR-TB.

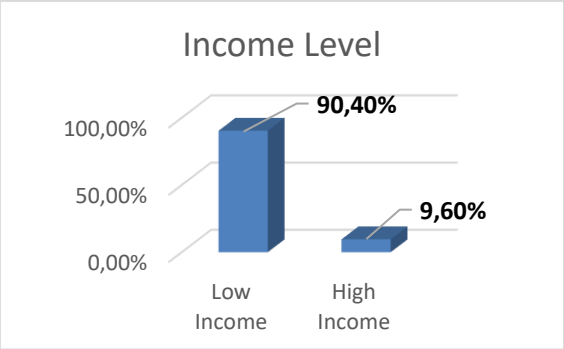

Figure 5. Demographics of Respondents' Characteristics by Income Level

Income is a result received by a person or household from trying or working in the form of money or goods received or produced within a certain period of time. The income received by each person is certainly different from each other, this is due to the different types of work he does. The difference in work is motivated by the level of education, skills and experience in work.

Families who have incomes below the UMR will consume foods with insufficient nutritional content for each family member, so they have less nutritional status and will be at risk for MDR-TB disease (Aderita, Murti, & Suryani, 2016).

Based on respondents' income level that has been adjusted to the Semarang City UMR in 2018, shows that more MDR-TB patients in the low income city of Semarang (≤Rp 2,500,000.00/month) compared to high income patients (>Rp 2,500,000.00/month). Triandari and Rahayu research (2018) stated that low income people are 2,212 times more at risk for MDR-TB pain than high income people (Triandari & Rahayu, 2018).

Table 1. Results of Univariate Analysis of Respondent Frequency Distribution by Research Variables

Variable	Category	F (N=54)	%
Side Effects of Anti-Tuberculosis Drugs	Weight	40	76.9
	Lightweight	6	11.5
	No Side Effects	6	11.5
History of Previous Treatment Results	Failed	1	1.9
	Drug Breakup	8	15.4
	Not Evaluated	2	3.8
	Complete Treatment	7	13.5
	Healed	10	19.2
	No Histrory	24	46.2
History of Contact with TB/MDR-TB Sufferers	Yes	24	46.2
	No	28	53.8
Smoking Status	Active	24	46.2
	Passive	28	53.8
Drug Compliance History	Low	31	59.6
	Medium	20	38.5
	High	1	1.9
Comorbidity	Ya	24	46.2
	No	28	53.8
Sufferer Motivation	Low	0	0.0
	Medium	8	15.4
	High	44	84.6
Nutritional Status of Sufferers	Less	37	71.2
	Medium	14	26.9

	Over	1	1.9
History of Alternative Medicine	Yes	12	23.1
	No	40	76.9
Health Costs	High	8	15.4
	Medium	3	5.8
	Low	41	78.8
Health Facilities	Bad	17	32.7
	Good	35	67.3
Attitude of Health Officers	Less	0	0.0
	Enough	6	11.5
	Good	46	88.5
Distance from Home to Health Services	Away	14	26.9
	Near	38	73.1
Family Support	Low	2	3.8
	Medium	17	32.7
	High	33	63.5
The Active Role of Drug Swallowing Supervisors	Less	11	21.2
	Enough	14	26.9
	Good	27	51.9

Side effects of Anti-Tuberculosis Drugs that many respondents experienced in the study were side effects of Anti-Tuberculosis Drugs of heavy category (76.9%). The number of sufferers who experience severe side effects, often makes the sufferer decide to stop taking medication/breakup the drug or do not continue treatment completely, because most of the sufferers are afraid if the treatment of MDR-TB is continued will actually worsen the situation, and they can not stand if they have to continue experiencing these side effects for a long period of time. This can later increase the incidence of MDR-TB because of the number of patients who have dropped out of treatment due to side effects of Anti-Tuberculosis Drugs. Merzistya (2018), stated that 47% of patients who dropped out of treatment experienced severe side effects.

The most common side effects experienced by respondents after taking Anti-Tuberculosis Drugs include nausea, vomiting, no appetite, tingling, nausea accompanied by vomiting, itching and redness of the skin and skin discoloration.

A person who has more than one history of TB treatment increases a person's risk of developing MDR-TB. Related to the results of previous treatments that can increase a person's risk of developing MDR-TB, namely disconnection, failure of treatment, relapse, or patients who have previously performed MDR-TB treatment (Hirpa et al., 2013).

The results showed that more people with MDR-TB in Semarang City who had no history of previous treatment results (46.2%) compared to patients who have a history of previous treatment results (failed treatment, disjointed, treatment results are not evaluated, complete treatment, and cured).

Based on the history of contact with people with Pulmonary TB/MDR-TB is known that from 52 respondents, as many as 28 respondents (53.8%) had no history of contact with TB/MDR-TB patients and 24 respondents (46.2%) have a history of contact with TB/MDR-TB patients. People who have a history of contact with TB/MDR-TB patients have a higher risk of contracting TB/MDR-TB. This is evidenced by Mulu et al. (2015) in his study which stated that

people who come into contact with MDR-TB sufferers are at 1.4 times greater risk of exposure compared to people who are not in contact with MDR-TB sufferers.

According to Sianturi (2013), people with TB who have a habit of smoking (active smokers) can increase the risk of developing recurrent Pulmonary TB 5-6 times. If this happens, it can increase the likelihood of the person suffering from MDR-TB (Sianturi, 2013). Aristiana and Wartono (2018) in their study also stated that people who have a smoking habit are at 7.63 times greater risk of developing MDR-TB compared to people who do not have a smoking habit. Based on smoking status variables, this study shows that MDR-TB patients in Semarang city fall into the category of passive smokers (53.8%) more people with MDR-TB fall into the category of active smokers (46.2%).

Compliance is one of the potential factors to improve the recovery of TB patients, while non-compliance in addition to lowering the cure rate of TB sufferers is also a threat to the occurrence of MDR-TB disease. Aderita et al. (2016), also stated that compliance is important to prevent the occurrence of MDR-TB and failure in treatment.

Triandari and Rahayu (2018), stated that a person with poor drug adherence is at 2,486 times greater risk for MDR-TB pain compared to someone who is obedient in taking Anti-Tuberculosis Drugs on TB treatment. Based on the results of the study showed that from 52 respondents, at most or as many as 31 respondents (59.6%) have a history of low category drug compliance, and few respondents who have a history of high category drug compliance are only 1 respondent (14.4%).

According to the fifth edition of The Great Dictionary of Bahasa Indonesia, comorbidity is a disease that occurs simultaneously or is often referred to as a participating disease. Participating disease is a term in the medical world that describes the condition that there are other diseases experienced by a person other than the main disease (MDR-TB). Comorbidity or participating diseases, such as Diabetes Mellitus (DM), HIV infection, kidney failure, acute hepatitis, and others are among the risk factors that can cause the onset of Multi Drug Resistant Tuberculosis (MDR-TB).

Wijayanto et al. (2019), stated that the prevalence of MDR-TB in DM patients increased 6 times compared to non DM. A special group that is vulnerable or at high risk for MDR-TB pain is Pulmonary TB patients with HIV (people with HIV/AIDS). People with Pulmonary TB who have HIV, is an individual who can transmit the highest tuberculosis germs (Kemenkes RI, 2011). Statistical results showed that more MDR-TB patients in Semarang city who do not have comorbidities (53.8%) compared to those with comorbidity.

When viewed from the motivation variables of patients, the results of this study showed that most of MDR-TB patients in semarang city already have high motivation (84.6%). The motivation of these high sufferers can be influenced by many factors that can make a MDR-TB sufferer to have a high motivation in carrying out treatment, one of which is support from the family. According to Niven (2012), family is the most important factor in determining individual health beliefs and values and can also determine about the treatment programs they can receive. Family support both physically and mentally is the most important factor in compliance with medical programs.

Nutritional status is the health status of sufferers as seen from the fulfillment of body nutrition through the Body Mass Index (BMI). TB sufferers are generally very vulnerable to the risk of abnormal nutritional status disorders. This is evidenced by Salsabela research (2016), at Hasan Sadikin Central General Hospital Bandung stated that 37 (35%) patients have an underweight BMI (<18.5 kg/m2), 44 (41%) patients have a healthy weight BMI (18.5-22.9 kg/m2), 13 (12%) patients have an overweight BMI (23-24.9 kg/m2) and 13 (12%) patients have BMI Obese Class I (25-29.9 kg/m2). Malnutrition status in people with TB can lead to physical weakness and endurance, thus increasing sensitivity to other disease infections (Salsabela, Suryadinata, & Arya, 2016).

The results showed that the nutritional status of MDR-TB patients in semarang city area is more underweight (BMI <18.5), compared to people with MDR-TB who have moderate nutritional status (BMI= 18.5-25.0), and more nutritional status (BMI >25.0). In line with the research of Fauziah and Sudaryo (2013), which stated that respondents who suffer from MDR-TB more who have a BMI of <18.5 compared to respondents who have a BMI of ≥18.5 at the beginning of tb diagnosis (Fauziah & Sudaryo, 2013).

Based on the results of analysis on traditional medical history variables, showed that most of MDR-TB patients in Semarang City area have no history of alternative medicine during the treatment of MDR-TB (76.9%). The same results were also found in Workicho et al. (2018) research, which stated that there are 87.8% of MDR-TB patients who have a history of traditional medicine.

Alternative medicine used by respondents based on the results of interviews, such as traditional medicine (such as traditional herbal medicine, herbal drinks, and others). and therapy (such as acupuncture, spiritual, and others).

Health costs are the amount of funds that must be provided to organize and/or utilize various health efforts required by individuals, families, groups and communities (Azrul A, 1996). The cost for tb treatment itself has actually been borne by the government aka free. However, in addition to the cost of treatment there are other costs outside of tb treatment costs (indirect costs) that must be incurred by TB patients, such as transportation costs to health care facilities, drug costs for complaints of other participating diseases, and other costs beyond tb treatment costs (Sari, Herman, Susyanty, & Su'udi, 2018). From the results of this research analysis shows that MDR-TB patients in the city of Semarang mostly only spend low category health costs (78.8%) and the least number of respondents who spend moderate category health costs (5.8%).

Health facilities are all forms of facilities and infrastructures, tools or places that can support health or that are able to provide comprehensive TB services ranging from diagnosing TB, examination, monitoring of treatment progress at the end of intensive treatment, the fifth month and the end of treatment (Masdalimah, 2018). The results of analysis in this study showed that most respondents rated that health facilities fall into the good category (67.3%). Therefore, it can be concluded that the health facilities used by MDR-TB patients in Semarang City area are quite good. What is meant by good category health facilities here, namely the existence of a special room for people with MDR-TB is clean and comfortable, there are comfortable seats, the distance can be reached by the patient, and there is public transportation that can be used by patients who want to do treatment to the health facility.

Based on table 1 results of univariate analysis, showed that most respondents rated the attitude of health workers in a good category (88.5%). The form of good attitude from health workers obtained by respondents such as, friendly in serving, explaining about MDR-TB disease, reminding to always take regular medications, and provide motivation to patients during treatment, and always pay attention to every complaint felt by respondents. When respondents consulted about perceived complaints such as side effects of Anti-Tuberculosis Drugs, the doctor provided a detailed explanation and solution of the complaint. Respondents said the explanation given was easy to understand and not convoluted, so that the sufferer understands better. Most of them also claimed that knowledge about Pulmonary TB/MDR-TB disease, treatment of Pulmonary TB/MDR-TB, how to accommodate phlegm, and how to drink Anti-Tuberculosis Drugs according to the rules and time specified only obtained from the explanation of Primary Health Care (PHC) officers.

The results showed that out of 52 respondents, there were 38 respondents (73.1%) who have a distance from home to health services fall into the category of close (distance ≤5 km), and as many as 14 respondents (26.9%) the distance from home to health services fall into the category of remote (>5 km). Triandari and Rahayu (2018), stated that respondents with a distance from home to fasyankes were much

more at risk of 2.54 times for MDR-TB pain compared to respondents who were close to fasyankes.

Family is the most important factor in determining an individual's health beliefs and values and can also determine the success of the treatment program they receive. Family support both physically and mentally is the most important factor in compliance with medical programs (Niven, 2012). The results showed that most of the study respondents received high support from their families (63.5%).

Drug Swallowing Supervisor is one of the factors to the success rate of dots program (Directly Observed Therapy Short-course) and the success of therapy because it affects the compliance of taking drugs so that patients are diligent and motivated to take drugs. A Drug Swallowing Supervisor should be someone who is known, trusted and approved, both by health workers, and patients, in addition to it must be respected and respected by the patient, someone who lives close to the patient, willing to help the patient voluntarily and willing to be trained and or get counseling (Kemenkes RI, 2014).

Triandari and Rahayu (2018), stated that a person with pmo who does not play an active role is 2,368 times more at risk of MDR-TB pain compared to someone whose Drug Swallowing Supervisor plays an active role in tb treatment. Based on the results of the study, it is known that most of the respondents claimed to have a pmo with a good role (51.9%). Through the results of the interview, respondents stated that the Drug Swallowing Supervisor who accompanied him had carried out his duties well and played an active role, so that MDR-TB patients became helped by the Drug Swallowing Supervisor in carrying out treatment.

CONCLUSION

MDR-TB patients in Semarang City area are mostly at productive age (15-58 years) where this age is vulnerable to disease, including MDR-TB disease. Male sex is found more than the female gender. Most of the study respondents only attended elementary education, did not work, most were low income, most experienced side effects of Anti-Tuberculosis Drugs in the heavy category, most had no previous medical history, most had no history of contact with TB/MDR-TB sufferers, most are passive smokers, most have a history of compliance with taking medications in low categories, most are non-comorbidities, most are highly motivated, most have malnutrition status, most spend health costs in the low category, most rate that health facilities fall into the good category, most rate the attitude of health workers to be in a good category, most have a home distance to the health service fall into the close category, most get high support from their families , and most respondents had Drug Swallowing Supervisor with a good role.

It is expected to the health center in Semaang City in particular, in order to be able to conduct surveillance actively in the search for people with Pulmonary TB so that there is no delay in diagnosis that can cause MDR-TB, as well as tracking for patients who are receiving treatment, doing approaches to patients, especially patients who if they have low motivation to do treatment so that there is no drug breakup. Puskesmas is expected to seek monitoring of side effects for people with Pulmonary TB/MDR-TB. This monitoring can be done when the patient takes the drug, this is done to prevent the occurrence of medical break-up. In addition, Primary Health Care (PHC) officers are also expected to give special attention in monitoring side effects in treatment, both on TB treatment and on MDR-TB treatment. There needs to be a re-collection related to the identity of the sufferer to avoid addresses that do not correspond to the domicile of the sufferer, so as not to make it difficult for the officer in the home visit.

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