

The Influence of Awareness and Education by Health Workers on Community Compliance in the Filariasis Prevention Program in Simpang Ulim, East Aceh District, 2018

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Abstract. Filariasis is a contagious disease that not only causes illness, but can also cause permanent disability. The government is trying to overcome cases of filariasis by implementing the Filariasis Elimination Program through the Mass Drugs Administration (MDA). This study aims to determine the effects of both the awareness of the program/of the disease and of the education by health workers on community compliance in the Mass Drugs Administration (MDA) of the Filariasis Elimination Program in Simpang Ulim, East Aceh in 2018. This is a cross-sectional type of research, which was conducted in August 2018 in Simpang Ulim, East Aceh. With 17,950 total population reported, samples for this research include 77 individuals which were taken using a purposive sampling technique. The inclusion criteria were people who had taken the filariasis drug and those who are >17 years old. Guided by the questionnaire, the data was collected through interviews, and the data analysis that was used were univariate, bivariate (chi-square), and multivariate (multiple logistic regression). The results showed us that the population's awareness could affect community compliance in the Mass Drugs Administration (MDA) of Filariasis Elimination Program in Simpang Ulim, East Aceh, in 2018 ($p=0.003$; $PR=1.886$; $95\% CI=1.183-3.005$), meanwhile the education by health workers would not ($p=0.792$, $PR=0.931$; $95\% CI=0.540-1.606$). The expectation is for the local health department to make continuous promotional program for the community to increase public awareness about filariasis.

Keywords: awareness, socialization, compliance, filariasis

Background

Filariasis is an infectious disease that causes the patient to be at high risk for permanent disability and it can lead the sufferer to a lifetime of dependency on other people. Filariasis can cause not only pain, but also permanent disability. Filariasis is an infectious disease where filarial worms may be spread by mosquito vectors. Filariasis is often experienced by people living in both villages and cities, and can spread to all groups without any age factor or gender difference.⁹ WHO estimates that approximately 120 million people in both tropical and subtropical areas in the world experience filariasis infections [13]. More than 1,000 people in 73 countries suffered from filariasis in 2014. The disease also affects more than 57% of the population in Southeast Asia and 37% of African residents. This disease also affects as many as 6% of the population in America, eastern Mediterranean, and the western Pacific region.⁹

Filariasis has attacked diverse groups in various regions in Indonesia. Data quoted from health

offices of different provinces in Indonesia showed that there had been an increase in filariasis incidents from 2002 to 2014. Cases of filariasis in Indonesia in 2014 amounted to 14,932. In a total of 29 provinces and 239 districts or cities, the disease was considered endemic in 2015. In addition, 02,279,739 residents in this area were very susceptible to this disabling disease. The estimated average level of endemicity is between 0%-40% and each province has different endemicity.⁹

Aceh is one of the provinces with the most filariasis cases, namely 2,375 cases in 21 districts or cities in Aceh from 2002 to 2014.⁹ Filariasis is a chronic disease and rarely causes death. If a patient does not get proper treatment, it will cause permanent disability such as paralyzed limbs, arms, or genitals because of the extreme swelling. Therefore, urgent action is required.

The promotional programs that distribute filariasis drugs are aimed at saving the lives of many people so that they remain self-sufficient. The Mass Drug Administration program must continue its work because the government seeks to provide effective

and proven medicines to reduce the endemicity of filariasis. This drug must be distributed to everyone living in any area without checking whether each person suffers from filariasis or not. This drug must be given to residents or people in areas that have a high risk of filariasis. This aims to reduce filarial density in the region.⁸

The Filariasis Elimination program has a minimum target of 85% of the population to be considered a success in solving filarial transmission.¹³ Data state that the scope of the program in eliminating filariasis was only at 28%-59.48% from 2005 to 2009.⁸ It means that there are still many people who are not compliant in following the filariasis MDA program.

The East Aceh Regency is the area with the highest contribution regarding the increase in cases of filariasis. The number of patients with filariasis in East Aceh Regency in 2015 amounted to 41 people. In 2016, there were 64 people suffering filariasis consisting of 33 men and 31 women aged 50 years and over. as many as 52 people, the rest are 50 years and under.⁹

The government of the East Aceh District tried to solve the problem of filariasis by implementing the Filariasis Elimination Program through the Provision of Preventive Mass Drug Administration (MDA). The program started by holding meetings and coordinating between district levels and sub-district levels, collecting the population data and program targets (residents aged 2-70 years, not pregnant, not suffering from serious illness), training small groups, and working towards program implementation. The implementation scope of this program through the MDA in the East Aceh District still has not reached the minimum target that must be achieved in solving the transmission chain which is 85%.⁵

Data from the East Aceh District Health Office in 2017 stated that East Aceh was the area with the highest rate of filariasis out of the 20 districts in Aceh. Data showed that out of a total population of 411,279 people, 349,013 are known to be targeted by the MDA program. A total of 261,900 people from the target population had taken the medicine with details of 129,520 men and 132,380 women while 87,113 of the target did not take the medicine. The coverage of drug distribution per Community Health Centers in East Aceh reached 75% of the target number and 64% of the total population.⁵ This also showed that the MDA program target was not set by the Indonesian government.

Simpang Ulim is a sub-district in the East Aceh District with an area of 123.8 km² consisting of 23

villages with a population of 20,349 people. The target number of the Filariasis Elimination Program was 17,950 people. In the Simpang Ulim District, there were 2 cases of filariasis. Simpang Ulim is the sub-district with the lowest coverage of drug administration in East Aceh at 45% of the population and 51% of the target number.⁵

The success of the MDA of Filariasis program is largely determined by the cooperation from the community in taking the filariasis drug. This compliance can be achieved if the community is seriously willing to eradicate filariasis. Individuals must be willing to participate in implementing health programs, one of which is this MDA program. States disease can be spread by both human behavior and factors outside behavior. The human behavior includes, predisposing, supporting/enabling, and driving disease [7]. The public is said to be obedient when taking medicine that is distributed by health workers and said to be disobedient when they do not take the medicine given by the health workers.

A preliminary survey of 10 residents of Simpang Ulim, showed that only 4 of them had taken preventive medicine for filariasis due to fear of contracting filariasis, while the other 6 people did not take the medication for fear of side effects from the drug. Initial survey results also indicate that the low coverage of the MDA program in East Aceh can be explained by a multitude of factors, including poor community knowledge about filariasis, community fears of drug side effects, lack of family support in taking filariasis drugs, and lack of education regarding the importance of filariasis prevention by the local health workers.

In general, the community does not fully understand the importance of participating in the MDA program. This can be caused by the minimal knowledge of people in East Aceh about filariasis. Relying on public knowledge is not enough because people do not know about the causes, symptoms, and consequences that occur if they contract the disease. Alamsyah and Marlina conducted research which proves that the lack of public knowledge can influence compliance in taking the filariasis drugs. In that study, it was due to ignorance that only 65.6% of the target population did not take filariasis medicine.¹

Education by health workers is also lacking, and therefore, the public does not fully understand the importance of participating in the MDA program. Ambarita et al. stated that the education carried out by health workers was related to compliance with taking medication for filariasis.² Nurlaila et al. explained the relationship between knowledge about filariasis, the support of health workers, and

adherence to taking medication for filariasis in Pekalongan City.² Data on the high number of cases of filariasis in Aceh and the low coverage of the MDA program were the authors' reason for researching the factors that influence community compliance in the Mass Drug Administration of Filariasis Elimination program in Simpang Ulim, East Aceh District in 2018.

Method and Sample

This research is cross-sectional. This research was conducted in August 2019 in Simpang Ulim District. The population is 17,950 people. The samples are 77 people using a purposive sampling technique with inclusion criteria that had taken filariasis medicine and aged >17 years. Data were collected through interviews guided by a questionnaire. Data analysis were performed through univariate, bivariate (chi-square), and multivariate (multiple logistic regression).

Results

A. Characteristics of Respondents

Table 1 shows that 68.8% of respondents were aged between 19-45 years. Most respondents were female, making up 72.7% of the sample. In terms of education, the majority of respondents were high school/vocational school graduates making up 46.8%. For the respondent's work, the category *Others (farmers and laborers)* made up 40.3% of respondents. For more details, it is explained in the following table:

Table 1. Frequency Distribution of Respondent Characteristics based on Age, Gender, Education, and Occupation in Simpang Ulim, East Aceh District

Respondent Characteristic	N	%
Age		
19-45 years old	53	68,8
>45 years old	24	31,2
Sex		
Male	21	27,3
Female	56	72,7
Education		
Not completed Elementary School	1	1,3
Graduated from Elementary School	18	23,4
Graduated from Junior High School /Mts	15	19,5
Graduated from Senior High School /SMK/MA	36	46,8
Graduated from University	7	9,1
Occupation		
No work	28	36,4
Government Civil Worker	3	3,9

Private Employee	3	3,9
Entrepreneur	12	15,6
Other (farmers and labors)	31	40,3

B. Awareness

Table 2 describes that the majority of respondents (50.6%) had poor awareness.

Table 2. Frequency Distribution of Respondent Awareness in Simpang Ulim, East Aceh District

Knowledge	n	%
Deficient	39	50,6
Good	38	49,4

C. Education of Health Workers

Table 3 shows that 83.1% of respondents had participated in the education by health workers in Simpang Ulim.

Table 3. Frequency Distribution of Education by Health Workers in Simpang Ulim, East Aceh District

Education by health workers	n	%
Did not have	13	16,9
Have	64	83,1

D. Compliance

Compliance is the act of obeying, or taking the filariasis drugs. Table 4 shows that 57.1% of respondents were not compliant in taking filariasis medication.

Table 4. Frequency Distribution of Community Compliance in Simpang Ulim, East Aceh District

Compliance	n	%
Not compliant	44	57,1
Compliant	33	42,9

The Influence of Health Workers' Awareness and Education on Compliance

This study aims to know the effect of knowledge and education by health workers on the community compliance in the Filariasis Elimination Program through the Mass Drug Administration Program (MDA) in Simpang Ulim District, East Aceh District.

Awareness

Table 5 shows that there is an influence of knowledge level on community compliance in the MDA program in Simpang Ulim, East Aceh District. PR value of 1.548 explains that respondents who are were not well-informed were

1.5 times more likely to be deficient in taking filariasis medicine compared to respondents who were well-informed.

Table 5. The influence of awareness to Community Compliance

Awareness	Community Compliance				Number		p
	Yes		No				
	n	%	n	%	n	%	
Deficient	27	69,2	12	30,8	39	100	0,03
Good	17	44,7	21	55,3	38	100	0

Education by health workers

Table 6 shows that there was no effect of the education by health worker on community compliance in the MDA Program in Simpang Ulim, East Aceh District ($p > 0.05$).

Table 6. Effects of Health Worker Socialization on Community Compliance

Socialization on Health worker	Community Compliance				Number		p
	Yes		No				
	n	%	n	%	n	%	
Do Not Have	7	53,8	6	46,2	13	100	0,792
Have	37	57,8	27	42,2	64	100	

Discussion

The results of research conducted in the Simpang Ulim indicated that there is an effect of awareness level on community compliance in the Mass Drug Administration of filariasis Program in Simpang Ulim, East Aceh District. Based on the results, mass medical adherence towards filariasis is shown in respondents who have a high awareness about filariasis. This is consistent with the results of a study by Nurlaila et al.¹² which concluded that mass treatment compliance in non-endemic filariasis villages were influenced by the level of awareness in Pekalongan City. The research results by Bahtiar et al. (2017) also explains that there is a relationship between awareness and the behavior of taking anti-filariasis drugs ($p = 0.007$) where knowledgeable respondents are 57.4%.¹²

The result of this study is in line with the 1991 Lawrecen Green theory which states that an individual or community's behavior about health is determined by their knowledge, attitudes, beliefs, traditions, and so on. In addition, the availability of facilities, attitudes, and behavior of health workers towards health services will also support and strengthen the formation of behavior. Achieving the target number of filariasis treatments is

influenced by several factors, including awareness, attitudes, environment, culture, economical situation, and others.² The underlying reason people adhere to the treatment of filariasis is the level of knowledge that the head of the family has, where with a good level of knowledge the head of the family will cause high awareness in the treatment of filariasis.¹⁰

The result of this study is supported by research conducted by Gilang titled "The Relationship of Awareness and Attitudes about Filariasis Prevention with the Practice of taking medication in the filariasis mass drug prevention (POMP) program of Kuripan Kertoharjo Urban Village in Pekalongan City", with 70 respondents receiving 50 respondents (71, 4) with good education with 44 respondents (80%) who took MDA. Statistical tests determined that the p-value equals 0.007 ($p < \alpha = 0.05$), so it can be concluded that there was a relationship between knowledge about the prevention of filariasis and the practice of taking drugs in (MDA) program.⁶

The awareness or understanding is a very important domain over the formation of one's actions, because from experience and research it has been determined that a behavior based on knowledge will last longer than a behavior that is not based on knowledge.¹¹ An individual does not comply to taking filariasis medication because the person does not know about the benefits of taking anti-filarial medicine and the effects of not taking the drug. Someone who has sufficient knowledge about anti-filarial drugs is more likely to be obedient in taking anti-filarial drugs, and conversely someone who has poor knowledge about anti-filarial drugs tend to be disobedient in taking anti-filarial drugs.¹⁰ WHO states that knowledge about filariasis is very important to support the successful eradication of filariasis in Indonesia.³

2. The Influence of Health Worker Education on Compliance

The results showed that there was no influence of the education by health workers on community compliance in the Mass Drug Administration of filariasis Program in Simpang Ulim, East Aceh District. This aligns with the research of Bahtiar et al. which states that there is no relationship between the role of health workers in delivering information about filariasis with community adherence to take anti-filariasis medication in Rawa Mambok Village. One of the support from the staff is the education by health workers regarding the administration of mass drug prevention of filariasis [4]. Officers who are not there to educate the community or who are less

motivated by the community will result in low coverage of ingesting filariasis drugs in the community [14]. The National Health Profile in 2015 states that in order to increase coverage, education needs to be carried out to the public on the importance of taking preventive medicine for filariasis which is given once a year in endemic areas. Education is one way of counseling or promoting health problems so that the information is conveyed to the public, especially information regarding the administration of mass drug prevention of filariasis. People who did not get this information did not know, so they did not go to take medicine when the drugs were distributed.

Health workers in the Simpang Ulim Sub-district conducted education related to MDA program of filariasis to the public, but the existence of such education was not been able to increase the knowledge and awareness of the community into taking filariasis medicine obediently. This can be due to the fact that most people still strongly believe in traditions, customs, and hereditary customs where they generally do not want to take medication for filariasis and prefer to consume traditional ingredients. This is likely why the education carried out by health workers is not influential enough to make the community compliance towards filariasis MDA in the Simpang Ulim District. Support from health workers does not necessarily directly increase the amount of people who want to take anti-filariasis medication. Indeed, the people who get support from health workers have a greater tendency to take anti-filariasis medication than those who do not get support from health workers, but the proportion of those who get health support and take anti-filariasis medicine does not mean greater when compared with those who have the support of health workers but do not take anti-filariasis drugs. The presence or absence of health workers does not guarantee that patients will take anti-filariasis drugs; the community still has a lack of trust in these officers and their integrity. Even though they have the support of good health workers, if their trust in these officers is low, it will maintain negative behavior and patients still will not take anti-filariasis medication.

Conclusion

The conclusions of this research are as follows:

1. There is an influence of awareness on community compliance in the Mass Drug Administration of filariasis Program in Simpang Ulim, East Aceh District.
2. There is no influence of the education of health workers on community compliance in the Mass Drug Administration of filariasis

Program in Simpang Ulim, East Aceh District.

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