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Evaluation of POMP for Filariasis and Factors Associated with Its Problems in East Manggarai Regency in 2017

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ABSTRACT

Filariasis (elephantiasis) is a chronic infectious disease caused by filarial worms and transmitted by *Mansonia*, *Anopheles, Culex,* and *Armigeres mosquitoes*. The worm lives in the canal and lymph nodes with acute clinical manifestations of recurrent fever and lymph node inflammation. This disease is one of the serious public health problems in Indonesia. Almost all regions of Indonesia are filariasis endemic areas, especially in Eastern Indonesia which has a higher prevalence. The provision of mass drugs for filariasis needs to be evaluated for the sustainability of treatment programs for the following year, so that an efficient and effective treatment program model can be found. The purpose of this study was to evaluate the implementation of POMP (Giving Mass Medicines for Prevention) for Filariasis and the factors associated with its success in East Manggarai Regency. The study was conducted in East Manggarai Regency in 2017, with a qualitative approach, using a mixed method, in order to evaluate the success of mass treatment in East Manggarai Regency. Research subjects were family heads who had taken medication, health officers, community leaders, religious leaders, and managers of filariasis control programs; selected by purposive sampling technique. The data collected includes monitoring and evaluation, partnerships, drug availability, drug distribution, the ability of health workers, the presence of health workers, the negative effects of taking medicine, and government policies. Data were collected through interviews and FGDs, then analyzed descriptively with a qualitative approach the results showed that the success of POMP was 83%, with problems namely drug distribution was not evenly distributed, implementation of uneven treatment, monitoring of side effects of drugs was not complete, type of drug was incomplete, frequency of treatment was not regulated, and funding policy support from legislative institutions did not yet exist.

Keywords: Evaluation, POMP for filariasis, Filariasis elimination

INTRODUCTION

Background

In an effort to find filariasis sufferers in 2004 in Indonesia, an estimated 6 million people are infected with filariasis and it is reported that more than 8,000 people suffer from chronic filariasis, especially in rural areas. Criteria for filarial endemic districts are with Microfilaria Rate ≥1% in one or more survey locations, so mass treatment must be given. If the Microfilaria Rate (MFR) is <1% in all survey locations, the district is designated as a non-endemic area and selective treatment is carried out, namely treatment that is only given to patients with positive microfilariae results, along with family members. The determination of filariasis endemic districts is based on the results of surveys and 'finger blood checks', and is determined by the provincial government[(1)].

In East Manggarai Regency there are many cases of chronic filariasis accompanied by an increase from year to year. The distribution of filariasis patients in East Manggarai Regency in 2016 was almost evenly distributed in all sub-districts. The role of the government in the prevention and eradication of filariasis is to break the chain of transmission and provide treatment and care services to patients to prevent secondary infections and reduce the frequency of acute attacks. In 1997, World Health Asembly established a resolution "Elimination of Lymphatic Filariasis as a Public Health Problem", which in 2000 was strengthened by the WHO decision with a declaration "The Global Goal of the Elimination of Lymphatic Filariasis as a Public Health Problem by the 2020 year"[(2)]. In accordance with the regulation of the President of the Republic of Indonesia

Number 7 of 2005 concerning the 2004-2009 National Medium-Term Development Plan, Indonesia has implemented filariasis elimination as one of the national priorities in eradicating infectious diseases by implementing two main strategies, namely breaking the chain of transmission by mass treatment in the endemic and prevention and limitation of disability through clinical treatment.[3]

Manggarai District government efforts have been taken in 2017, including treatment of patients using diethylcarbamazine (DEC) with a dose of 1 tablet per year for 5 years, vector control by fogging using organophospat and synthetic pyretroid insecticides, and counseling in all *Posyandu* (integrated service post) by public health center officers, especially before mass treatment activities are carried out. These efforts are still constrained by the lack of community participation in the treatment of sufferers and vector control, as well as the unknown factors that support the spread of filariasis in the region.

Mass treatment is given to all residents with a frequency of once a year, for a minimum of 5 consecutive years. Mass treatment can be carried out simultaneously in all regencies or sub-districts in stages, in accordance with the local government's budgetary capacity. Gradual mass treatment must be completed in all districts within 5-7 years so that reinfection does not occur. Efforts to achieve the elimination of filariasis are through 'Two Pillars of Elimination of Filariasis', namely: 1) breaking the chain of transmission by the POMP in endemic areas, 2) preventing and limiting the defects caused by filariasis. The obstacle of filariasis elimination at the treatment stage is the lack of compliance and public awareness to take filariasis medication for 5 consecutive years, whereas to achieve filariasis elimination, the coverage of treatment must reach more than 65% of the population at risk.

Offel & Anto[4] reported that in Ghana, the community compliance rate for taking filariasis medicine was low (43.8%). Failure to cover filariasis treatment has an impact on the continued growth of microfilariae in humans and re-transmission after the treatment period. The success of the filariasis mass treatment program is influenced by many factors. Program efficiency will be achieved if the factors that influence the success of treatment coverage are known. This study aims to analyze leverage factors in increasing the scope of filariasis treatment through a dynamic system model approach.

METHODS

The study was conducted in East Manggarai Regency in 2017, with a qualitative approach, using a mixed method, in order to evaluate the success of mass treatment in East Manggarai Regency. Research subjects were family heads who had taken medication, Health officers, community leaders, religious leaders, and managers of filariasis control programs; selected by purposive sampling technique. The sample size was 150 people. The data collected includes monitoring and evaluation, partnerships, drug availability, drug distribution, the ability of health workers, the presence of health workers, the negative effects of taking medicine, and government policies. Data were collected through interviews and FGDs, then analyzed descriptively with a qualitative approach.

RESULTS

Table 1. Results of FGD on Efforts to Build Partnerships in Implementing Mass Treatment in 2017

Topics of FGD	Total	Percent
Treatment Implementation Partner	12	100
Already partnered with Government institutions	12	100
Already partnered with NGOs	12	100
Budget Availability	12	100
Already partnered with the parliament	12	100
Treatment preparation		
Screening of population census	12	100
Drug Procurement	12	100
Drug availability	08	80
Training on drug side effects	12	100
Drug stock reporting model	12	100
Capacity building for Health Workers	12	100
Filaria Medicine Training	12	100
Filariasis Module Training	12	100
Implementation of treatment		
Drug Distribution according to Schedule	10	85
Distribution to all residents	08	80
Monitoring drug side effects	12	100
Total	12	100

Table 1 shows that basically all stages of the activities from preparation to implementation of filariasis treatment were carried out well, in fact almost all elements reached 100%, except for drug distribution which still reached 80%.

Table 2. Implementation of training for TPE (Elimination Assistants) on the Mass Treatment for Filariasis, Implementation of Drug Distribution, and Human Resource Ability in Mano and Pota Districts, East Maggarai Regency

No	Aspects asked	POMP twice Mano District		POMP twice Pota District	
		Total	%	Total	%
1	Tasks known by TPE				
	Helping counseling	26	32.5	20	28
	Conduct a population census	12	15	10	14
	Drug Recipient Selection	10	12.5	12	18
	Give medicine	10	12.5	8	12
	Monitoring Drugs	14	17.5	10	14
	Monitor drug side effects	8	10	10	14
2	Frequency of treatment				
	Once	20	25	30	43
	Twice	60	75	40	57
	Three times				
	Four times				
3	TPE is trained before MDA	80	100	70	100
4	There is counseling before MDA	80	100	70	100
5	TPE is involved in counseling	80	100	70	100
6	There is a census before MDA	80	100	70	100
7	TPE is involved in treatment	80	100	70	100
8	Drug Distribution				
	To everyone	40	50	20	30
	One package per family	30	40	50	70
	One package per house	10	10		
9	Obstacles in the distribution of drugs				
	There is no	60	80	50	80
	Closed house	20	20	20	20
	Geographical distance is difficult to reach				
	No entry				
10	TPE is involved in monitoring side effects	80	100	70	100
11	The number of family heads fostered by each TPE				
	< 100	80	100	70	100
	100-200				
	>200				
12	Types of drugs received				
	3 types	40	50	40	60
	1-2 types	40	50	30	40
	Do not remember				
13	How to take medicine				
	Some drugs are taken				
	All drugs are taken	80	100	70	100
14	Medication taken in the presence of TPE / officer				
	Yes	80	100	70	100
	Not				
	Do not remember				
	Total	80	100	70	100

Table 2 shows that most TPE officers have provided counseling to the community, both at the Mano Community Health Center and the Pota Community Health Center. Even though it was not optimal, the officers had conducted a population survey, selection of drug, supervised taking medication and side effects of taking medication. In addition, officers have conducted training, supervisors of drug side effects and drug distribution to residents, so there are no obstacles in the implementation of mass drug administration.

Table 3. Evaluation of government policies in budgeting to support POMP for Filariasis in East Manggarai Regency in 2017

Policy evaluation	Total	Percentage
Program Structure		
Stipulated in the Regent's Decree	34	100
Job description	34	100
Facilitator Training	34	100
Budgeting		
Central Fund	34	100
APBD (District government budget)	20	58
NGO	10	29
Legislative budget support		
Legislative support	20	58
There is no legislative support	14	42
Total	34	100

Table 3 shows that the APBD Budget in 2017 in East Manggarai district has not fully supported the Elimination and Treatment of Filariasis program, and the legislative budget support is still lacking, this indicates a lack of government commitment to filariasis eradication in East Manggarai Regency.

Table 4. Recapitulation of POMP for Filariasis in East Manggarai Regency in 2017

Districts	Population	Treatment Program	Compliance rate		Compliance (Gap)
			Drug Consumption		
			n	%	%
Borong	41516	34076	28965	85	15
Rana Mese	54773	52773	44857	85	15
Kota Komba	48882	46702	37362	80	20
Elar	29386	28386	22708	80	20
Elar Selatan	18875	16075	13824	86	14
Sambi Rampas	35750	32500	26000	80	20
Poco Ranaka	30114	27305	23755	87	13
Lamba Leda	32767	31818	27045	85	15
Average				83	

Source: Health Office of East Manggarai Regency in 2017

Table 4 shows that the results of mass treatment in East Manggarai Regency were 83%, meaning that there were still gaps of 13-20% of the people who have not received Filariasis treatment.

Table 5. Problems with Implementation of POMP for Filariasis in East Manggarai Regency in 2017

Problem
Implementation of uneven treatment
Drug distribution that is not complete
Monitoring of side effects that have not been carried out thoroughly
Constraints in the distribution of drugs
The type of drug received is incomplete
Frequency of incomplete treatment for two mass treatments
Not yet fully supported by the DPRD (parliament) and NGOs in the budget

DISCUSSION

Focus group discussion is a process of collecting systematic data and information on a particular problem that is very specific through group discussions[5]. The focus of group discussion in this study is on how the implementation and evaluation of POMP for Filariasis and its problems in Manggarai Timur district in 2017. Representation in this FGD is very high because it not only involves health workers, but also involves religious leaders and community leaders. The information obtained from this FGD covers the preparation stage up to the implementation of Filariasis treatment, in this case most have been carried out thoroughly, except the distribution of new drugs has reached 80%.

According to Anderson (1974) in Notoatmodjo[6], health workers can include figures who are considered influential in society so that changes in habits that can worsen health include prevention of disease, treatment of diseases and health benefits and the belief that health services can help the healing process of the disease.

According to the research results of Amarillo et al.[7], the decision to take filariasis medication in mass treatment is on individuals, each and every other person who can influence their decisions, including health workers, parents and partners. According to a study by Weerasooriya et al.[8] to improve the success of filariasis elimination programs a strategy that is tailored to the socio-cultural conditions of the target community is needed so that the program can be sustainable because of the sense of belonging and community participation in the program.

Mentoring will be better if done by the community itself. According to Rifkin (1996) in Wyind Shona et al.[9], continuous community involvement in the activity process will be more effective. According to Agusri (2008)[10], efforts to prevent filariasis will be carried out well if all components of the community together provide support.

Clients with filariasis in this study try to find health services to various types of services both traditional and modern services. The search for health services behavior is very much related to the beliefs they hold.

DeLaune & Ladner[11] states that community cultural factors determine behavior, both behaviors that may be acceptable and those that are not directly related to daily life. When this cultural concept is applied to health, it affects someone to act, according to Asian society, more traditional services such as herbs are used for treatment.

Filariasis which is seen as a hereditary disease by some people, curses or disorders of spirits causes some people to seek filariasis treatment to health facilities. Community participation in mass medicine shows that the community already has an adequate level of knowledge from various sources of information both from Health officials and religious leaders, community leaders and Elimination Support Personnel. Nwoke[12] researches that in the Indian region, people who have access to health services prefer to go to health workers. This study identified the ability of families and communities to make efforts to treat the disease. Patients who do not have inadequate financial support use natural resources to treat their illnesses and do not come to health workers because of limited costs. Economic sources that are generally used by clients include: savings and joint ventures between family members. Economic factors can also determine whether the client has been treated or allowed the disease that befell him.

According to Febrianto[13], the low socioeconomic status will lead to limited access to health services which in turn will encourage an increase in the prevalence of filariasis. In addition, expensive medical expenses also make them reluctant to take medication. Clement et al.[14] stated that social support is very helpful for

someone in carrying out daily activities. A study in Haiti proved that patients with filariasis who are fully supported by families showed a great desire to do filariasis treatment compared to clients who did not have family support[15]. According to Ryan and Austin in Friedman[16], adequate social support is associated with a decrease in mortality, acceleration of the healing process of disease, and in the elderly can improve physical, emotional, and cognitive function. Internal family support can be obtained from parents, siblings and friends. While external support can be obtained from health workers, midwives and neighbors. The form of family support obtained by the client is the support of information, enthusiasm and instrumental support. Sarafino[17] states that support from the related sector is very much needed for the success of an eradication program.[18] Family and community support still tends to discriminate against clients with filariasis as people who carry infectious diseases so they need to be avoided or get social isolation.[19]

According to Wynd Shona et al.[9] research, to improve the success of the filariasis elimination program a strategy that is in accordance with the social culture of the community is needed so that the program can be sustainable because of the sense of belonging and positive participation from the community. Without support from the local government as a supporter of the program, the filarial elimination program is difficult to achieve. Mentoring will be better if it comes from the community members themselves. According to Rifkin (1996) in Wynd Shona et al.[9], continuous community involvement in an activity process will be more effective because there is continuous direct involvement so that community participation will continue to increase. According to Agusri[10], efforts to prevent filariasis will be carried out well if all components of the community provide support.

There are still many people who have not received the drug, showing the lack of commitment of the regional government in efforts to eliminate filaria. The existence of a health service policy that the drugs were given through visits from home to home shows that the monitoring is increasingly loosening, because the people take medicine not in front of the officers, so that the officers' control of the drug activity is getting weaker.

According to Mathieau, et al. (2004) in Krentel, et al. [20] reported that knowledge of filariasis will have a positive impact on compliance and participation in filariasis mass treatment. According to Soeyoko[21], routine extension activities need to be carried out intensively and continuously so that the role of the community can increase.

Krentel, et al.[19] stated that people need to understand what reactions occur before participating in a mass treatment program and treatment reaction, whereas Mohammed, et al. [22] reported that the community obtained the knowledge that treatment reactions were evidence of the therapeutic work of the drug against microfilaria, will be more likely to accept and take medicine.

According to Supali, et al. [23] research, before mass treatment began, people should be properly informed about the possibility of treatment reactions, especially for people who are at risk of experiencing treatment reactions, namely people with high levels of microfilaria density. This was done to prevent the existence of people who refused to take treatment in the next round, because they were worried about the treatment reactions experienced in previous treatment.

Some things that can reduce the problem in the filariasis mass treatment program are as follows: 1) Increasing public knowledge through extension of filariasis disease, filariasis mass treatment, explaining to the public about the importance of community participation in efforts to prevent philosopherhood by taking finger blood surveys, taking mass drugs and eliminating mosquitoes both individually and in society; 2) Increasing the effectiveness of the filariasis elimination program, especially mass treatment. In this case, the local health office is required to optimize the functions of the Puskesmas, map the working area of the Puskesmas and encourage intensive education to the community, 3) Increasing intensive training to health workers and TPE with an adequate amount, 4) Need cross-sector communication starting from decision makers involving community leaders, religious leaders, youth and traditional leaders, so that information and mass treatment of filariasis are known to community groups[8].

CONCLUSION

The conclusions from the results of this study are as follows: 1) POMP socialization for Filariasis in East Mangrove has been well implemented, 2) Partnerships with related institutions have been well realized, 3) Training of cadres about POMP for Filariasis has been implemented well equipped with elimination modules Filariasis, 4) Availability of POMP Drugs for Filariasis is in accordance with the results of data collection and population census, 5) Implementation of POMP drug distribution for Filariasis is in accordance with the schedule, 6) Health workers have been trained, 7) Health Officers have monitored negative impacts of POMP, documented in drug side effects book, 8) Government policy in POMP budgeting supported by parliament, 9) Implementation of Filariasis treatment reached 83%, 10) Problems in the implementation of POMP for Filariasis in East Manggarai Regency in 2017 are: uneven distribution of drugs, effect monitoring beside the

drug is not complete, the type of drug y received incomplete, the frequency of treatment is incomplete, budget support from the legislature does not yet exist.

REFERENCES

1. Marwoto HA. The Filariasis Situation in South Kalimantan (Situasi filariasis di Kalimantan Selatan). Majalah Kedokteran. 1997;4(47):205-207.
2. WHO. Preparing and Implemenation a National Plan to Elimanate Lymphatic Filariasis. Geneva: WHO; 2000.
3. Government of RI. Republic of Indonesia Presidential Regulation Number 7 of 2005 concerning the National Medium-Term Development Plan 2004-2009 (Peraturan Presiden Republik Indonesia Nomor 7 Tahun 2005 tentang Rencana Pembangunan Jangka Menengah Nasional Tahun 2004-2009). Jakarta: Government of RI; 2005.
4. Offei M, Anto F. Compliance to Mass Drug Administration Programme for Lymphatic Filariasis Elimination by Community Members and Volunteers in the Ahanta West District of Ghana. J Bacteriol Parasitol 5. 2014;5:180.
5. Irwanto. Focus Group Discussion. Pustaka Yayasan Obor Indonesia; 2006.
6. Notoatmodjo S. Health Education and Behavior (Pendidikan dan Perilaku Kesehatan). Jakarta: Rineka Cipta; 2003.
7. Amarillo MLE, Belizario-Jr VY, Sadiang-abay JT, Sison SAM, Dayag AMS. Factors Associated with the Acceptance of Mass Drug Administration for the Elimination of Lymphatic Filariasis in Agusan del Sur, Philippines. Parasit Vectors. 2008;1(14).
8. Weerasooriya MV, Yahathugoda CT, Wickramasinghe D, Gunawardena KN, Dharmadasa RA, Vidanapathirana KK, Weerasekara SH, Samarawickrema WA. Social mobilisation, drug coverage and compliance and adverse reactions in a Mass Drug Administration (MDA) Programme for the Elimination of Lymphatic Filariasis in Sri Lanka. Filaria Journal. 2007;6(11). doi:10.1186/1475-2883-6-11. Available from: http://www.filariajournal.com/content/6/1/11
9. Wynd S, Melrose WD, Durrheim DN, Carrond J, Gyaponge M. Understanding the Community Impact of Lymphatic Filariasis: A Review of the Sociocultural Literature. Bulletin of the World Health Organization. 2007;85:493-498.
10. Agusri. Relationship between Characteristics of Farmers' Communities and Filaria Disease Prevention Efforts in Peunayan Village, Nisam District, North Aceh Regency (Hubungan Karakteristik Masyarakat Petani dengan Upaya Pencegahan Penyakit Filaria di Desa Peunayan Kecamatan Nisam Kabupaten Aceh Utara). Postgraduate Thesis. Medan: USU; 2008. Available from: http://repository.usu.ac.id/bitstream/123456789/6652/1/05701002.pdf
11. Delaune, Ladner. Fundamental of Nursing Standarts & Practice. USA: Delmar; 2002.
12. Nwoke BE, Nwoke EA, Ikechukwu, Dozie INS. The Socioeconomic Impact of Lymphatic Filariasis in Tropical Countries. Greensboro: Spring. 2007;58(1/2):5. Available from: http:// proquest.com/pqdweb
13. Febrianto B, Maharani A, Widiarti. Risk Factors for filariasis in Samborejo Village, Tirto District, Pekalongan Regency, Central Java (Faktor Risiko filariasis di Desa Samborejo, Kecamatan Tirto, Kabupaten Pekalongan, Jawa Tengah). 2008.
14. Clement Stone, McGuire, Eigsti. Comprehensive Community Health Nursing; Family, Aggregate & ommunity Practice. Philadelphia: Mosby Inc.; 2002.
15. Friedman MM, Bowden VR, Jones EG. Family Nursing: Research, Theory and Practice. Upper Saddle River, NJ: Prentice Hall; 2003.
16. Friedman MM. Family Nursing: Research, Theory and Practice. Stamford, CT: Appleton & Lange; 1998.
17. Sarafino EP. Health Psychology: Biopsychosocial Interactions. USA: John Wiley & Sonc, Inc.; 1998.
18. Wijesinghe RS, Wickremasinghe AR, Ekanayake S, Perera MSA. Physical Disability and Psychosocial Impact due to Chronic Filarial Lymphoedema in Sri Lanka. Filaria J. 2007;6:4.
19. Addiss DG, Brady MA. Morbidity Management in the Global Programme to Eliminate Lymphatic Filariasis: a Review of the Scientific Literature. Available from: http://www.filariajournal.com/content/6/1/2
20. Krentel A, Fischer P, Manoempil P, Supali T, Servais G, Rückert P. Using Knowledge, Attitudes and Practice (KAP) Surveys on Lymphatic Filariasis to Prepare a Health Promotion Campaign for Mass Drug Administration in Alor District, Indonesia. Trop Med Int Health. 2006;11(11):1731-1740.
21. Soeyoko. Elephant Foot Disease (Lymphatic Filariasis): Problems and Alternative Remedies (Penyakit Kaki Gajah (Filariasis Limfatik): Permasalahan dan Alternatif Penanggulangannya). Yogyakarta: UGM; 2002.

22. Mohammed KA, Molyneux DH, Albonico M, Rio F. Progress Towards Eliminating Lymphatic Filariasis in Zanzibar: a Model Programme. Trends in Parasitology. 2006;22(7):340-344.
23. Supali T, Wibowo H, Rückert P, Fischer K, Ismid IS, Purnomo, Djuardi Y, Fischer P. High Prevalence of Brugia Timori Infection in the Highland of Alor Island, Indonesia. Am J Trop Med Hyg. 2002;66(5):560.