

Relationship Between Health Literacy and Re-Emerging Elephantiasis in Aceh Barat

¹Danvil Nabela, ¹Dian Fera, ¹Susy Sriwahyuni, ²Agusriati Mulyana

¹Faculty of Public Health, Universitas Teuku Umar, Aceh, Indonesia

²Faculty of Fisheries and Marine Science, Universitas Teuku Umar, Aceh, Indonesia

Corresponding author: Danvil Nabela, e-mail: danvilmilanisti91@gmail.com

Co-author: DF: Dianfera@utu.ac.id, SS: susysriwahyuni@utu.ac.id, AM: agusriatimulyana@utu.ac.id

Submitted: 26/02/2021 **Revised:** 24/03/2021 **Accepted:** 08/04/2021 **Published online:** 13/04/2021

doi: <https://doi.org/10.35308/j-kesmas.v7i2>. **How to cite this article:** Nabela, D., Fera, D., Sriwahyuni, S., & Mulyana, A. (2021). Relationship Between Health Literacy and Re-Emerging Elephantiasis in Aceh Barat District in 2019. J-Kesmas: Jurnal Fakultas Kesehatan Masyarakat (The Indonesian Journal of Public Health). 8(1): 12-15

Abstract

Filariasis is an infectious disease caused by filarial worms if it is not fast, it will experience permanent disability, it occurs when a chronic condition occurs when the feet and hands become swollen, in that condition it is called elephantiasis (elephant leg). Aceh Barat is one of the districts which has the highest number of filariasis cases, which continues to increase from 9 cases in 2015 to 15 cases in 2017. Many factors are suspected to be the cause of elephantiasis including knowledge, behavior, physical home environment, socialization of counseling to health workers. health literacy with the re-emergence of elephantiasis in Aceh Barat Regency in 2019. This study used a quantitative study to determine the risk of elephantiasis using Matched *Case control*. The population of cases in this study were people who suffered from elephantiasis in the district of Aceh Barat. Given the population (N), namely patients with filariasis <100, the sample in this study was the total population using a ratio of 1: 3, so the number of samples in this study was 60 people consisting of 15 cases and 45 people as controls. The results showed that the disease re-emerged. Elephantiasis in Aceh Barat in 2018 was related to health literacy ($p = 0.003$). Health literacy is a new variable in this study. The health literacy variable is also a new thing in this study, although it is a new literacy variable there is a significant relationship with the incidence of elephantiasis using logistic regression analysis with an OR = 2.18.

Keywords: Elephantiasis; Filariasis; Re-emerging Disease; Communicable Disease; Infectious Diseases

Introduction

Filariasis or Elephantiasis (Elephantiasis) is a chronic infectious disease caused by filarial worms and transmitted by all types of mosquitoes. These worms live in the ducts and lymph nodes with acute clinical manifestations in the form of recurrent fever, inflammation of the lymph nodes. At an advanced stage it can cause permanent disabilities in the form of enlargement of the legs, arms, breasts and genitals. Three species of filarial worms that cause lymphatic filariasis are *Wuchereria bancrofti*, *Brugia malayi* and *Brugia timor* (Komaria *et al.*, 2016).

Elephantiasis is an infectious zoonotic disease that is found in many tropical regions around the world. Filariasis is found in Asia, Africa, Central and South America, with 120 million people infected. In Indonesia,

infectious diseases still play a role as the main cause of morbidity and mortality, where filariasis is one of the endemic diseases that the Indonesian government focuses on to eliminate (Irfan *et al.*, 2018).

Filariasis in Indonesia was first reported by Haga and van Eecke in 1889 in Jakarta, namely the discovery of scrotal filariasis sufferers. It was also at that time that Jakarta was known to be endemic to lymphatic filariasis caused by *Brugia malayi*. More than 1.4 billion people in 73 countries are at risk of contracting filariasis worms. Approximately 65% of those infected are in the Southeast Asia region, 30% in the African region, and the rest are in the tropics. Lymphatic filariasis causes more than 25 million men with genital disorders and more than 15 million people with lymphoedema (Amalia & Annashr, 2018).

This disease is a serious public health problem in Indonesia. The majority of Indonesian regions are filariasis endemic areas, the area with the highest filariasis prevalence is Eastern Indonesia, this can be seen from the results of the filariasis survey in 2009 of 472 districts /cities in Indonesia, 337 districts / cities are endemic areas.

From 2003 to 2008 there was a very high increase. In 2003 the number of cases reported was 6720 cases and in 2008 increased to 11,699 cases. In 2009, it is predicted that the population at risk of contracting filariasis will reach more than 125 million people with 11,914 cases and an estimated prevalence of microfilariae is 19%, approximately this disease will affect 40 million people. (Kementerian Kesehatan, 2010).

Filariasis cases throughout Indonesia have a high level of endemicity, 13,032 filariasis cases in 2015, compared to 14,932 cases in 2014. Of these cases, the most clinical cases of filariasis were East Nusa Tenggara with 2,864 cases, Aceh (2,372 cases), and West Papua (1,244 cases). Meanwhile, the provinces with the lowest filariasis cases were North Kalimantan (11 cases), NTB (14 cases) and Bali (18 cases) (Kemenkes RI, 2016).

Filariasis cases in Aceh totaled 2,372 cases, of which the highest district was North Aceh district with 1353 cases, Pidie District 84 cases, East Aceh District 67 cases Aceh Besar District 50 cases, South Aceh and Aceh Tamiang 42 cases, Lhoksemawe city 18 cases. Aceh BaratDistrict is one of the districts that has the highest number of filariasis cases in the south west coast area, in 2015, the number of filariasis cases was 9 cases, while in 2016 there were 11 cases and in 2017 there were 15 cases, Many risk factors can trigger the incidence of filariasis in 2018. The prevalence of filariasis cases in Aceh Baratwas 15 cases.

Indonesia has agreed that filariasis must be eliminated by 2020 using the same method as filariasis endemic countries, namely GELF (Global Elimination of Lymphatic Filariasis) using a strategy that includes breaking the chain of filariasis transmission through POPM (Preventive Mass Drug Administration) using diethylcarbamazine (DEC) combined with al bendazole once a year for at least 5 years and efforts to prevent and

limit disability by structuring clinical cases of filariasis both acute and chronic cases (Kemenkes, 2015)

This research was conducted in areas where the status is not or not yet endemic areas for filariasis, even though these areas have not been designated as endemic areas, but information on the determinants of filariasis transmission in relation to parasites, vectors and humans in these areas is still very minimal and must be improved, so that study is needed on this subject. This is important to know so that it can be used by various related parties in order to support the filariasis elimination program as a consequence of the global agreement in GELF (Global Elimination of Lymphatic Filariasis) (Irvine *et al.*, 2017).

Methods

This study used a quantitative study to determine the risk of elephantiasis using Matched Case Control. The population of cases in this study were people who suffered from elephantiasis in the Aceh Baratdistrict, based on data from the Aceh BaratDistrict Health Office in 2018-2019 totaling 15 people. The control population in this study were people who did not suffer from elephantiasis (filariasis). The control criterion is to match (comparable) to the case, so age is equalized. Considering the population (N), namely patients with filariasis <100, the sample in this study was the total population using a ratio of 1: 3, the number of samples in this study was 60 people consisting of 15 cases and 45 people as controls (Lapau, 2009).

Result

Univariate Analysis

Based on table 1, the univariate analysis explains that the proportion of respondents with poor health literacy is 56.67% greater than those with good health literacy, namely 43.33%.

Table 1. Frequency Distribution of Dependent Variables incidence of elephantiasis and health literacy Independent Variables, 2019 (n=60)

Health literacy	Frequency	Percentage (%)
Good	26	43.33
Not Good	34	56.67
Total	65	100

Based on table 2 below, it shows that respondents in the case group who had poor health literacy were twice as large as the control group, namely 46.47%, while

respondents in the control group who had good health literacy were 80% more than those in the case group, namely 53 , 33%.

OR value = 2.18 which means that respondents who have poor health literacy are 2 times more likely to be exposed to elephantiasis than respondents who have good health literacy with a p value = 0.003 which means that there is a significant relationship between health literacy and the incidence of elephantiasis in Aceh Baratdistrict.

Tabel 2. The relationship between health literacy and the re-emergence of the elephant leg

Health literacy	Elephant Foot Incident				OR	CI	P-value
	Case		Control				
	f	%	f	%			
Not Good	7	46.47	9	20	2.18	0.37-6.69	0,003
Good	8	53.33	36	80			
Total	15	100	45	100			

Discussion

The relationship between health literacy and the incidence of elephantiasis. The results showed that the proportion of respondents who had good health literacy was not exposed to elephantiasis by 80% greater than that of respondents who were exposed to elephantiasis by 53.33%, while the proportion of respondents who had poor health literacy was exposed to elephantiasis disease by 46.67% greater compared with respondents who were not exposed to elephantiasis by 20%. OR value = 2.18, which means that respondents with poor literacy are 2 times more likely to develop elephantiasis than the statistics. It also shows that there is a significant relationship between health literacy and the re-emergence of elephantiasis in Aceh Barat Regency in 2019 with a p-value = 0.003.

According to research (Amelia, 2014) shows that non-compliance in taking medication is very low with a p value = 0.005 because people are afraid of side effects and are confused about reading drug instructions because literacy in taking medicines is still not good According to research Widawati et al. (2019) shows that the knowledge of the respondents who do not use the

repellant gossip drug p value = 0.005, the higher the respondent's health literacy, the greater the tendency of the respondent to use repellent medicine as part of the prevention of filariasis People who lack access to health literacy will only know about rapelen medicine but do not understand the use, how to use or the impact of rapelen medicine so they only know.

According to researchers, literacy is a process whose result is knowledge, literacy is not only a matter of knowing and not knowing but also understanding, many people know about elephantiasis but many do not understand so that people are confused about what to do to prevent foot disease. elephants in their own environment, poor literacy makes people misjudge so that the stigma of stigma that develops in the community that elephantiasis is a curse disease makes some people surrender without trying to seek.

Conclusion

Health literacy is a new variable in this study. The health literacy variable is also novelty in this study, although it is a new literacy variable there is a significant



relationship with the incidence of elephantiasis using logistic regression analysis. Based on the results of research conducted in Aceh Barat District with a 1: 3 case control study design with a sample of 60 respondents, health literacy has a significant relationship with the re-emergence of elephantiasis ($p = 0.003$, and $OR = 2.18$) with re-emergence. foot disease. elephants in Aceh Barat Regency in 2019.

Acknowledgement

This research was carried out well with the help of many other parties. Thank you to the Aceh Barat Health Office who has helped in completing this research.

Author Contribution and Competitive.

Interest All writers contribute both the smallest to the most important things in collecting and analyzing data, including compiling the manuscript. The author ensures that there is no conflict of interest in the activities and preparati

Publisher's Note

J-Kesmas: Jurnal Fakultas Kesehatan Masyarakat (Indonesia Journal of Public Health) remains neutral with regard to jurisdictional claims in published institutional affiliation.

Reference

- Amalia, I. S. & Annashr, N. N. 2018. Faktor Sosiodemografi Dan Perilaku Yang Berhubungan Dengan Kejadian Filariasis Di Kabupaten Kuningan. *Jurnal Kampus Stikes Ypib Majalengka*, 6, 1-19.
- Amelia, R. 2014. Analisis Faktor Risiko Kejadian Penyakit Filariasis. *Unnes Journal Of Public Health*, 3.
- Irfan, I., Kambuno, N. T. & Israfil, I. 2018. Factors Affecting The Incidence Of Filariasis In Welamosa Village Ende District East Nusa Tenggara. *Global Medical & Health Communication*, 6, 130-137.

Irvine, M. A., Stolk, W. A., Smith, M. E., Subramanian, S., Singh, B. K., Weil, G. J., Michael, E. & Hollingsworth, T. D. 2017. Effectiveness Of A Triple-Drug Regimen For Global Elimination Of Lymphatic Filariasis: A Modelling Study. *The Lancet Infectious Diseases*, 17, 451-458.

Kemenkes, R. 2015. Peraturan Menteri Kesehatan Republik Indonesia Nomor 94 Tahun 2014 Tentang Penanggulangan Filariasis. Jakarta: Kementerian Kesehatan Republik Indonesia, 1-118.

Kementerian Kesehatan, R. 2010. Rencana Nasional Program Akselerasi Eliminasi Filariasis Di Indonesia 2010-2014. Subdit Filariasis Dan Schistomiasis Direktorat P2b2, Ditjen Pp Dan Pl. Kemenkes RI.

Komaria, R. H., Faisya, F. & Sunarsih, E. 2016. Analysis Of Physical Environment And Preventive Behavior Determinants Toward Genesis Filariasis Cases In The Sub-District Of Talang Kelapa And Sembawa, District Of Banyuwangi. *Jurnal Ilmu Kesehatan Masyarakat*, 7, 108-117.

Lapau, B. 2009. Prinsip Dan Metode Epidemiologi, Jakarta, Fk.UI.

