JMPF Vol. 12 No. 2 : 107-115
ISSN-p : 2088-8139
ISSN-e : 2443-2946

Knowledge, Attitude, and Medicine Taking Behavior of Lymphatic Filariasis Patients in Two Villages in West Kotawaringin Regency

Yuniarti Suryatinah*, Nita Rahayu
Badan Riset dan Inovasi Nasional
Submitted: 31-01-2022 *Revised: 18-03-2022* *Accepted: 30-06-2022*
Corresponding : Yuniarti Suryatinah; Email : yuniarti.suryatinah@gmail.com

ABSTRACT

Kotawaringin Barat Regency had carried out the lymphatic filariasis mass drug administration (LF MDA) and was declared to have passed the 3rd Transmission Assessment Survey (TAS) in 2016. One of the success factors of the 3rd TAS is the compliance or adherence to taking the preventive drugs. The purpose of this article was to analyze the relationship between knowledge and attitude of adherence to taking filariasis prevention drugs in two villages in West Kotawaringin Regency. The study was conducted in 2017 using an observational design with a cross-sectional approach. The samples used were 273 people ≥ 15 years. The instrument used was a questionnaire of knowledge, attitudes, and behavior related to LF MDA. Respondent characteristics and knowledge description were analyzed descriptively. Then chi square test was carried out to determine the relationship between sex, age, education, knowledge, and attitudes towards drug-taking behavior. The results of the study found that the percentage of respondents in West Kotawaringin Regency who had good knowledge was 58.2%, the number of respondents with good attitudes was 66.7%, and 89.4% of them behaved obediently in taking preventive drugs filariasis. Sex (p = 0.794), age (p = 0.372), education (p = 0.263), knowledge (p = 0.536), and attitude (p = 0.765) did not have significant relevance with the adherence behavior to taking filariasis prevention drugs. The conclusion of the study is that there are other factors other than sex, age, education, knowledge, and attitude that can affect the behavior of adherence to taking filariasis prevention drugs in two villages in West Kotawaringin Regency.

Keywords: Attitude; Behavior; Knowledge; LF MDA

INTRODUCTION

Filariasis, or elephantiasis, is one of the neglected tropical diseases which has become a national priority program in Indonesia. Indonesia has the largest population at high risk of contracting filariasis and is the country with the second highest filariasis case in the world.[1] The global program to eliminate lymphatic filariasis intensifies two main strategies to increase the acceleration of elimination, namely by intensifying the use of preventive therapy and morbidity management.[2]

One of the strategies of the Indonesian government in eliminating filariasis is through the administration of filariasis Mass Prevention Drugs (MPD) in endemic districts/cities every year for 5 consecutive years to break the chain of transmission.[3] West Kotawaringin Regency is 1 of 77 filariasis endemic districts/cities that has succeeded in reducing the microfilariae rate to less than 1%.[1] The implementation of the filariasis MPD in Kotawaringin Barat Regency was carried out from 2007 to 2011, and in 2016, it was declared to have passed the 3rd Transmission Assessment Survey (*TAS*).[4]

The low coverage of filariasis MPD could have been one of the factors causing the failure of the filariasis elimination program in an area.[5]One of the keys to success in the treatment is influenced by the behavior of a person's adherence to treatment.[6] Research conducted by Juhairiyah *et al.* in Bilas Village, Tabalong Regency in 2016, stated that the low percentage of filariasis positive patients and the general public who regularly consume filariasis MPD can cause filariasis transmission in the area, especially if the filariasis mosquito vector is found in the area.[7]

Lawrence Green's theory states that the behavior in the precedent model can be shaped by one of the predisposing factors which include age, occupation, education,

knowledge, and attitudes. Based on Bloom's theory, there are 3 (three) levels of the domain of a person's behavior, namely knowledge, attitudes, and actions.[8]There are several studies that show a significant relationship between knowledge and attitudes towards medication adherence behavior. The results of the research conducted by Ritawati *et al.* in Banyuasin Regency in 2015 revealed that the scope of behavior for taking filariasis mass prevention drugs was significantly influenced by four factors, one of which was knowledge (p = 0.001).[9] A similar study by Isabela *et al.* in 2017 found that the determinants of adherence to taking anti-filariasis drugs were age (p = 0.016), sex (p = 0.002), education (p = 0.041), knowledge (p = 0.043), the role of health workers (p = 0.043), and the role of community leaders (p = 0.044).[10]

Meanwhile, the research conducted by Yuziani et al. in Baktiya Subdistrict, North Aceh showed different results from the aforementioned research which stated that there was no relationship between the level of knowledge and adherence to filariasis mass treatment(p value = 0.996).[11] A similar study conducted by Oducado in Baragay, Philippines, in 2012 explained that the level of knowledge (p = 0.608) and attitude (p = 0.380) did not correlate with the level of adherence to taking filariasis MPD.[12] In 2019, Niles et al. in their study conducted in Guyana in 4 regions (region III, regional IV, regional V, and region X) found that respondents in region IV had higher knowledge of filariasis, but had lower adherence and acceptance.[13] From the presentation of the results of previous studies, the researchers wanted to find out the relationship between sex, age, education, knowledge, and attitudes towards adherence to filariasis prevention medication behavior in two villages in West Kotawaringin Regency that had passed the 3rd TAS in 2016. This article is expected to be able to explain the description of drug taking behavior during the period of MPD implementation in two villages in West Kotawaringin Regency and the predisposing factors that influenced the success of the 3rd TAS in the regency.

METHOD

The research was conducted in September – October of 2017 in Kotawaringin Barat Regency after being declared to have passed the 3rd TAS. The study was conducted in two villages, namely Sungai Bakau Village and Dawak Village, taking into account the findings of positive antibody status Brugia malayi in 4 (four) elementary school children in grades 1 and 2 from several villages examined during the 3rd TAS in 2016. The study used an observational research design with a cross-sectional approach. This research has received ethical approval from the Health Research Ethics Commission of the Indonesian Ministry of Health Research and Development Agency number LB.02.01/2/KE.167/2017 and is part of the 2017 Filariasis Multicenter Research which was also carried out in 23 districts (14 provinces) in Indonesia.[4]The attitude and behavior knowledge (ABK) survey related to filariasis prevention treatment was carried out as the second stage after the finger blood survey (FBS). Where in FBS, the respondents taken were people aged ≥ 5 ≥years, while in ABK, the respondents taken were people who were taken from FBS with an age of ≥ 15 years.

The population in this ABK survey were all the communities in two selected villages in West Kotawaringin Regency who received filariasis prevention drugs. Meanwhile,the sample was part of the population living in selected villages who receive filariasis prevention treatment with age ≥ 15 years, willing to participate in research, had no difficulty in communicating (speech and deaf), and were not elderly with dementia.[4]

The determination of the minimum sample size for the ABK survey was based on the data from the Central Statistics Agency (CSA) for the total population in two villages in Kotawaringin Barat Regency in 2016 which was 3,396 people, with details of 1,694 people in Sungai Bakau Village and 1,702 people in Dawak Village. The calculations were carried out using the Epi Info (online) calculator with 95% confidence interval, 50% expected frequency, and 10% confidence limits, so that a minimum sample of 93 respondents was

obtained and taking into account a 10% drop out, a minimum of 102 respondents was required.

The sampling of the ABK survey for the prevention of filariasis was carried out using a purposive sampling technique, which was carried out by referring to the first selected respondents, namely respondents in positive children's homes from the 2016 TAS results, then the closest one to the first house was taken and so on until 620 respondents were obtained for FBS age ≥ 5 years. In data analysis, all research samples aged ≥ 15 years which were collected during FBS were 237 respondents.

The research variables consisted of independent variables, namely sex, age, education, knowledge, and attitudes. Meanwhile, the dependent variable was the behavior of adherence to taking filariasis prevention drugs. The level of knowledge, attitudes, and behavior was measured by a structured questionnaire developed by WHO and had been used in filariasis research in 2015 and adapted to regional conditions and discussed with an internal expert team.[4]

The knowledge level variable consisted of 10 questions, 6 of which were positive questions and 4 were negative questions. The aspects assessed included the causes of filariasis (5 items) and the impact of filariasis (5 items). The answer choices were “yes”, “no”, and “don't know”. The assessment was carried out based on the number of items correctly answered by the subject, the correct answer was given a value of 1 while the wrong answer or not knowing is given a value of 0. In this study, the knowledge level was grouped based on the median value of 5.00 because the data were not normally distributed. The knowledge level category was divided into two , namely poor knowledge if the score was < 5 and good knowledge if the score was ≥ 5.

The knowledge level variable consisted of 7 questions, 2 of which were positive questions and 5 were negative questions. The aspect that was assessed was the respondent's attitude towards the mass treatment of filariasis prevention. The answer choices were “agree”, “doubtful”, and “disagree”. The assessment was carried out based on the perception answered by the subjects, the positive questions for agreed answers were given a value of 3, while doubtful answers were given a value of 1, and disagreed answers were given a value of 0. On the contrary, for the negative questions, the agreed answer was given a value of 1, while the doubtful answer was given a value of 2, and the answer does not agree is given a value of 3. In this study, the knowledge level was grouped based on the median value of 17.00 because the data were not normally distributed. The attitude level category was divided into two , namely poor knowledge if the score was < 17 and good knowledge if the score was ≥ 17.

The medication adherence behavior consisted of 1 positive question with the answer choices "taking all filariasis MPD", "taking some filariasis MPD" and "not taking all filariasis MPD". In this study, the behavior grouping was the adherence category for respondents who took all filariasis MPD, and non-adherence categories for respondents who took some filariasis MPD or did not take all filariasis MPD.

The statistical method used to analyze the data was univariate with a frequency distribution to see the description of the characteristics of respondents and the description of knowledge which was then followed by bivariate analysis using the chi square test and multivariate logistic regression analysis to determine the predisposition relationship (sex, age, education level, knowledge and attitude) towards the compliance behavior in taking filariasis prevention drugs.

RESULT AND DISCUSSION

In this study, the demographic characteristics of respondents receiving filariasis prevention drugs included sex, age, and education as attached in Table I. Based on the table, it can be seen that the majority of respondents were 146 women (61.6%), the majority of respondents aged 31-45 years were 97 people (40.9%), most of the respondents had

Table I. The characteristics of respondents receiving filariasis prevention drugs

Characteristics	Amount (n=237)	%
Sex		
Male	91	38.4
Female	146	61.6
Age category		
15-18 years	14	5.9
19-30 years	62	26.2
31-45 years	97	40.9
46-59 years	52	21.9
≥ 60 years	12	5.1
Education		
No education	38	16.0
Elementary School	131	55.3
Junior High School	33	13.9
Senior High School	26	11.0
Undergraduate	9	3.8
Mass Prevention Drugs (MPD) information for all villagers		
Aware	196	82.7
Not Aware	41	17.3

an education of elementary school as many as 131 people (55, 3%), and most of the respondents were aware of the existence of information on mass preventive medicine for all residents in the village as many as 196 people (82.7%).

From Table II, it is known that the majority of respondents behaved adherently towards the behavior of taking filariasis MPD as many as 212 people (89.4%). This is in line with the report on the percentage of mass treatment coverage in Kotawaringin Barat Regency in 2007-2011, which was between 85.60% to 92.37%.[4]The high percentage of adherence to taking filariasis drugs can also be seen from the research conducted by Layli *et al.* in the working area of the Gedangan Health Center, Tuntang District, Semarang Regency, which also resulted in 146 people (69.9%).[14] The research conducted by Dewi *et al.* in Sababilah Village, South Barito Regency, Central Kalimantan, also found that as many as 96 people (89.7%) were adherent to taking filariasis drugs.[15]

The high percentage of adherence in taking filariasis medication is one of the factors that influence the success of filariasis MPD in Kotawaringin Barat Regency. In the results of the 2016 3rd TAS examination, there were only 4 positive samples from the 1.548 samples examined or the positive number was below the critical cut off value, so that the West Kotawaringin Regency was declared to have passed 3rd TAS and was included in the list of endemic districts/cities that succeeded in reducing the microfilaria rate to <1%.[14] Research by Setyaningtyas *et al.* also showed that there was an effect of adherence to taking medication from the community on reducing the microfilaria rate in Kusan Hulu District, Tanah Bumbu Regency. The compliance in the community taking the medication was 427 people (90.7%), therefore from before the implementation of MPD, the microfilaria rate value was 12.37% in 2008, 0.91% in 2011, then it was 0.4% after the 4th MPD in 2015, and became a filariasis non-endemic area.[16]

Table II. The relationship between sex, age group, and education level on the behavior of taking filariasis prevention drugs in two villages in West Kotawaringin Regency in 2017

Item	The behavior of taking filariasis prevention drugs (n=237)				p value
	Non-adherence (n=25)		Adherence (n=212)		
	Amount	%	Amount	%	
Sex					
Male	9	3.8	82	34.6	0.794
Female	16	6.8	130	54.8	
Age category					
15-18 years	2	0.8	12	5.1	0.372
19-30 years	10	4.2	52	21.9	
31-45 years	8	3.4	89	37.6	
46-59 years	5	2.1	47	19.8	
≥ 60 years	0	0	12	5.1	
Education					
No education	2	0.8	36	15.2	0.263
Elementary School	17	7.2	114	48.1	
Junior High School	1	0.4	32	13.5	
Senior High School	3	1.3	23	9.7	
Undergraduate	2	0.8	7	3.0	

Table II also shows that there is no significant relationship between sex, age, and education with the behavior of taking filariasis MPD in the community in the two villages of West Kotawaringin Regency. This is in line with the research conducted by Prasetyowati et al. in Tangerang Regency which also stated that there was no significant relationship between the characteristics of respondents and adherence to taking drugs that were well received by sex (p = 0.790), age (p = 0.236), marital status (p = 0.218), last education (p = 0.407), occupation (p = 0.540), and knowledge (p = 0.361).[17] Research by Nurlaila et al. stated that age (p value = 0.081), and sex (p = 0.286) were not significantly related to medication adherence.[18] Research by Iwan et al. conducted in Ambon City also stated that the type of education, age, and education level had no significant relationship with adherence to taking filariasis drugs.[19]

In this study, based on Table III, it is known that the majority of respondents as many as 216 people did not know that filariasis was caused by worms (91.1%) and as many as 174 people did not know that filariasis was transmitted by mosquitoes (73.4%). However, the majority of respondents as many as 131 people knew that elephantiasis can cause enlarged feet or hands (55.3%).

Research by Prasetyowati et al. in Tangerang Regency stated that the majority of respondents as many as 483 people did not know that filariasis was caused by worms (93%), as many as 375 people (73%) did not know that filariasis was transmitted through mosquitoes, and the majority of respondents who answered only based on the physique who had suffered enlarged feet or arms were 361 people (70%).[17]A study conducted by Santoso *et al.* had shown that 366 people (52.2%) in Bangka Belitung and 335 people (47.8%) in Jambi stated that there was enlargement of the hands and feet as a result of filariasis.[20]

In Table IV, it is known that the majority of respondents in the two villages of West Kotawaringin Regency who had good

Table III. Description of knowledge about filariasis MPD in two villages in West Kotawaringin Regency in 2017

Question items	Answers (n=237)	
	True	False
Elephantiasis disease (filariasis) is caused by worms	21 (8,9%)	216 (91,1%)
Elephantiasis disease (filariasis) is transmitted by mosquitoes	63 (26,6%)	174 (73,4%)
The cause of elephantiasis (filariasis) is a hereditary disease	234 (98,7%)	3 (1,3%)
The cause of elephantiasis (filariasis) is a disease caused by disturbances of spirits	237 (100%)	0 (0%)
The cause of elephantiasis (filariasis) is a disease due to violating taboos	237 (100%)	0 (100%)
Elephantiasis disease (filariasis) causes the feet or hands to enlarge	131 (55.3%)	106 (44.7%)
Elephantiasis (filariasis) does not cause symptoms and effects on the body	232 (97.9%)	5 (2,1%)
Elephantiasis disease (filariasis) causes fever and body weakness/illness	5 (2.1%)	232 (97,9%)
Elephantiasis disease (filariasis) causes swelling in the groin/armpit	0	237 (100%)
Elephantiasis disease (filariasis) causes the breasts/scrotum to enlarge	0	237 (100%)

Table IV. The relationship between knowledge and behavior of taking filariasis prevention drugs in two villages in West Kotawaringin Regency in 2017

Variable	The behavior of taking filariasis prevention drugs						*p value*
	Non-adherence (n=25)		Adherent (n-=212)		Total (n=237)		
	Amount	%	Amount	%	Amount	%	
Knowledge							
Poor	9	3.8	90	38.0	99	41.8	0.536
Good	16	6.8	122	51.4	138	58.2	
Attitude							
Poor	9	3.8	70	29.5	79	33.3	0.765
Good	16	6.8	142	59.9	158	66.7	

knowledge were 138 people (58.2%), 158 people (66.7%) were of good attitude, and 212 people (89.4%) behaved obediently in taking the filariasis prevention drugs. As many as 122 respondents who had good knowledge tended to have adherence to taking filariasis prevention drugs (51.4%). As many as 142 respondents who had good attitude tended to have adherence to taking filariasis prevention drugs (59.9%).

In Table IV, it is also known that there were 99 respondents (41.8%) with poor knowledge and 79 respondents with poor attitude (33.3%). In result to this, it is still necessary to increase health promotion in the form of delivering health information about filariasis. Research by Tyas *et al.* in Bogor Regency states that the dissemination of unclear information can result in the message received by the audience not in accordance with what the communicator wants to convey.[21]One method of disseminating information or health promotion related to filariasis and its treatment is audiovisual

media. Research conducted by Annashr and Amalia in two groups found that the addition of audiovisual media was more effective in promoting health in increasing public adherence to taking filariasis prevention drugs than using the lecture method alone.[22]

Table IV shows that there is no relationship between knowledge (p = 0.536) and attitude (p = 0.765) towards adherence to filariasis MPD medication. This is in line with the research by Prasetyowati et al. in Tangerang Regency which stated that there was no significant relationship between knowledge and adherence to taking filariasis MPD medication (p = 0.361).[17] Research by Widawati et al. in Subang stated that there was no significant relationship between attitudes towards adherence to filariasis prevention medication (p = 0.158).[23] Multivariate logistic regression analysis on omnibus tests showed p value = 0.381, therefore, simultaneously there is no influence of predisposing factors (sex, age, education, knowledge of attitudes) on the behavior of adherence to taking filariasis prevention drugs.

There is no significant relationship from the predisposing factors studied to the medication adherence behavior. This can be seen from the number of people who even though they lack knowledge and have less attitude, they still obediently consume filariasis prevention drugs. Therefore, there may be other factors outside of the respondents' internal that also influence the behavior of adherence to taking filariasis prevention drugs in two villages in West Kotawaringin Regency. Based on a review conducted by Mahyarni on the theory of reasoned action (TRA) proposed by Ajzen and Fishbein, it is stated that one of the factors that can influence a person's behavior is the aspect of subjective norms in the form of the presence of support from the family, where an individual will behave if other people's perception of the behavior is positive.[24] This is in accordance with the research conducted by Annashr *et al.* in Cilimus District, Kuningan Regency, where it was found that family support had a significant effect on adherence to filariasis prevention treatment (p = 0.016).[25] This is also in line with research conducted by Rosanti *et al.* in Pabean, Pekalongan City, which stated that the presence of a drug-taking supervisor from the family environment was the most important variable in improving medication adherence[26] in the work area. Research by Iwan *et al.* in the working area of Waihaong and Air Salobar Health Centers, Ambon City, stated that the support from people around showed an important role in adherence to medication. Respondents who received support from people around them to take filariasis medication had an odds ratio four times greater than those who did not receive support or were neutral (OR=5.12, 95% CI:3.18-8.23, p <0.001).[19]

The limitation of this study is the possibility of the respondent's weak memory when asked to recall the behavior of taking filariasis MPD that they had carried out in the period between 2007 and 2011. Suggestions for future research is that one may consider to measure knowledge, attitudes, and behavior in the same year as the implementation of filariasis MPD administration.

CONCLUSION

From this study, it can be concluded that there are other factors other than sex, age, education, knowledge, and attitudes that have significant effect on the behavior of taking filariasis massive prevention drugs in the community in two villages in West Kotawaringin Regency in 2017. Respondents with poor knowledge are 41.8%, so that it is still necessary to increase health promotion in the form of delivering health information about filariasis to respondents or families through promotional media such as videos.

REFERENCES

1. Ditjen P2P Kemenkes RI. *Laporan Kinerja Direktorat Jenderal Pencegahan Dan Pengendalian Penyakit Tahun 2017*.; 2018. http://p2p.kemkes.go.id/wp-content/uploads/2017/12/LaporanKinerjaDitjenP2P.pdf
2. Gyapong JO, Owusu IO, da-Costa

Vroom FB, Mensah EO, Gyapong M. Elimination of Lymphatic Filariasis: Current Perspectives on Mass Drug Administration. *Res Rep Trop Med*. 2018;9:25-33. doi:10.2147/rrtm.s125204

3. Kemenkes RI. *Peraturan Menteri Kesehatan Republik Indonesia No. 94 Tahun 2014 Tentang Penanggulangan Filariasis*. Kementerian Kesehatan RI; 2014. https://peraturan.bpk.go.id/Home/Details/121930/pmk-no-94pmk022014
4. Nuhung H, Rahayu N, Suryatinah Y, et al. *Laporan Penelitian Studi Evaluasi Eliminasi Filariasis Di Indonesia Tahun 2017 : Kabupaten Kotawaringin Barat Dan Kabupaten Hulu Sungai Utara*.; 2017.
5. Meliyanie G, Andiarsa D. Program Eliminasi Lymphatic Filariasis di Indonesia. *J Heal Epidemiol Commun Dis*. 2017;3(2):63-70.
6. Fauzi R, Nishaa K. *Apoteker Hebat, Terapi Taat, Pasien Sehat : Panduan Simpel Mengelola Kepatuhan Terapi*. Stiletto Indie Book; 2018.
7. Juhairiyah J, Fakhrizal D, Hidayat S, Indriyati L, Hairani B. Kepatuhan Masyarakat Minum Obat Pencegah Massal Filariasis (Kaki Gajah): Studi Kasus Desa Bilas, Kabupaten Tabalong. *J Vektor Penyakit*. 2019;13(1):49-58.
8. Notoatmodjo S. *Ilmu Perilaku Kesehatan*. PT Rineka Cipta; 2014.
9. Ritawati, Oktarina R, Margarethy I. Faktor Yang Berhubungan Dengan Perilaku Minum Obat Dalam Pemberian Obat Pencegahan Massal Filariasis di Kabupaten Banyuasin Tahun 2015. *SPIRAKEL*. 2020;12(2):60-68.
10. Isabella, Fitriangga A, Natalia D. Determinan Kepatuhan Minum Obat Anti filariasis pada Masyarakat Desa Selat Remis Kecamatan Teluk Pakedai. *J Kesehat Khatulistiwa*. 2018;4(2):640-656.
11. Yuziani Y, Rahayu MS, Mellaratna WP. Hubungan Tingkat Pengetahuan Dengan Kepatuhan Pengobatan Massal Filariasis Di Kecamatan Baktiya Aceh Utara. *AVERROUS J Kedokt dan Kesehat Malikussaleh*. 2021;7(1):95.
12. Oducado RMF. Knowledge and Attitude toward Lymphatic Filariasis (LF) and Compliance to Mass Drug Administration (MDA) among Households in Two Rural Barangays. *Asia Pacific J Educ Arts Sci*. 2014;1(5):85-92. http://apjeas.apjmr.com/wp-content/uploads/2014/11/APJEAS-2014-1-089a.pdf
13. Niles RA, Thickstun CR, Cox H, et al. Assessing Factors Influencing Communities' Acceptability of Mass Drug Administration for The Elimination of Lymphatic Filariasis in Guyana. *PLoS Negl Trop Dis*. 2021;September:1-27.
14. Layli FM, Adi MS, Saraswati LD, Ginandjar P. Gambaran Faktor-Faktor Kepatuhan Minum Obat Dalam Pelaksanaan POPM di Kabupaten Semarang (Studi di Wilayah Kerja Puskesmas Gedangan Kecamatan Tuntang). *J Kesehat Masy*. 2020;8(2):256-263. http://www.akrabjuara.com/index.php/akrabjuara/article/view/919
15. Dewi S, Saraswati LD, Adi MS, Ginandjar P. Gambaran Pengobatan Massal Filariasis (Studi di Desa Sababilah Kabupaten Barito Selatan Kalimantan Tengah). *J Kesehat Masy*. 2017;5(4):484-491.
16. Setyaningtyas DE, Yuana WT, Rahayu N. Keberhasilan Pengobatan Massal Filariasis di Kecamatan Kusan Hulu Kabupaten Tanah Bumbu Provinsi Kalimantan Selatan. *Balaba J Litbang Pengendali Penyakit Bersumber Binatang Banjarnegara*. 2018:133-142.
17. Prasetyowati H, Hodijah DN, Ipa M, Hendri J. Pengetahuan dan Karakteristik Individu: Studi Cakupan Kepatuhan Minum Obat Paska Pemberian Obat Massal Pencegahan Filariasis di Kabupaten Tangerang. *Balaba J Litbang Pengendali Penyakit Bersumber Binatang Banjarnegara*.

2019:179-190.
18. Nurlaila, Ginandjar P, Martini. Faktor-Faktor Yang Berhubungan Dengan Kepatuhan Pengobatan Masal Di Kelurahan Non Endemis Filariasis Kota Pekalongan. *J Kesehat Masy*. 2017;5(4):455-466.
19. Iwan RF, Titaley C, Taihuttu Y, Krentel A. Kepatuhan Minum Obat Pencegahan Filariasis di Wilayah Kerja Puskesmas Waihaong dan Air Salobar Kota Ambon. *J Promosi Kesehat Indones*. 2021;16(2):44-55.
20. Santoso S, Yahya Y, Supranelfy Y, Wurisastuti T. Situasi Filariasis Limfatik di Daerah Pasca Pemberian Obat Pencegahan Massal (POPM) dan Pasca Eliminasi di Kabupaten Tanjung Jabung Timur dan Belitung. *Bul Penelit Kesehat*. 2021;49(3):183-192.
21. Tyas SR, Hafiar H, Sani A. Manajemen Kampanye Eliminasi Kaki Gajah Dalam Upaya Peningkatan Kesehatan Di Kabupaten Bogor. *PRofesi Humas J Ilm Ilmu Hub Masy*. 2017;2(1):57-72. http://jurnal.unpad.ac.id/profesi-humas
22. Annashr NN, Amalia IS. Efektivitas Promosi Kesehatan Berbasis Audiovisual Dalam Meningkatkan Kepatuhan Minum Obat Filariasis di Kabupaten Kuningan. *J Ilmu Kesehat Bhakti Husada Heal Sci J*. 2018;9(2):40-45.
23. Widawati M, Ruliansyah A, Astuti EP, Yuliasih Y. Sociodemographic , Knowledge, and Attitude Determinants of Lymphatic Filariasis Medication Adherence in Subang , Indonesia. In: *Advances in Health Science Research : 5th Universitas Ahmad Dahlan Public Health Conference (UPHEC 2019)*. Vol 24. ATLANTIS PRESS; 2020:1-6.
24. Mahyarni M. Theory of Reasoned Action and Theory of Planned Behavior (Sebuah Kajian Historis tentang Perilaku). *J EL-RIYASAH*. 2013;4(1):13.
25. Annashr NN, Amalia IS, Phuong Dinh HT. Low Knowledge and Unawareness of The Health Promotion as The Determinant Factors in Non-compliance to the Mass Drug Administration Program. *Kesmas J Kesehat Masy Nas (National Public Heal Journal)*. 2021;16(1):39-44.
26. Rosanti TI, Mardihusodo SJ, Artama WT. Directly Observed Treatment Increases Drug Compliance in Lymphatic Filariasis Mass Drug Administration. *Universa Med*. 2016;35(2):119-127.