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Research Article

THE RELATIONSHIP BETWEEN COMMUNITY BEHAVIOR AND SOWING OF ABATE POWDER IN PREVENTING AEDES LARVAE AT PASI PEUKAN BARO VILLAGE AND PASI RAWA VILLAGE SIGLI SUB DISTRICT, PIDIE REGENCY

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Hadi Safriadi
Student Master of Public Health Study Program, Faculty of Medicine, Syiah Kuala Darussalam University, Banda Aceh, Indonesia

Teuku Maulana
Master Study Program in Tropical Medicine, Faculty of Medicine, Syiah Kuala Darussalam University, Aceh, Indonesia

Sofia
Master of Public Health Study Program, Faculty of Medicine, Syiah Kuala Darussalam University, Banda Aceh, Indonesia

Irwan Saputra
Master of Public Health Study Program, Faculty of Medicine, Syiah Kuala Darussalam University, Banda Aceh, Indonesia

Said Usman
Master of Public Health Study Program, Faculty of Medicine, Syiah Kuala Darussalam University, Banda Aceh, Indonesia

ABSTRACT

Background: Dengue Hemorrhagic Fever (DHF) in Aceh Province in 2022 were recorded at 2,079 cases,, with 16 deaths. with the morbidity rate for Dengue Hemorrhagic Fever (DHF) in 2022 amounting to 38 per 100,000 population. Cases of dengue fever in Pidie Regency in 2022 were 318 cases. Research Objective: To determine community behavior towards sowing abate powder to prevent aedes larvae in Kota Sigli Subdistrict, Regency Pidie, Aceh Province, data collected in the form of larva surveys, distribution of research questionnaires and observation were conducted from

INTERNATIONAL JOURNAL OF MEDICAL SCIENCE AND PUBLIC HEALTH RESEARCH (ISSN – 2767-3774)
VOLUME 05 ISSUE 10 Pages: 38-48
OCLC –1242424495

24 January to 28 February 2024 with the number of respondent involved 71 respondents in Pasi Peukan Baro village and 84 respondents in Pasi Rawa village, and total were 155 respondents. Research Method: Quantitative research with a cross-sectional study research design. Results: The results of Chi Square analysis in Pasi Peukan Baro village was showed a relationship between knowledge (p-value 0.000) and attitude (p-value 0.016) with community sowing behavior of abate powder in preventing aedes larvae.Meanwhile in Pasi Rawa village there is a relationship between education (p-value 0.028) and knowledge (p-value 0.000) with community sowing behavior of abate powder in preventing aedes larvae. Based on the results of the logistic regression test, the most dominant factors that were significantly related in Pasi Peukan Baro village are the age variable (p-value=0.074, CI 95%=0.032-1.170 OR=0.194) and the variable knowledge (p-value=0.001, CI 95%=3.305-95.053, OR=17.724) while in Pasi Rawa village the most dominant factor is knowledge variable (p-value=0.000, CI 95%=19.089-1831.905, OR=187.000). Conclusion:In Pasi Peukan Baro village there is a relationship between the knowledge variable and attitude variable with community sowing behavior of abate powder in preventing aedes larvae.There is a relationship between education variable and knowledge variable with community sowing behavior of abate powder in Pasi Rawa village.

KEYWORDS

Behavior, knowledge, attitude, action, abate powder, aedes.

INTRODUCTION

Dengue hemorrhagic fever (DHF) is an infectious disease caused by the dengue virus through the bite of aedes aegypti and aedes albopictus mosquitoes In Indonesia, DHF was first reported in 1968, in the cities of Jakarta and Surabaya. Epidemics of DHF outside Java were first reported in West Sumatra and Lampung in 1972 1.

Dengue fever (DHF) spreads 30 times in global incidence over the past 50 years. It commonly affects children less than 15 years old but also affects adults and is emerging as the most widespread and rapidly increasing vector-borne disease in the world. According to WHO some of the countries at risk of infection are in the southeast Asian region which accounts for more than half of the global burden of disease namely India, Indonesia, Myanmar, Sri Lanka and Thailand 2.

In 2022 the number of DHF cases was 143,266 with 1,237 deaths. Cases and deaths from DHF have increased compared to 2021, which amounted to 73,518 cases and 705 deaths. DHF cases are diagnosed by clinical symptoms and laboratory results that indicate a decrease in platelets < 100,000/mm3 and plasma leakage characterized by an increase in hematocrit > 20% 3.

Dengue hemorrhagic fever (DHF) is an infectious disease transmitted through the bite of the aedes aegipty mosquito which is the primary vector, but aedes albopictus, aedes polynesiensis are also considered as secondary vectors5

Dengue fever (DHF) is one of the many diseases that are influenced by environmental factors and community behavior factors6.

The clinical symptoms of DHF are initially the appearance of flu and typhoid symptoms, The virus is transferred by infected mosquitoes when sucking the blood of the person. After entering the body, through

INTERNATIONAL JOURNAL OF MEDICAL SCIENCE AND PUBLIC HEALTH RESEARCH (ISSN – 2767-3774)
VOLUME 05 ISSUE 10 Pages: 38-48
OCLC –1242424495

blood capillaries the virus travels to various organs and multiplies. The incubation period of the dengue virus ranges from 8-10 days from the time a person is infected with the virus, until the onset of symptoms of dengue fever 1.

The purpose of this study was to determine the relationship between community behavior and abate powder sowing behavior to prevent aedes larvae in Pasi Peukan Baro village and Pasi Rawa village, Sigli City Subdistrict, Pidie Regency.

METHOD

The type of research was observational analytic quantitative research using primary data in the form of questionnaires and observation sheets. The research design was a cross sectional study.The independent variables in this study were gender, education, occupation and age while the dependent variable was abate sowing behavior.The data collection technique was carried out after obtaining permission from the village leader.The process of collecting data by distributing questionnaire sheets to respondents and conducted observation by researcher.

The research sample was calculated using the Slovin formula, for samples that met the inclusion criteria, so that the calculation of the number of respondents in Pasi Peukan Baro village and Pasi Rawa village was 141 samples and to avoid bias, a 10% sample was added so that the total number of samples studied was 155 samples, namely 71 samples for Pasi Peukan Baro village and 84 for Pasi rawa village, Sigli City Subdistrict, Pidie Regency.

RESULT

Table 1. Result of Univariate Analysis of Pasi Peukan Baro Village

Research Variable		f	%
Gender	Male	23	32.4
	Female	48	67.6
Age	Adult	55	77.5
	Elderly	16	22.5
Education	Low	43	60.6
	High	28	39.4
Occupation	Working	25	35.2
	Not Working	46	64.8
Sowing Behavior	Yes	48	67.6

INTERNATIONAL JOURNAL OF MEDICAL SCIENCE AND PUBLIC HEALTH RESEARCH (ISSN – 2767-3774)
VOLUME 05 ISSUE 10 Pages: 38-48
OCLC –1242424495

	No	23	32.4
Knowledge	Yes	58	81.7
	No	13	18.3
Attitude	Yes	60	84.5
	No	11	15.5

Table 2. Result of Bivariate Analysis of Pasi Peukan Baro Village

Variable	Sowing Behaviour		Total %	*P-value*	OR	95%CI
	Yes %	No %				
Gender						
Male	14 (60.9%)	9 (39.1%)	23 (100%)	0.401	0.641	0.226-1.818
Female	34 (70.8%)	14 (29.2%)	48 (100%)			
Education						
Low	30 (39.8%)	13 (30.2%)	43 (100%)	0.630	1.282	0.467-3.522
High	18 (64.3%)	10 35.7%	28 (100%)			
Occuption						
Working	17 (68.0%)	8 (32.0%)	25 (100%)	0.958	1.028	0.363-2.915
Not Working	31 (67.4%)	15 (32.6%)	46 (100%)			
Age						
Adult	35 (63.6%)	20 (36.4%)	55 (100%)	0.185	0.404	0.103-1.590
Erderly	13 (81.3%)	3 (18.8%)	16 (100%)			
Knowledge						

INTERNATIONAL JOURNAL OF MEDICAL SCIENCE AND PUBLIC HEALTH RESEARCH (ISSN – 2767-3774)
VOLUME 05 ISSUE 10 Pages: 38-48
OCLC –1242424495

Yes	45 77.6%	13 (22.4%)	58 (100%)	0.000	11.538	2.761-48.226
No	3 (23.1%)	10 (76.9%)	13 (100%)			
Attitude						
Yes	44 (73.3%)	16 (26.7%)	60 (100%)	0.016	4.813	1.241-18.660
No	4 (36.4%)	7 (63.6%)	11 (100%)			

Based on table 2 above, its seen that for the results of Chi Square analysis in Pasi Peukan baro village, there is a relationship between the knowledge variable (p-value = 0.000) and the attitude variable (p-value = 0.016) and community behavior with abate powder sowing in preventing aedes larvae.

Table 3. Result of Multivariate Analysis of Pasi Peukan Baro Village

	Variable	*p-value*	OR	95%CI
Step 1	Age	0.080	0.199	0.033-1.211
	Knowledge	0.004	14.842	2.392-92.089
	Attitude	0.648	1.487	0.270-8.194
Step 2	Age	0.074	0.194	0.032-1.170
	Knowledge	0.001	17.724	3.305-95.053

The results of multivariate analysis using logistic regression test in this study showed that in the first step was age variable obtained p-value=0.080 with OR=1.999 with Confidential Interval (CI) 95%=0.033-1.211, knowledge variable obtained p-value=0.004 with OR=14.842 with Confidential Interval (CI) 95%=02.392-92.089 and attitude variable obtained p-value=0.648 with OR=1.487 with Confidential Interval (CI) 95%=0.270-8.194.

Table 4. Univariate Analysis of Pasi Rawa Village

Variable Research		f	%
Gender	Male	10	11.9

INTERNATIONAL JOURNAL OF MEDICAL SCIENCE AND PUBLIC HEALTH RESEARCH (ISSN – 2767-3774)
VOLUME 05 ISSUE 10 Pages: 38-48
OCLC –1242424495

	Female	74	88.1
Age	Adult	71	84.5
	Elderly	13	15.5
Education	Low	44	52.4
	High	40	47.6
Occupation	Working	11	13.1
	Not Working	73	86.9
Sowing Behavior	Yes	14	16.7
	No	70	83.3
Knowledge	Yes	12	14.3
	No	72	85.7
Attitude	Yes	67	79.8
	No	17	20.2

Based on the results of table 4 for Pasi Rawa village, the number of respondents who are male is 10 or 11.9 and those who are female are 74 or 88.1%, there are 71 respondents who are adults or 84.5% and 13 respondents or 15.5% who are elderly, respondents who have low education are 44 or 52.4 and those with higher education are 40 or 47.6%, for respondents who work are 11 or 13.1% and those who do not work are 73 or 86. 9%, those who have abate powder sowing behavior are 14 or 16.7% and those who do not have abate powder sowing behavior are 70 or 83.3%, there are 12 respondents or 14.3% who have knowledge about abate and 72 respondents or 85.7% who do not have knowledge about abate, then respondents who have abate powder sowing attitudes are 67 respondents or 79.8% and 17 respondents or 20.2% who do not have abate powder sowing attitudes.

Table 5. Results of Bivariate Analysis of Pasi Rawa Village

INTERNATIONAL JOURNAL OF MEDICAL SCIENCE AND PUBLIC HEALTH RESEARCH (ISSN – 2767-3774)
VOLUME 05 ISSUE 10 Pages: 38-48
OCLC –1242424495

Variabel	Sowing Behavior		Total %	*P-value*	OR	95%CI
	Yes %	No %				
Gender						
Male	2 (20.0%)	8 (80.0%)	10 (100.0%)	0.850	1.173	0.233-6.177
Female	13 (17.6%)	61 (82.4%)	74 (100.0%)			
Education						
Low	4 (9.1%)	40 (90.9%)	44 (100.0%)	0.028	0.264	0.076-0.911
High	11 (27.5%)	29 (72.5%)	40 (100.0%)			
Occuption						
Working	3 (27.3%)	8 (72.2%)	11 100.0%)	0,382	1.906	0.441-4.242
Not Working	12 (16.4%)	61(83.6%)	73 (100.0%)			
Age						
Adult	14 (19.7%)	57 (80.3%)	71 (100.0%)	0.298	2.947	0.353-24.607
Erderly	1 (7.7%)	12 (92.3%)	13 (100.0%)			
Knowledge						
Yes	11 (91.7%)	1 (8.3%)	12 (100.0%)	0.000	187.000	19.089-1831.905
No	4 (5.6%)	68 (94.4%)	72 (100.0%)			
Attitude						
Yes	14 (20.9%)	53 (79.1%)	67 (100.0%)	0.149	4.226	0.515-34.665
No	1 (5.9%)	16 (94.1%)	17 (100.0%)			

INTERNATIONAL JOURNAL OF MEDICAL SCIENCE AND PUBLIC HEALTH RESEARCH (ISSN – 2767-3774)
VOLUME 05 ISSUE 10 Pages: 38-48
OCLC –1242424495

For Pasi Rawa village based on Chi Square analysis, there is a relationship between education variable (p-value=0.028) and knowledge variable (p-value=0.000).

Table 6: Result of Multivariate Analysis of Pasi Rawa Village

Variable		*p-value*	OR	95%CI
Step 1	Educational	0.339	0.400	0.061-2.617
	Knowledge	0.000	168.485	15.688-2.617
	Attitude	0.931	0.901	0.086-2.617
Step 2	Educational	0.340	0.401	0.061-2.621
	Knowledge	0.000	164.317	16.465-1639.837
Step 3	Knowledge	0.000	187.000	19.089-1831.905

The results of multivariate analysis using logistic regression test in this study showed that in the first step the education variable (p-value=0.339 OR=0.400 CI 95%=0.061-2.617), knowledge variable (p-value=0.000 OR=168.485 CI 95%=15.688-2.617) and attitude variable (p-value=0.000 OR=0.901 CI 95%=0.086-2.617.In the second step the education variable (p-value=0.340 OR=0. 401 CI 95%=0.061-2.621) and the knowledge variable obtained (p-value=0.000 OR=164.317 CI 95%=16.465-1639.837).The last step in the third step the knowledge variable becomes the variable that dominantly influences the variable of abate powder sowing in preventing aedes larvae with (p-value=0.000 OR=187.000 with Confidential Interval CI 95%=19.089-1831.905).

DISCUSSION

Relationship between Gender with Abate Sowing Behavior in Pasi Peukan Baro Village and Pasi Rawa Village

Based on the results of the Chi Square test for Pasi Peukan baro village, the p-value is 0.401 where the value is> 0.05, so it can be concluded that there is no relationship between the gender variable and the sowing of abate powder in the prevention of aedes larvae in Pasi Peukan Baro village, the Odd Ratio (OR) of gender on

abate sowing behavior is 0.641 (0.226-1.818), meaning that male respondents are 0.641 times greater not to sow abate powder than female respondents.

In Pasi Rawa village, the p-value is 0.850 with an Odd Ratio (OR) of 1.173, meaning that respondents who are male are 1.173 times more likely not to sow abate

INTERNATIONAL JOURNAL OF MEDICAL SCIENCE AND PUBLIC HEALTH RESEARCH (ISSN – 2767-3774)
VOLUME 05 ISSUE 10 Pages: 38-48
OCLC –1242424495

powder than respondents who are female. Green suggests that gender is a predisposing or enabling factor and as one of the contributions to a person's health behavior and the female sex is more concerned about health and environmental conditions (Sari et al., 2020).

Relationship between Education and Abate Sowing Behavior in Pasi Peukan Baro Village and Pasi Rawa Village

Based on the results of the Chi Square test for Pasi Peukan baro village, a p-value of 0.630 was obtained, where the p-value of 0.630 is> 0.05 so it can be said that there is no relationship between the education variable and the behavior of sowing abate powder in preventing aedes larvae. Calculation of the risk estimate obtained OR 1.282, meaning that respondents with low education are 1.282 times more likely not to sow abate powder than respondents with high education.

In Pasi Rawa village, a p-value of 0.028 was obtained, where the p-value of 0.028 is <0.05 so it can be said that there is a relationship between education variables and the behavior of sowing abate powder in preventing aedes larvae. Calculation of the risk estimate obtained OR 0.264, meaning that respondents with low education are 0.264 times more likely to sow abate powder than respondents with high education.

Relationship between Occupation

and Behavior Abate Sowing

Behavior in Pasi Village Peukan

Baro and Pasi Rawa Village

In Pasi Peukan Baro village, the p-value is 0.112, from the results of Chi Square analysis where the p-value of 0.112 is> 0.05 so it can be said that there is no relationship between work variables and abate powder sowing behavior in preventing aedes larvae. Calculation of risk estimate obtained OR 3056, meaning that respondents who work 3056 greater will not sow abate powder than respondents who do not work. For Pasi Rawa village, the p-value is 0.850, from the results of Chi Square analysis where the p-value of 0.850 is >0.05 so it can be said that there is no relationship between work variables and the behavior of sowing abate powder in preventing aedes larvae. Calculation of risk estimate obtained OR 0.852, meaning that respondents who work 0.852 greater will not sow abate powder than respondents who do not work.

Relationship between Age and Abate Sowing Behavior of Pasi Peukan Baro Village and Pasi Rawa Village

Based on the results of the Chi Square analysis, the p-value is 0.185, where the p-value is> 0.05 so it can be said that there is no relationship between the age variable and the behavior of sowing abate powder in preventing aedes larvae in the village of Pasi Peukan Baro, Sigli City District, Pidie Regency. The calculation of the risk estimate obtained OR 0.404, meaning that respondents who are adults OR 0.404 times greater will not sow abate powder than respondents who are elderly.

For Pasi Rawa village based on the results of Chi Square analysis, the p-value is 0.298, where the p-value is> 0.05 so it can be said that there is no relationship between the age variable and the behavior of sowing abate powder, the calculation of the risk estimate obtained OR 2.947, meaning that respondents who are adults OR 0.404 times greater will not sow abate powder than respondents who are elderly.

INTERNATIONAL JOURNAL OF MEDICAL SCIENCE AND PUBLIC HEALTH RESEARCH (ISSN – 2767-3774)
VOLUME 05 ISSUE 10 Pages: 38-48
OCLC –1242424495

Relationship between Knowledge and Abate Sowing Behavior in Pasi Peukan Baro Village and Pasi Rawa Village

Based on the results of the Chi Square test for Pasi Peukan Baro village, a p-value of 0.000 was obtained, where the p-value of 0.000 is <0.05 so it can be concluded that there is a variable relationship between knowledge and abate powder sowing in the prevention of Aedes larvae in Pasi Peukan Baro village. The results of this study are in accordance with Chandren's research (2015) which says respondents who have good knowledge of abatement will influence the behavior of sowing abate powder.

Based on the results of the Chi Square test for Pasi Rawa village, a p-value of 0.000 was obtained, where the p-value of 0.000 was <0.05 so it could be concluded that there was a variable relationship between knowledge and abate powder sowing in preventing aedes larvae in Pasi Rawa village. Cahyati's research (2019) concluded that there is a significant relationship between knowledge and attitude towards community behavior with the use of temephos. Good knowledge and attitude towards temephos will tend to increase the use of temephos.

The Relationship between Attitude and Abate Sowing Behavior in Pasi Peukan Baro Village and Pasi Rawa Village

The results of the bivariate test for Pasi Peukan Baro village obtained a p-value of 0.016, where the p-value of 0.016 is <0.05 there is a variable relationship of the attitude of the need for sowing abate powder for the prevention of larvae in Pasi Peukan Baro Village, Sigli City Sub-district, Pidie Regency.

Different results obtained a p-value of 0.182 where the p-value of 0.149 is> 0.05 so that it can be said that there is no relationship between the attitude variable on the need for sowing abate for the prevention of aedes larvae with the sowing of abate powder in the prevention of aedes larvae in Pasi Rawa Village, Sigli City District, Pidie Regency and this research is not in line with Riska's research (2018) with the results of the chi-square test results with a p-value attitude towards the use of abate powder is 0.030.

CONCLUSION

Based on the results of the study, it can be concluded that there is a relationship between knowledge variables and attitude variables with the sowing of abate powder in the prevention of aedes larvae in pasi peukan baro village, there is no relationship between gender variables, education variables, employment variables and age variables in pasi peukan baro village, there is a relationship between education variables and knowledge variables sowing abate powder in the prevention of aedes larvae in pasi rawa village, there is no relationship between gender variables, occupational variables, age variables and attitude variables with abate powder sowing in the prevention of aedes larvae in pasi rawa village, age variables and knowledge variable are the most dominant factors with abate powder sowing in the prevention of aedes larvae in pasi peukan baro village, knowledge variable are the most dominant factors with abate powder sowing in the prevention of aedes larvae in pasi rawa village.

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