



Health promotion method of small group discussion effectively increases the behaviour of mosquito eradication in Gunungkidul Yogyakarta

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ABSTRAK

Latar Belakang: Di Indonesia penyakit Demam Berdarah Dengue (DBD) ini merupakan salah satu penyakit dan menjadi masalah kesehatan masyarakat, banyak daerah yang kemudian menjadi endemik sehingga penyakit ini menjadi masalah kesehatan secara global. Penyakit ini merupakan re-emerging diseases sehingga perlu penanganan secara serius. **Tujuan:** Tujuan penelitian ini untuk mengetahui efektifitas pemberian metode ceramah dan diskusi kelompok kecil pada perilaku masyarakat dalam memberantas sarang nyamuk. **Metode:** Penelitian ini merupakan metode survei berbentuk rancangan kuantitatif dengan jenis quasi experiment. Desain menggunakan control time series dengan sampel 400 orang, dilakukan di Kabupaten Gunungkidul Yogyakarta pada Bulan Mei–Juli 2020. Sebanyak 200 subyek diberikan intervensi promosi Kesehatan dengan metode ceramah dan 200 subyek lainnya di berikan promosi Kesehatan metode diskusi kelompok kecil. Sebelum diberikan promosi Kesehatan dilakukan pengecekan terhadap keberadaan jentik, dan setelah diberikan promosi Kesehatan dilakukan pemeriksaan jentik ulang selama tiga minggu. Data yang diperoleh kemudian dianalisis dengan menggunakan uji mann whitney memakai program SPSS.

Hasil: Hasil dari penelitian ini adalah ada pengaruh pemberian promosi Kesehatan dengan metode ceramah maupun dengan metode diskusi kelompok kecil terhadap perubahan perilaku masyarakat dalam melakukan pemberantasan sarang nyamuk dengan nilai $p < 0,001$.

Kesimpulan: Pemberian promosi Kesehatan dengan metode diskusi kelompok kecil lebih efektif dibandingkan dengan promosi Kesehatan memakai metode ceramah. Promosi kesehatan dengan metode diskusi kelompok kecil lebih efektif dalam merubah perilaku masyarakat untuk memberantas sarang nyamuk.

KATA KUNCI: metode ceramah; diskusi kelompok kecil; dbd

ABSTRACT

Background: In Indonesia, Dengue Hemorrhagic Fever (DHF) is a disease that is a public health problem, many areas have become endemic. This disease has become a global health problem. This disease is a recurring disease, so it needs serious handling.

Objectives: The purpose of this study was to determine the effectiveness of the lecture method and small group discussions on community behavior in eradicating mosquitoes.

Methods: This research is a survey method in the form of a quantitative design with a quasi-experimental type. The technique used is a time series control with a sample size of 400 people carried out in Gunungkidul Yogyakarta Regency in May-July 2020. A total of 200 subjects were given health promotion interventions with the lecture method, and 200 other subjects were given health promotion using the small group discussion method. Before being given the Health promotion, every resident's house was checked for the presence of larvae, and after being given the Health promotion, the presence of larvae was

re-checked for three weeks. The data obtained were analyzed using the Mann-Whitney test using the SPSS program.

Results: This research shows an effect of giving health promotion with lecture method or small group discussion method on community behaviour changes in eradicating mosquito nests with p -value <0.001 .

Conclusion: Health promotion using the small group discussion method is more effective than Health promotion using the lecture method. Health promotion using the small group discussion method effectively changes people's behaviour to eradicate mosquito nests.

KEYWORD: lecture method; small group discussion; dhf

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INTRODUCTION

Until now, Indonesia's health development is still facing re-emerging diseases, namely a disease that previously started to decline, but the cases are increasing again. One of them is Dengue Hemorrhagic Fever (DHF). In Indonesia, dengue fever is a disease and a public health problem; many areas have become endemic so that this disease has become a global health problem (1). DHF is a dangerous disease and can cause death in humans if not handled quickly and appropriately. Every year worldwide, there are more than 100 million dengue fever cases and more than 100,000 cases of dengue (2). All provinces in Indonesia are DHF endemic areas and have always experienced increased DHF sufferers every year. Based on data from the Yogyakarta Provincial Health Office in the January-February 2020 period, in Yogyakarta, there have been 1,032 cases of DHF. Most cases of DHF were in Gunungkidul, namely 333 cases of dengue and 2 people died, in Bantul there were 276 patients, 248 in Sleman, 92 in Kulon Progo, and 81 in Yogyakarta.

One of the efforts to reduce the risk factors for DHF transmission is vector control, namely by minimizing vector reproductive habitats, reducing vector density and age, reducing contact

between vectors and humans, and breaking the chain of disease transmission. Breaking the chain of information can be done through the Mosquito Nest Eradication activity (3) by draining the bathtub/water reservoir, closing the water reservoir tightly, and reusing / recycling used items that have the potential to become mosquito breeding grounds (4). This activity was later developed into 3M Plus, namely by using larvicides, raising larvae eating fish, avoiding the habit of hanging clothes in the room, and preventing mosquito bites through the installation of gauze, mosquito nets, and drugs or plants to avoid mosquito bites (5).

In addition to the above efforts, it is also necessary to empower the community regarding the Eradication of Dengue Mosquito Nests DHF. Empowerment of the community in the health sector can be done by providing health promotion to the community through various media methods to have a clean and healthy lifestyle. In this case, public health behaviour is greatly influenced by the health condition itself. Empowerment in humans is very much influenced by the perspective or view of human relationships with the environment in which they live and the health experiences they experience (6). This health behaviour can take the form of individual experiences and

interactions with their environment, especially regarding knowledge and attitudes about health and their actions related to health and disease (7). So far, the people of Gunungkidul generally only get information about mosquito eradication from health workers through lectures, other methods such as the SGD method are still not implemented. The follow-up after giving a lecture on community behaviour in efforts to eradicate mosquitoes has not been done optimally, so that innovation is needed to be given information about how to eradicate mosquitoes with the small group discussion method so that there is intensive interaction between health workers and the local community.

The results of observations carried out in one of the endemic villages in Playen District in January 2020 showed that from 12 residents 'houses examined for mosquito larvae, larvae were still found in eight residents' homes (66.67%), while there were only four larva-free houses (33.33%). Houses with larvae were found in bathtubs, barrels; some were found in house gutters, and some used cans around the house. This is where it is essential to provide advocacy to the community so that the house's condition is always free from mosquito larvae by regularly monitoring larvae (8). This study aims to see the effectiveness of health promotion through lectures and small group discussion (SGD) methods. The goal is for all people to have healthy behaviour, eradicating the mosquito nests that cause dengue fever.

MATERIALS AND METHODS

This study used a survey method in the form of a quantitative design with a quasi-experiment type. The design used a control time series with a sample of 400 people, then the subjects were divided into two parts, namely 200 subjects were given health promotion using the lecture method and 200 other subjects were given health promotion using the SGD method. Previously,

all the conditions of the subject's house were checked first for the presence of larvae by using a flashlight in the bath and other places indicated as triggers for mosquito breeding sites. The health promotion material provided between the lecture method and the SGD is the same, namely an effective way to eradicate mosquitoes. After being given a health promotion, then periodic larva checks are carried out every week for three consecutive weeks. There were 23 subjects who at the time of the larva survey for three weeks could not be checked for the presence of larvae, this is because the occupants of the house were traveling so the officers could not check the presence of larvae. Subjects who did not participate in the activity for 3 weeks were excluded from the sample, so that the final data that could be processed was 377 subjects. The data were then analyzed using the Mann Whitney test (9) using the SPSS program.

RESULTS AND DISCUSSION

Description of Respondent Characteristics

The study results are related to respondents' characteristics when viewed from gender, age, education level, occupation, and family members who have suffered from DHF in Gunungkidul Yogyakarta. The following results are obtained.

In **Table 1** in this study, it can be explained that most of the respondents were female, as many as 259 people, and the male gender as many as 118 people. Respondents who were given health promotion by lecture method were 96 men (51.61%) and 90 women (48.39%). For respondents who were given health promotion

Table 1. Frequency distribution of respondents by gender (n = 377)

Gender	Lecture		SGD		Total
	f	%	f	%	
Men	96	51,61	22	11,52	118
Women	90	48,39	169	88,48	259
Amount	186	100	191	100	377

Source: Primary data processed in 2020

using the SGD method, there were 22 males (11.52%) and 169 females (88.48%).

In **Table 2**, it can be explained that the characteristics of the respondents in this study, when viewed based on the age of the majority, are old adults, namely (41-50) years 108 people.

Table 2. Frequency distribution of respondents by age (n = 377)

Age	Lecture		SGD		Total
	f	%	f	%	
20-30 years	9	4,84	23	12,04	32
31-40 years	34	18,28	39	20,42	73
41-50 years	53	28,49	55	28,8	108
51-60 years	44	23,66	54	28,27	98
61-70 years	32	17,2	19	9,95	51
71-80 years	14	7,53	0	0	14
81-90 years	0	0	1	0,52	1
Amount	186	100	191	100	377

Source: Primary data processed in 2020

In **Table 3**, most of the respondents' characteristics in this study, if we look at most of their education status, are junior high school educated 118 people. Furthermore, in sequence, the second majority has an elementary school education 115 people, and the third-largest is high school education 69 people.

Table 3. Frequency distribution of respondents by education status (n = 377)

Education	Lecture		SGD		Total
	f	%	f	%	
Did not finish elementary school	25	13,44	42	21,99	67
Primary school	62	33,33	53	27,75	115
Junior high school	60	32,26	58	30,37	118
Senior High School	34	18,28	35	18,32	69
Diploma I-III	2	1,08	3	1,57	5
Bachelor	3	1,61	0	0	3
Amount	186	100	191	100	377

Source: Primary data processed in 2020

Table 5. Frequency distribution of respondents whose family members history of illness (n = 377)

There are family members who have suffered from dengue fever	Lecture		SGD		Total
	f	%	f	%	
Family members have had dengue fever	3	1,61	15	7,85	18
Family members have never suffered from DHF	183	98,39	176	92,15	359
Amount	186	100	191	100	377

Source: Primary data processed in 2020

In **Table 4**, it can also be explained that the respondents, when viewed from their employment status, are the majority working as farmers, namely 212 people, work as an household assistant and retirees 49 people, the third and fourth most work as entrepreneurs and 45 workers respectively.

Table 4. Frequency Distribution of Respondents by Occupations (n = 377)

Profession	Lecture		SGD		Total
	f	%	f	%	
Civil servants, Indonesian national army, police	6	3,23	4	2,09	10
General employees	4	2,15	5	2,62	9
Village apparatus	6	3,23	1	0,52	7
Farmer	116	62,37	96	50,26	212
Laborer	23	12,37	22	11,52	45
Entrepreneur	20	10,75	25	13,09	45
Retirees, housewives and others	11	5,91	38	19,9	49
Amount	186	100	191	100	377

Source: Primary data processed in 2020

Table 5 describes the respondents' characteristics seen from the presence or absence of family members who have suffered from DHF. The results showed that most respondents had family members who were not affected by dengue in the last month as many as 359 people and family members who had suffered from dengue in the previous month as many as 18 people. In the group that received health promotion using the lecture method, three family members were affected by DHF (1.61%), and 15 people who used the SGD method (7.85%).

Comparative Overview of Mosquito Eradication Behaviour in Gunungkidul Yogyakarta.

Comparative test on larva-free behaviour in Gunungkidul using the Mann Whitney test. The results can be seen in the following table:

In **Table 6**, the results for a comparative test on the change in respondent behaviour towards dengue vector larvae-free p-value are $0.000 < 0.05$, which means that there is a significant difference between the groups that are given health promotion with the lecture method and the small group discussion method (SGD). If we take the value of the mean rank on the measurement each week, the result is that the SGD method is more effective than the lecture method. The people of Gunungkidul are increasingly aware and active always to have a clean and healthy lifestyle, one of which is to eradicate mosquito nests that can cause dengue disease. The existence of stagnant water, be it in the bath, thick gutters, is a suitable medium for mosquito laying. When the mosquitoes lay eggs in the water, they hatch, and if up to 12 days they don't drain, the mosquito eggs will turn into adult mosquitoes and increase the mosquito population in the homes of each resident.

Table 6. Comparative Mann Whitney Test Results Measurement of Mosquito Eradication Behaviour in Gunungkidul Yogyakarta

Group	Mean Rank		
	The first week	The second week	The third week
Lecture	136,12	109,02	110,42
SGD	212,21	212,28	209,50
Z	-7,209	-8,878	-8,258
p-value	0,000	0,000	0,000

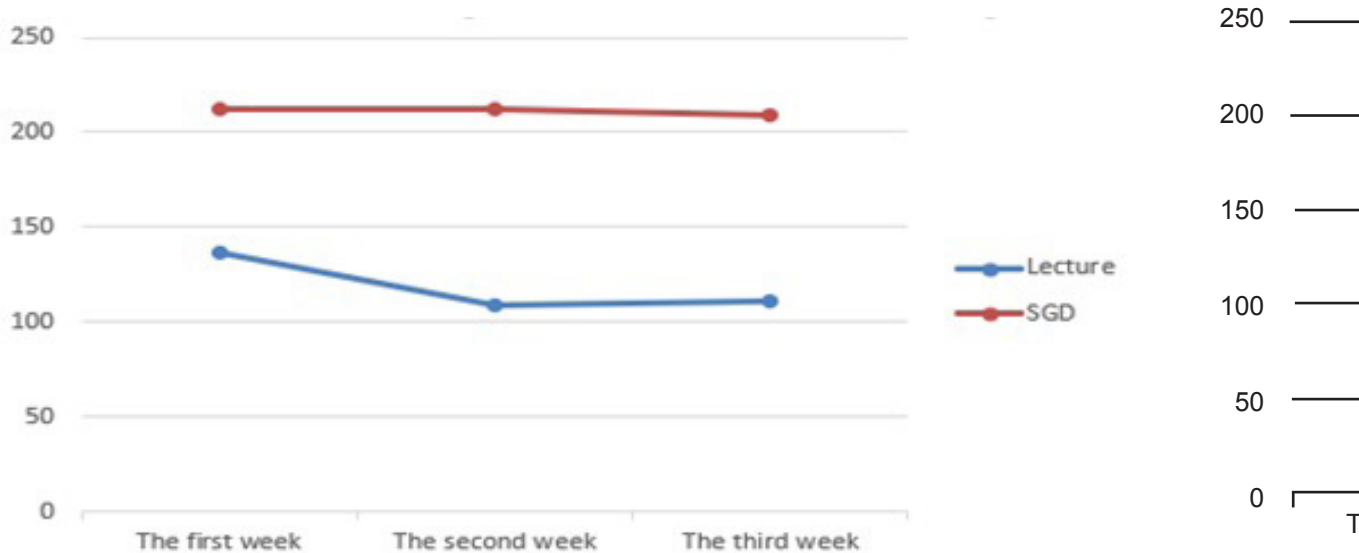
Source: Primary data processed in 2020

DISCUSSION

The characteristics of water reservoirs also greatly influence the presence of mosquito larvae (10), so that people's behaviour is expected to be able to control the development of mosquitoes

(11) as happened in the Tembalang community of Semarang. The provision of Health promotion using the SGD method is able to increase the enthusiasm of the community to always have a clean and healthy lifestyle by draining the bathtub and so on. The use of insecticides also plays a role in reducing the number of larvae (15). Other supporting research results are that people's behaviour that emerges from the conscience and without coercion from others can motivate each individual to drain water reservoirs voluntarily and periodically (14,17). If we look at the mean rank value, the highest score is in the SGD group, and then the lecture group is evaluated for three weeks of larva examination in a row. So it can be said that the provision of health promotion using the SGD method is more effective in changing the behaviour of dengue vector larvae free compared to the group of respondents who are given health promotion using the lecture method. The provision of health promotion using the discussion method significantly affects mothers' knowledge in the behaviour of storing breast milk (12). To be more explicit regarding the level of difference and the effect of providing health promotion using the lecture and SGD method, it can be seen in Figure 1 below.

In **Figure 1**, we can see the difference between giving health promotion using the lecture method and the SGD. In the group using the SGD method, larva-free success was very high compared to the group using the lecture method. This study is in line with the research by Lubis et al. (2013) that health counseling conducted with the discussion method is better than the lecture method on improving knowledge and attitudes and clean and healthy living habits for elementary school children in Medan (13). The lecture method is also very effective in increasing the knowledge and attitudes of community leaders in malaria prevention (16,18). When viewed from the characteristics of Gunungkidul residents who are mostly farmers, it is possible



Source: Primary data processed in 2020

Figure 1. The difference in giving health promotion by lecture method and SGD against behaviour change to eradicate mosquito in Gunungkidul Yogyakarta

that observations for more than three weeks will show a decreasing graph in terms of maintaining larvae eradication behaviour.

In the second week, the behaviour of the people who were given health promotion with the lecture method experienced a drastic decline, this is possible in the use of the lecture method, the information received by the community quickly disappears because it is only received by the brain and enters the memory for a short time, whereas if using the SGD method the information that is received by the community is stored up to a long-term memory, so that people's behaviour in eradicating mosquito larvae can last a long time even though in the third week there was a slight decrease, this was due to boredom from some residents. The active learning method (SGD) is able to increase the knowledge, behaviour and self-efficacy of teachers in preventing DHF (19).

CONCLUSION AND RECOMMENDATION

There is an effect of providing health promotion with lecture methods and small group discussion methods in eradicating mosquito nests. Health Promotion using the small group discussion method is more effective than the lecture method in changing the behavior of

the people of Gunungkidul in eradicating the mosquito nests that cause dengue fever. It is hoped that health workers at health centers and health offices routinely provide health promotion by discussing with community members to get accurate information about what residents need in eradicating larvae, so that residents can work together to support local communities in realizing government programs.

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