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The Effect of Health Education (Counseling Method) on DHF Prevention on the Knowledge of the Elderly in the Working Area of PB Selayang II Medan Health Center in 2023

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Keywords

knowledge, elderly, dengue hemorrhagic fever

Abstract. Dengue hemorrhagic fever (DHF) is a disease that can be transmitted to humans through the bite of Aedes aegypti or Aedes albopictus mosquitoes. Dengue hemorrhagic fever (DHF) is still one of the most common diseases in PB Selayang II Health Center, Medan Selayang District, Medan City, in addition to upper respiratory tract infections (ARI) (Widiastuti, 2008). The purpose of this study is to determine the effect of health education (counseling method) on dengue prevention on the knowledge of the elderly in the working area of the Pb Selayang II Medan Health Center in 2023. This type of research is a type of Quasi-Experimental research with a Pre-Experimental research design, with the research design used is One Group Pretest-Posttest Design. The population used in this study was all elderly at Puskesmas Pb Selayang II Medan with a sampling technique using a total of 56 people. Based on the results of the study, it shows that providing counseling on dengue prevention on the knowledge of the elderly in the working area of the PB health center in 2023 can increase knowledge by 8.50, from 9.46 during the pre-test to 17.96 during the post-test. The results of the T test obtained a P-Value value of 0.000 (<0,05), so it can be concluded that there is a significant difference in the level of knowledge before and after counseling. These results show that counseling methods can increase the knowledge of the elderly about DHF prevention. The hope is that health counseling activities like this can be carried out in a sustainable manner, in order to increase knowledge and the public about health.

1. INTRODUCTION

Health issues have been of particular concern in the last decade. Health problems such as dengue hemorrhagic fever (DHF) is a health problem that has persisted and become a health problem over the past few decades and many people in the world have contracted dengue fever because of its increasing spread. The actual number of dengue cases has not been reported, in most cases the symptoms are not severe or mild and can be treated on their own (WHO, 2020). In many cases other internal diseases are also misdiagnosed. The model estimates that 390 million dengue virus infections per year (95% reliable range: 28- 528 million), of which 96 million (67-136 million) are clinically clear (with any severity of the disease).

Over the past two decades, the number of people diagnosed with cancer has increased eightfold, in 2000 it was 505,430 in 2000 to more than 2.4 million in 2010 and to more than 2.4 million in 2019. DHF cases increased in 2000 by 960 to 4032 (WHO, 2020). Dengue hemorrhagic fever (DHF) is a disease that can be transmitted to humans through the bite of Aedes aegypti or Aedes albopictus mosquitoes. This disease is characterized by fever, headache, nausea, and epistaxis. The breeding place of Aedes aegypti is in a puddle of clean water. This brooding place can be divided into 3, namely temporary, permanent and natural brooding. These mosquitoes can live in places such as water dumps, flower vases, used cans, used bottles, bathtubs, water barrels, and places where there is standing water (Chaya, 2017).

Dengue Hemorrhagic Fever (DHF) is one of the health problems not only in Indonesia but also in the world. The incidence of dengue fever worldwide has increased in recent years. Currently, dengue disease is endemic in various countries in Southeast Asia, the Western Pacific and America. Dengue cases in Southeast Asia, America, Western Pacific were more than 1.2 million cases in 2008 and more than 2.3 million in 2010. An estimated 50-100 million people worldwide are infected with Dengue Hemorrhagic Fever each year (WHO, 2018). The territory of Indonesia is an endemic area for the spread of dengue disease. In subtropical and tropical regions, these cases tend to continue to increase and never go down. Most or 90 percent of the victims are children under 15 years old (Candra, 2017). DHF first appeared in the city of Surabaya in 1968. It found 58 infected people and 24 of them died, and the mortality rate reached 41.3% (Kementerian Kesehatan, 2020).

Based on data from the Indonesian Health Profile in 2017 that North Sumatra occupies the fourth highest number of dengue diseases after West Java, East Java and Central Java. DHF is one of the health problems in North Sumatra that tends to cause public concern because the course of the disease is fast and can cause death in a short time and can cause Extraordinary Events (KLB) or outbreaks. Especially in the city of Medan, where all districts are dengue endemic areas, where every year there are dengue cases. (Kemenkes RI, 2017). The Health Profile of North Sumatra Province in 2017, reported that the total number of dengue cases in North Sumatra was 5,454 cases, much lower than the 2016 data of 8,715 cases. The morbidity rate or Insedence Rate (IR) of DHF in 2017 was 39.6 per 10,000 population, lower than the IR of DHF in 2016 of 63.3 per 100,000 population. The dengue case fatality rate (CFR) in 2017 was 0.51%, lower than the CFR of dengue fever in 2016 of 0.69%. (Profil BPS SUMUT, 2017).

Dengue hemorrhagic fever (DHF) is still one of the most common diseases in PB Selayang II Health Center, Medan Selayang District, Medan City, in addition to upper respiratory tract infections (ARI) (Widiastuti, 2008). Dengue fever can be prevented by breaking the life cycle of mosquito vectors. There is a need for vector control in order to avoid DHF. Mosquito vector control is influenced by the surrounding community, if the community has a high awareness of environmental cleanliness it will cause a healthy environment and can minimize the brood of Ades aegypty mosquitoes. In this dengue case, the right method is the behavior of eradicating mosquito nests can be done by physical, chemical, and biological means carried out by the community in an effort to reduce the occurrence of dengue outbreaks. The physical way is to protect the surrounding environment so as to prevent or minimize the development of vectors which can later reduce contact between humans and vectors (WHO, 2017). In addition, it can be done chemically, namely by fogging. Fumigation is useful to reduce transmission. It can also be by biological means, namely using organisms that are predatory to mosquitoes or larvae such as: betta fish, guppies. To suppress the growth of vectors can be done by eradicating mosquito larvae by means of 3M, namely: draining or cleaning regularly at least once a week, tightly closing water reservoirs (bathtubs, drinking water containers, animals, flower pots), and burying used items that become mosquito nests (WHO, 2017). To avoid mosquito bites, you can use mosquito nets while sleeping, using mosquito repellent inside and outside the house in the morning and evening. (Depkes RI, 2017).

The level of knowledge of the elderly will determine the good and bad behavior of the elderly towards the prevention of DHF. Sometimes, the level of knowledge of the community is considered still lacking. Especially when carrying out Mosquito Nest Eradication (PSN) actions, sometimes it is still considered less effective in its implementation. This can be caused by the lack of information received by the community from an elderly health person who acts as an intermediary in distributing information about health. So there needs to be a broad insight from an elderly person about DHF. Based on previous research, there is a meaningful correlation between knowledge and attitudes towards DHF prevention behavior. Intervention through PSN counseling can have an effect on increasing public knowledge. On the other hand, there are previous studies that prove that there is no meaningful relationship between public knowledge of dengue prevention practices.

Data from the Medan City Health Office on the number of dengue patients was 166 people and data from Puskemas PB Selayang II Medan Selayang District, Medan City that the number of patients with dengue fever was 33 people. Based on research conducted by Awaluddin entitled Correlation of Knowledge and Family Attitudes Towards Dengue Dengue Prevention Measures in 2017, it shows that there is a significant correlation between knowledge and DHF prevention measures. A person has good knowledge then has good preventive measures against DHF. Of the 18 respondents (54.5%) who had good knowledge about DHF, 12 respondents (36.4%) took good precautions. Of the 15 respondents (45.5%) who had less knowledge about DHF took bad preventive measures, 12 respondents (36.4%) (Awaluddin, 2017).

Based on research by Tika Fransiska Dewi, Joko Wiyono and Zaky Soewandi Ahmad entitled The Relationship of Parental Knowledge About DHF Disease with DHF Prevention Behavior in Tlogomas Village, Malang City in 2019, it was found that almost half of the respondents were categorized as having an unfavorable category, namely as many as 14 people (46.7%). The knowledge

lacking in this study about Dengue Hemorrhagic Fever (DHF) is the ignorance of respondents the time and frequency of draining the bathtub in a month, how dengue disease spreads, the characteristics of aedes aegypty mosquitoes, using and replacing abate powder, and respondents' ignorance about the impact of DHF (Dewi et al., 2019).

This proves that good knowledge will affect a person's behavior in taking action, especially good prevention efforts against dengue hemorrhagic fever. Prevention of dengue hemorrhagic fever can be done by controlling its vector, namely aedes aegypty and environmental management. The success of this prevention will achieve good results, if the whole community, especially parents in a family, participate in this activity. Lack of knowledge in the community, especially in the elderly about dengue hemorrhagic fever, is one of the factors that influence the high morbidity rate of dengue hemorrhagic fever. drain, and close). Therefore, knowledge about the prevention of dengue hemorrhagic fever, is an important thing that must be known by the community, especially parents, should parents who have a role to manage the household, be able to know about dengue hemorrhagic fever and prevention efforts that can be done in their families. Thus, if the family has sufficient knowledge about dengue hemorrhagic fever and how to prevent it, it is expected that the behavior of these parents in an effort to prevent dengue hemorrhagic fever will be good, and later this can avoid children from the risk of getting dengue hemorrhagic fever.

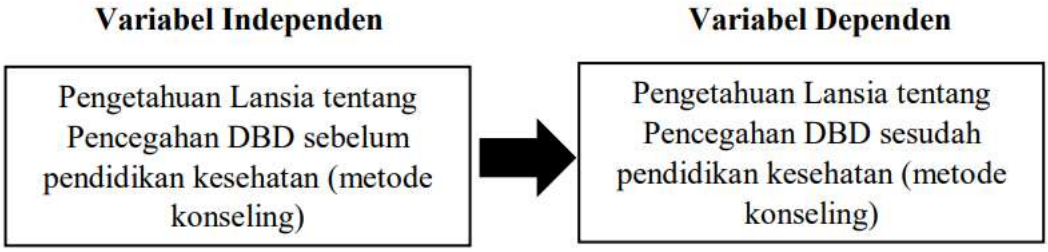

Figure 1. Concept Framework

Hipotesis

Ha : There is an influence of health education (counseling method) on dengue prevention on the knowledge of the elderly in the working area of the Pb Selayang II Medan Health Center in 2023

H_1 : There is no influence of health education (counseling method) on dengue prevention on the knowledge of the elderly in the working area of the Pb Selayang II Medan Health Center in 2023

2. METHODS

This type of research is a type of Quasi-Experimental research with a Pre-Experimental research design, with the research design used is One Group Pretest-Posttest Design (Notoatmodjo, 2012). The experimental method is carried out by providing counseling to the elderly. Counseling will be assisted by a turning sheet media designed by the researcher himself. The research was conducted at the Pb Selayang II Medan Health Center from December 2022 to July 2023. The population used in this study was the elderly, which was 56 people at the Pb Selayang II Medan Health Center. The sample in this study was the elderly of the PB Selayang II Medan Health Center area as many as 56 respondents.

The operational definition of the research is as follows.

Table 1. Operational Definition

Variable	Operational Definition	How to Measure	Measuring Instruments	Measurement Results	Scale Measure
Elderly Knowledge about DHF Prevention before health	The ability of respondents (elderly) to know about DHF prevention includes definition, etiology,	Interview	Questionnaire	Total questionnaire score	Ratio

education (counseling method)	vector and transmission, signs and symptoms, diagnosis, prevention and practice of 3M before being given health education (counseling method).				
Elderly Knowledge about DHF Prevention after health education (counseling method)	The ability of respondents (elderly) to know about DHF prevention includes definition, etiology, vector and transmission, signs and symptoms, diagnosis, prevention and practice of 3M after health education (counseling method).	Interview	Questionnaire	Total questionnaire score	Ratio

The primary data needed in this study include public awareness of the environment and cases of dengue hemorrhagic fever obtained through direct interviews with respondents using questionnaires given to respondents. In this study, the validity and reliability test of the research instrument was not carried out because the research instrument adopted a questionnaire from the study Overview of the level of knowledge and behavior of family heads about eradicating dengue hemorrhagic fever mosquito nests in the South Kuta Health Center work area 2018. There are several activities carried out by researchers in data processing divided into 5 stages, namely (Setiadi, 2016).

a. Editing. The questionnaire returned by the respondent is checked for correctness and completeness if something is incomplete, then the respondent is asked to complete it.
b. Scoring (Data Processing). Scoring is the basis for assigning scores to data in accordance with scores on knowledge that have been determined after the questionnaire is arranged with the following scores: 0: if the answer is wrong 1: if the answer is correct.
c. Data entry. The data obtained from the study was then entered into a computer using the SPSS for windows release 20 program.
d. Data tabulation. After data entry then the data is grouped and tabulated, so that the frequency of each variable is obtained.

Data analysis is carried out in two stages, namely:

a. Univariate analysis is used to determine the dependent variable (knowledge) about DHF. Data were analyzed to test hypotheses from samples given interventions and see the average scores obtained before and after the intervention was given to the elderly.
b. Bivariate analysis is an analysis carried out with the aim of looking for relationships between variables (Notoatmodjo, 2016). Bivariate statistical analysis in this study used a t-dependent test, namely the knowledge of the elderly before and after the implementation of health education (counseling method) about DHF prevention.

3. RESULTS AND DISCUSSION

In this study, the sample used the total sample method where all elderly in the PB Selayang II Medan Health Center area were 56 respondents.

Table 2. Distribution of Respondents' Last Education Frequency

No	Recent Education	Sum	
		N	%
1	SD	3	5,4
2	SLTP	17	30,4
3	SLTA	36	64,3
Total		**56**	**100**

Based on the last education, more elderly people are high school as many as 36 people, junior high school as many as 17 people and elementary school as many as 3 people, the total number of respondents is 56 people.

Table 3. Frequency Distribution of Respondents' Sex

No	Gender	Sum	
		N	%
1	Man	19	33,9
2	Woman	37	66,1
Total		**56**	**100**

Based on gender, the elderly are more women as many as 37 people, men as many as 19 people with a total number of respondents 56 people.

Table 4. Distribution of Respondents' Employment Frequency

No	Work	Sum	
		N	%
1	Pensioner	2	3,6
2	Self employed	23	41,1
3	Housewives	31	55,4
Total		**56**	**100**

Based on the work of the elderly, there are 31 housewives, 23 self-employed people, and 2 retirees, a total of 56 respondents.

Table 5. Distribution of the Size of Variance of Elderly Knowledge About DHF Before and After Health Education in the Working Area of PB Selayang II Health Center in 2023

Variable	Average	SD	SE	Max Score	Minimum Score	N
Knowledge Score before Intervention	29,66	1,781	0,238	33	26	56
Knowledge Score After the Intervention	40,79	0,780	0,104	42	39	56

Based on the results of the univariate test, the variance value of knowledge score before the elderly were given health education interventions about DHF disease was 29.66, the standard deviation value was 1.781, the standard error value was 0.238, the maximum score was 33 and the minimum score was 26 with a sample of 56 people. While the variance value of knowledge scores after the elderly were given health education interventions about DHF disease averaged 40.79, standard deviation of 0.780, standard error of 0.104, maximum score of 42 and minimum score of 39 with a sample of 56 people.

Table 6. The Average Difference in the Knowledge Score of the Elderly About DHF Before and After Health Education in the Working Area of the PB Selayang II Health Center in 2023

Variable	Average Difference	SD	SE	P. Value	N
Different Knowledge Scores After and Before the Intervention	11,125	2,01	0,269	0,0001	56

Based on the results of the bivariate test, the average knowledge score after and before the elderly were given health education interventions about DHF was 22.1 with a standard deviation of 14.73. The results of the static test have a p value of 0.0001, so it can be said that there is a significant difference in knowledge scores before and after the elderly are given health education interventions about DHF.

Discussion

Based on the results of the univariate test on the pretest, the majority of respondents had a poor level of knowledge with a percentage of 75% (42 respondents). While respondents who have a good level of knowledge have a percentage of 25% (14 respondents). Based on PostTest results from 56 respondents, all respondents have a good level of knowledge with a percentage of 100% (56 respondents). Based on the results of a bivariate test using the T test, it shows that providing counseling on dengue prevention on the knowledge of the elderly in the working area of the PB selayang II Medan health center in 2023 can increase knowledge by 8.50, from 9.46 during the pre-test to 17.96 during the post-test. The results of the T test obtained a P-Value value of 0.000 (<0.05) so that it can be concluded that there is a significant difference in the level of knowledge before and after counseling.

The results showed that there was a difference in the knowledge score of the elderly before and after health counseling was given about dengue prevention in the Working Area of the PB Selayang II Medan Health Center where the after score was higher than the previous score. These results show that counseling methods can increase the knowledge of the elderly about DHF prevention. This is supported by previous research, namely counseling on mosquito larvae eradication efforts carried out in Gampong Lamteuba, Aceh Besar with local community participants went well and smoothly. The service program that has been implemented also shows an increase in participants' understanding as seen from the increase in knowledge. The participants of the activity also expressed satisfaction with this community service program, 60% of the participants stated that the theme taken was very good (Dewi et al., 2019).

This is also supported by research on community service activities is that there is a significant influence on the knowledge of the elderly at the Gadingrejo health center before (66.4%) and after (93.75%) counseling on dengue prevention and disease (Pringsewu, 2021). In data collection, both pretest and posttest are fully carried out by researchers without the help of enumerators or other people so that they unknowingly affect respondents' answers in answering questionnaires. This tends to lead to information bias and is a weakness in this study. It is good that the pretest and posttest are carried out by the respondents themselves or with the help of other people (not researchers) if the respondents are in difficulty (for example illiterate) so that the answers are indeed the answers of the respondents.

4. CONCLUSION

There are differences in the knowledge score of the elderly before and after health counseling on dengue prevention in the Working Area of the PB Selayang II Medan Health Center where the after score is higher than the previous score. These results show that counseling methods can increase the knowledge of the elderly about DHF prevention.

REFERENCE

Abdul, M And Ardianty, S. (2020). Pengaruh Pendidikan Kesehatan Dengan Media Kalender Pembangunan Kesehatan Adalah Seseorang.Perubahan Tersebut Dapat Terjadi Pada Sistem Muskuloskeletal Yaitu Penyakit Rematik.

Ardianty, A. And. (2020). Pengaruh Pendidikan Kesehatan Diet Rematik Terhadap Pengetahuan Pada Lansia Di Puskesmas.

Ariani, A. . (2016). Demam Berdarah Dengue. Nuha Medika

Auni, N. H. (2018). Hubungan Faktor Lingkungan Dan Perilaku Masyarakat Dengan Kejadian Demam Berdarah Dengue (Dbd) Di Wilayah Kerja Puskesmas Plus Perbaungan Kabupaten Serdang Bedagai Tahun 2018. Universitas Islam Negeri Sumatera Utara Medan.

Awaluddin, A. (2017). Korelasi Pengetahuan Dan Sikap Keluarga Terhadap Tindakan Pencegahan Demam Berdarah Dengue. Jurnal Endurance, 2(3), 263. Https://Doi.Org/10.22216/Jen.V2i3.2084

Candra, A. (2010). Demam Berdarah Dengue: Epidemiologi, Patogenesis Dan Faktor Risiko Penularan. Aspirator.

Chaya, I. (2003). Pemberantasan Vektor Demam Berdarah Di Indonesia.

Dewi, T. F., Wiyono, J., & Ahmad, Z. S. (2019). Hubungan Pengetahuan Orang Tua Tentang Penyakit Dbd Dengan Perilaku Pencegahan Dbd Di Kelurahan Tlogomas Kota Malang. Nursing News: Jurnal Ilmiah Keperawatan, 4(1), 348–358. Https://Publikasi.Unitri.Ac.Id/. 12 Maret 2020 (12:14).

Kemenkes, R. (2018). Profil Kesehatan Indonesia Tahun 2017. Kemenkes Ri.

Kemenkes Ri. (2017). Infodatin Situasi Demam Berdarah Dengue.

Kementerian, K. R. (2010). Penemuan Tata Laksana Penderita Demam Berdarah Dengue.

Kurnia, R., Novalia, R., Daswito, R., & Gunnara, H. (2023). Aktivitas Menggigit Nyamuk Aedes Spp Di Tiban Baru, Kota Batam. Jurnal Ilmu Dan Tekonologi Kesehatan Terpadu, 3(1), 15–20.

Lizabet. (2018). Psikologi Perkembangan. Erlangga.

Marali, R. (2018). Hubungan Tindakan Pemberantasan Sarang Nyamuk (Psn) Dengan Kejadian Demam Berdarah Dengue (Dbd) Di Wilayah Kerja Puskesmas Sudiang (U. Hasanuddin (Ed.)).

Masriadi. (2017). Epidemiologi Penyakit Menular. Pt Raja Grafindo Persada.

Misnadiarly. (2017). Demam Berdarah Dengue. Pustaka Obor Populer.

Notoatmodjo. (2012). Promosi Kesehatan Dan Perilaku Kesehatan (Edisi Revi). Rineka Cipta.

Pringsewu, G. (2021). Jurnal Pengabdian Farmasi Malahayati Vol. 4 No. 1 April 2021. 4(1), 14–18.

Ri, D. K. (2015). Pencegahan Dan Pemberantasan Demam Berdarah Dengue Di Indonesia (D. K. R. D. J. P. P. Dan Penyuluhan (Ed.))

Sari, U, W, P. (2018). Hubungan Faktor Lingkungan Dan Perilaku Dengan Kejadian Demam Berdarah Dengue Di Wilayah Kerja Puskesmas Klangenserut. Stikes Bhakti Husada Mulia.

Sumut, B. P. S. P. (2017). Profil Kesehatan Provinsi Sumut.

Tomia, A. (2020). Hubungan Pengetahuan, Sikap Dan Praktik Masyarakat Terhadap Upaya Pengendalian Vektor Dbd Di Kota Ternate, Provinsi Maluku Utara. Jurnal Ekologi Kesehatan, 19(3), 211–220. Https://Doi.Org/10.22435/Jek.V19i3.3659

Who. (2005). Pencegahan Dan Pengendalian Dengue Dan Demam Berdarah (E. Salmiyatun (Ed.)). Penerbit Buku Kedokteran Ecg.

Who. (2011). Comprehensive Guidelines For Prevention And Control Of Dengue And Dengue Hemorrhagic Fever.

Who. (2020). Dengue And Severe Dengue.