The Influence of Interpersonal Communication on the Prevention Action of Dengue Hemorrhagic Fever (DHF) in Meo-Meo Public Health Center of Baubau City

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Abstract

Dengue infection is a global health problem. One of the city in Indonesia that has a high incident of DHF is Baubau City, especially the area of Meo-Meo Public Health Center in 2016 to 2018 ranked first of the incident of DHF respectively for three years among 10 Public Health Center on the coastal area and third among 17 Public Health Center in Baubau City. DHF cases are not only caused by mosquitoes, but also by human behavior that does not carry out healthy and indifferent lifestyles in the environment where mosquitoes nest. Such behavior includes leaving the hanging used clothes, does not drain the tub, leaving puddle around the residence. This study involved 39 people in the intervention group and also in the control group who met the criteria including the age of 17-65 years old, can read, write, and communicate well, and willing to participate in this study. The result indicates a significant from the intervention groups to the control group ($p< 0.05$), is action ($p=0.001$), and the difference in the percentage of action in both groups. So, it can concluded that interpersonal communication is more influential than counseling on increasing DHF prevention action.

Keywords: *interpersonal communication, counseling, action, prevention, Dengue Hemorrhagic Fever (DHF)*

Introduction

According to WHO, dengue infection is a global health problem with an estimated incidence of around 390 million people each year. Asia is headed for the dengue epidemic in 2019. Several countries including Australia, Cambodia, Laos, Malaysia, the Philippines, Singapore, and Vietnam have been facing a surge in dengue cases in the past six months[1]. DHF cases until the beginning of February 2019 reached 16,692 cases with 169 people dead. This number increased compared to the previous month, which was 13,683 cases with 133 people died. This number increased compared to the previous month, which was 13,683 cases with 133 people died. Most cases of DHF in Indonesia are in the regions of East Java, Central Java, NTT and Kupang[2]

Cases of dengue in Southeast Sulawesi in 2018 amounted to 624 cases, with the number of deaths of 4 people. This figure decreased from 2017, which was 817 cases, and while the number of deaths was as many as 12 people. DHF Incidence Rate (IR) in 2018 decreased compared to 2017, which is from 31.39 to 23.51 per 100,000 population. The increase in case fatality rate (CFR) from the previous year was 0.26% in 2017, to 0.64% in 2018[3]. In Baubau City, in 2018 the number of DHF patients was 98 which was descreased from 116 cases in 2017, but increased again to 157 cases in 2019[4]

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DHF cases in the area of the Meo-Meo Public Health Center in Batupoaro Sub-District, Baubau City were 11 in 2015, 20 in 2016, 17 in 2017, 10 in 2018, and 10 in 2019[5]. Meo-Meo Public Health Center in 2016 – 2018 ranked first in the incidence of DHF cases respectively for three years among 10 Public Health Center on the the coastal area and third among 17 Public Health Center in Baubau City. In 2019 there were still 10 cases of DHF.

DHF cases are not only caused by mosquitoes, but also by human behavior that does not carry out healthy and indifferent lifestyles in the environment where mosquitoes nest. Such behavior as includes leaving the hanging used clothes, does not drain the tub, leaving puddle around the residence.

Shidiq's research found that counseling was effective against increasing knowledge, attitudes, and actions but not effective against the existence of larvae[6]. Research by Ikhlasari showed that there was a significant relationship between education, income, and knowledge in the control group[7]. There is a relationship between the control group and the treatment group on the aspects of knowledge and attitudes that indicated that the administration of DHF prevention interventions is related to knowledge and attitude.

Hutapea's research stated that interpersonal communication conducted by parents was seen as effective and successful in preventing dependence on others in the feelings and abuse of drugs in adolescents[8]. Interpersonal communication is communication between a communicator and a communicant[9]. Interpersonal communication is also known as the communication of people by face-to-face that allows each participant to capture the reactions of others directly, both verbally and nonverbally.

Interpersonal communication is verbal and non-verbal interaction between two or sometimes more than two people who are interdependent with each other[10]. Interpersonal communication aims to learn, build relationships with others, influence others, and help others. Interpersonal communication is carried out through face to face where the source of the message can see who the recipient of the message is. Then, there is immediate feedback without having to use an intermediary. Therefore, communication participants can also easily and immediately receive feedback from other communication participants at that time.

To overcome the DHF cases, various efforts have been carried out including larvae monitoring by the DHF Team of Baubau City Health Office where the target is the Public Health Center area where DHF cases are found, cross-program and cross-sector meetings, fogging in areas where DHF cases occur, giving abate powder by Public Health Center staff in each of the houses of the Health Center working area, counseling the Mosquito Eradication Movement (PSN) movement in all walks of life[4].

The health promotion efforts that have been done were not able to cultivate the community partisipan in PSN. The effort to break the chain of infection of dengue fever with the PSN movement will not be meaningful without the awareness of the community itself[4]. So the purpose of this study was to determine the effect of interpersonal communication on DHF prevention measures.

Material and Method

This research was an experimental study through Quasi-Experiment with a non-randomized pre-test – post-test control group design. The intervention group and the control group presented a pretest to find out the primary state then the intervention group was given interpersonal communication and the control group was did counseling. After the treatment, both groups performed a post-test with the same questionnaire. The distance between the pre-test and post-test for approximately 2-3 weeks or a maximum of 4-5 weeks.

The following is the method scheme:

Pretest		Posttest
O1	P	O2
O3	P1	O4

O_1 Pre-test for intervention group related to knowledge, attitude, and action on the prevention of DHF before given interpersonal communication

O_2 Post-test for intervention group related to knowledge, attitude, and action on the prevention of DHF after given interpersonal communication

O_3 Pre-test for control group related to knowledge, attitude, and action on the prevention of DHF before given counseling

O_4 Post-test Pretest for intervention group related to knowledge, attitude, and action on the prevention of DHF after given interpersonal communication

P The intervention using interpersonal communication

P1 The intervention using counseling

Based on the calculation of the minimum sample and those who met the inclusion criteria including eth age of 17-65 years old, can read, write, and communicate well, and willing to participate in this study, 39 households for the intervention group and 39 households for the control group were chosen.

Result

Table 1: The Pre-test and Post-test Percentage Score of Action in the Interpersonal Communication Group and Control Group on the Prevention of DHF

Action	Interpersonal Communication (%)	Counseling (%)
Pre-test		
Poor (0-5)	16 (41)	5 (13)
Fair (6-7)	5 (13)	3 (8)
Good (8-10)	18 (46)	31 (79)
Rerata	7 (Fair)	9 (Good)
Post-test		
Poor (0-5)	0 (0)	0 (0)
Fair (6-7)	0 (0)	0 (10)
Good (8-10)	39 (100)	39 (100)
Average	10 (Good)	9.85 (Good)

Table 1 shows the percentage of scores of action before and after interpersonal communication intervention increased significantly, especially in the good category where at pre-test showed a rate of 46% and improved after the intervention with a percentage of 100% with an increase in the mean value from 7 (fair) to 10 (good). Similarly happened in, the control group in which. at the time of achievement, the percentage of the good category was 79% and increased after the intervention to 100% with the average pre-test score of 9 (good) and the average post-test score increased to 10 with a good category.

Table 2: Score of Action in the Interpersonal Communication Group and the Control Group on Prevention of DHF

Group	Score of Action				p value
	n	Average	SD	SE	
The Intervention Group					0.000
Pre-test	39	6.77	2.444	0.391	
Post-test	39	10.00	0.000	0.000	
The Control Group					0.000
Pre-test	39	8.56	2.113	0.338	
Post-test	39	9.85	0.540	0.086	

Table 2 shows that the mean score of pre-test (6.77) and post-test (10.00) increased in the intervention group. The statistical test results obtained $p = 0.000$ ($p < 0.05$) shows that there were significant differences in the mean score of the pre-test and post-test scores on the increase in prevention of DHF.

The increase in the mean score of actions also occurred in the control group at pre-test (8.56) and post-test to (9.85). Statistical test results obtained p-value = 0.000 ($p < 0.05$) showing that there was a significant difference in the score of the pre-test and post-test actions to increase the prevention of DHF.

Table 3: The Difference Score of Actions in the Interpersonal Communication Group and Control Group on the Prevention of DHF

Action	Statistical Score		
	n	Average	p value
Pre-test			0.079
Intervention	39	7.67	
Control	39	1.50	
Post-test			0.001
Intervention	39	7.92	
Control	39	1.50	

Table 3 shows the results of the statistical test on the pre-test score of the action between the intervention group and the control group which was not significant, with the value of $p = 0.079$ ($p < 0.05$). Furthermore, the results of significant in which, the value of $p = 0.001$ ($p > 0.05$). The post-test score of the intervention group was 7.67 which was higher than the control group of 1.50, in which the difference score is 6.17.

Discussion

The selection of research sites iwas based on the consideration that Lanto Village had the highest cases of

Dengue Hemorrhagic Fever (DHF) for the last 3 (three) years. Likewise, Wameo Village had the lowest cases of DHF for 3 (three) years. Most recently in the area of Meo-Meo Public Health Center. This was based on the results of an initial survey through interviews with DBD programmers of Baubau City Health Office and the health profile data of Baubau City in 2019.

Statistical test results in the interpersonal communication intervention group obtained p = 0.000 (p <0.05) showing that there were significant differences in the scores of pretest and posttest actions to increase the prevention of DHF prevention measures. The results of the statistical test in the counseling control group obtained a value of p = 0.000 (p <0.05) showing that there were significant differences in the mean score of the pretest and posttest scores on the increase in the prevention of DHF.

Based on the statistical tests of the two groups, both are significant. However, there was a difference in the percentage of the attitude of the intervention group which was 47.7% higher than the control group of 15% with a difference of 35.3%, as well as a higher score in the intervention group by 0.15. So, it can be concluded that interpersonal communication was more influential than counseling on increasing the prevention of DHF.

This is in line with research conducted by Aysha et al, that there was a relationship between the eradication of mosquito breeding and DBD events[11]. Furthermore, research by Ayudyah et al shows a relationship between knowledge, attitudes and preventive measures for DHF disease vectors[12]. The prevention action of DHF can be done with several appropriate methods, one of which is controlling the mosquito vector by draining the bathtub, burying used cans, etc.[13]

The results of this study are also in line with research carried out by Weningtyas et al. that interpersonal communication influenced customer satisfaction and service quality to customer satisfaction[14]. Research by Patriana also showed that interpersonal communication between social counselors and the families of criminal offenders runs effectively because it fulfilled elements such as trust, openness, mutual support, and empathy[15].

This is reinforced by the Hutapea's study that interpersonal communication was most effectively used by parents in preventing drug abuse in adolescents[8]. Maharja also stateed that good interactions tend to lead to good behaviors[16].

Interpersonal communication is communication carried out in an interpersonal relationship between two or more people, both verbally and nonverbally, to achieve the same meaning of[9-10,17-21]. When communicating with others in the context of interpersonal communication, it is not only about communicate verbally, but also nonverbally. Nonverbal communication in the interpersonal communication process serves to complement verbal communication.

Giving interventions in the form of interpersonal communication present to the intervention group and counseling to the control group facilitates the delivery of information so that both groups can receive the message delivered and directly influence the pretest and posttest scores in both groups

Conclussion

Based on research, it can concluded that there is an increase in actions before and after counseling on the prevention of DHF in the area of Meo-Meo Public Health Center in Baubau City. Furthermore, it finds that interpersonal communication is more influential than counseling on increasing DHF prevention behavior in the working area of Meo-Meo Public Health Center in Baubau City.

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References

1. Kementerian Kesehatan RI., 2019. Wolbachia Efektif Turunkan Kasus DBD. [Internet]. 2019 August 22 [cited 2019 December 17); Available from: https://www.kemkes.go.id/article/view/19082300002/wolbachia-efektif-turunkan-kasus-dbd.html
2. Kemenkes RI. 2019. Kasus DBD Terus Bertambah, Anung Imbau Masyarakat Maksimalkan PSN [Internet]. 2019 February 4 [cited 17 December

2019]; Available from: https://www.kemkes.go.id/article/view/19020600004/kasus-dbd-terus-bertambah-anung-imbau-masyarakat-maksimalkan-psn.html

3. Dinas Kesehatan Provinsi Sulawesi Tenggara. Profil Kesehatan Sulawesi Tenggara 2018. Kendari: Dinas Kesehatan Provinsi Sulawesi Tenggara; 2018
4. Dinas Kesehatan Kota Baubau. Profil Kesehatan Kota Baubau 2018. Kota Baubau: Dinas Kesehatan Kota Baubau; 2018
5. Dinas Kesehatan Kota Baubau. Profil Kesehatan Kota Baubau 2019. Kota Baubau: Dinas Kesehatan Kota Baubau; 2019
6. Shidiq P. Keefektifan Penyuluhan Keluarga Terhadap Pemberantasan Demam Berdarah Dengue Di Kabupaten Bondowoso [Master Thesis]. Surakarta: Universitas Sebelas Maret Surakarta; 2010
7. Ikhlasari RN. Hubungan Pemberian Intervensi Pencegahan Demam Berdarah Dengue (DBD) Terhadap Tingkat Pengetahuan, Sikap, Tindakan, dan Kontinuitas Masyarakat di Kecamatan Godean dan Mlati, Kabupaten Sleman [Undergraduate Thesis]. Yogyakarta: Universitas Islam Indonesia; 2017
8. Hutapea L. Gaya Komunikasi Interpersonal Orangtua Dalam Mencegah Penyalahgunaan Narkoba Pada Remaja Di Desa Cinta Rakyat Kecamatan Percut Sei Tuan Kabupaten Deli Serdang. Al-Balagh. 2016; 1(1):126-137.
9. Effendi OU. Ilmu Komunikasi: Teori Komunikasi dan Praktek. Bandung: PT. Rosdakarya; 1996
10. DeVito JA. The Interpersonal Communication Book 13th Edition. United States of America: Pearson Education Inc; 2013
11. Aysha A, Syamsukhuda, Sugihantono A. Hubungan Paparan Media Informasi Dengan Pengetahuan Penyakit Demam Berdarah Dengue Pd Ibu-Ibu Di Kel. Sambiroto Semarang. Jurnal Kesmas. 2016; 4(2)
12. Ayudhya, P, Ottay RI, Kaunang WPJ, Kandou GD, Pandelaki AJ. 2014. Hubungan Pengetahuan dan Sikap Masyarakat Tentang Penyakit Demam Berdarah Dengue Dengan Pencegahan Vektor di Kelurahan Malalayang 1 Barat Kota Manado. Jurnal Kedokteran Komunitas dan Tropik. 2014; II(1): 9-13.
13. Arsin AA. Epidemiologi Demam Berdarah Dengue (DBD) di Indonesia. Makassar: Massagena Press; 2013
14. Weningtyas E, Suseno MN. Pengaruh Komunikasi Interpersonal Dan Kualitas Pelayanan Terhadap Kepuasan Konsumen. Psikologika. 2012; 17(1): 17-26.
15. Patriana E. 2014. Komunikasi Interpersonal Yang Berlangsung Antara Pembimbing Kemasyarakatan Dan Keluarga Anak Pelaku Pidana Di Bapas Surakarta. Journal of Rural and Development. 2014; V(2): 203-213.
16. Maharja R. Analisis Budaya Keselamatan Pada Pekerja Las di PT.X [Master Thesis]. Surabaya: Universitas Airlangga; 2018 [cited 2020 Juli 28]. Available from: http://repository.unair.ac.id/70233/
17. Daryanto. Ilmu komunikasi I. Bandung: PT Sarana Tutorial Nurani; 2011
18. Pearso JC. Human Communication. New York: Aptara; 2011
19. Rakhmat J. Psikologi Komunikasi. Bandung: Rosdakarya; 2012
20. Mulyana D. Ilmu Komunikasi: Suatu Pengantar. Bandung: Remaja Rosdakarya; 2013
21. Muhammad A. Komunikasi Organisasi. Jakarta: Bumi Aksara; 2015