



The Effectiveness of The Media Leaflets and Film on Knowledge of The Attitude and Skills of Cadres in Ovitrap Making

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ABSTRACT

Introduction: Ovitrape is one method for preventing the occurrence of DHF. Ovitrape has been widely used in a variety of locations with a high prevalence of DHF. One of the advantages of ovitrape is that it is simple to manufacture and inexpensive. The purpose of this study is to determine the effectiveness of video media in increasing knowledge and skills in making ovitrape. **Method:** This is a quasi-experimental design with a pretest-posttest format. This research sample included 50 cadre divided into two groups, 25 groups, and 25 media leaflet film media. The Wilcoxon and Mann Whitney tests are used in this study. **Result :** Wilcoxon test results indicated leaflets and film media effectively improve cadres' knowledge, attitude, and skills in ovitrape manufacture. The film is a more effective medium for improving cadres' knowledge, attitudes, and skills in the manufacture of ovitrape. **Conclusion** According to the research findings, the collaboration between the health centre and Pangulu Nagori Batu Anam Pematang Simelungun District of Siantar Simalungun is necessary for inserting health education materials about dengue prevention through the use of film and leaflets.

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1. INTRODUCTION

Dengue Hemorrhagic Fever (DHF) is an infectious disease caused by the dengue virus that is transmitted by *Aedes aegypti* and *Aedes albopictus* mosquito vectors. Vectors play a significant role in disease transmission, which increases dengue cases during the rainy season, when puddles of water form breeding grounds for mosquitoes. Numerous research findings indicate that advertising and environmental conditions significantly influence the incidence of DHF; mobility and community density also significantly influence the incidence of DHF (Kementrian Kesehatan Republik Indonesia, 2020). Dengue Hemorrhagic Fever (DHF) or Dengue Hemorrhagic Fever (DHF) is a term that refers to diseases caused by dengue virus infection as a public health issue. DHF is still widespread in a variety of countries, including tropical and subtropical regions, which have developed endemic or epidemic status (Hamzah, 2016).

Dengue fever cases are almost evenly distributed throughout Indonesia's provinces. Dengue fever is a risk in every region of Indonesia, except for those with a height of more than 1000 meters above sea level, due to the virus that causes it and the mosquitoes that transmit it being widespread both at home and in public places (Saragih, 2019).

Simalungun Regency is consistently one of the areas with dengue-endemic status, with morbidity and mortality cases caused by DHF, along with Medan City and Deli Serdang Regency. Simalungun Regency has a DHF incidence of 445 cases, which increased to 736 cases in 2019. Simalungun Regency has the third highest number of DHF cases, behind Medan City (1068) and Deli Serdang Regency (1326) (Dinas Kesehatan Provinsi Sumatera Utara, 2019).

The larva-free rate has become the de facto standard for dengue control via mosquito nest eradication activities, indicating citizens' comfort level with dengue (Dinas Kesehatan Provinsi Sumatera Utara, 2020). Simalungun Regency has a high rate of dengue cases, indicating that the dengue prevention program is not operating at maximum capacity. Along with training and high community motivation regarding mosquito larvae, innovation in PSN is critical. Dengue control can be accomplished physically, chemically, or biologically. Currently, dengue control efforts will be focused on chemical insecticides, which will exacerbate existing problems. The adverse effects of chemical insecticides will drive experts to develop solutions for vector control, specifically by physically controlling

mosquitoes without causing new problems through the use of ovitraps containing various attractants (Fadlilah, 2017).

Numerous methods, including larval surveys, pupa surveys, adult mosquito surveys, and egg surveys, can be used to detect *Aedes aegypti* sp mosquito populations. Egg surveys are quite effective at detecting *Aedes aegypti* sp mosquito populations; typically, using ovitraps or egg traps, ovitraps are quite effective at reducing mosquito populations (Cahyati, 2016). DHF vector populations can be obtained by containing adult mosquitoes via ovitrap egg trapping (especially in areas with high mosquito density) (Fatmawati, 2014). The installation of an ovitrap in the house reveals a greater number of *Aedes Aegypti* sp mosquitoes than *Aedes Albopictus* mosquitoes; this is because *Aedes Albopictus* mosquitoes are more prevalent outside the house than inside, particularly in gardens and vacant land with dense vegetation (Wahidah, 2016). When using an ovitrap, mosquito eggs will be found on the container walls near the water's surface. The larvae of *Aedes aegypti* sp. can survive in clear, calm water that contains organic matter (Hidayati, 2017).

Ovitrap is designed to attract adult mosquitoes to lay eggs on the ovitrap's surface, where they will hatch and enter the water reservoir. Ovitrap can be made with recycled buckets, bottles, and gauze. The use of ovitrap is simple and can be applied anywhere without causing adverse environmental effects (Rati, 2016). According to Alfiantya (2018), the low cost of manufacturing ovitrap and its ability to be used for an extended period of time without special care enable it to be used in long-term applications and on a larger scale.

Through various media, health promotion will increase public interest in health education (Siregar, 2020). The media is an extremely effective tool for health promotion (Nasution, 2019). Ahmad (2017) research demonstrates that health promotion through book media reduces knowledge and attitudes about disease prevention.

2. METHODE

This study uses a quantitative research approach with a cross sectional design using secondary data from the Indonesian Demographic and Health Survey (IDHS) of North Sumatra Province in 2017. This study aims to analyze the determinants of sexually

transmitted infections (STIs) based on the North Sumatra IDHS data. 2017. This research was conducted in all regencies/cities of North Sumatra province. From January to February 2021. The population in this study were women aged 15-49 years. The sample of this study was a total of 1728 women aged 15-49 years who were recorded in the IDHS of North Sumatra province in 2017. The data collected is secondary data from the IDHS of North Sumatra Province in 2017. Secondary data is data that is not directly obtained from the object of research but is obtained from the party who collects the data, in this case BPS. Prior to taking and using IDHS data for North Sumatra Province in 2017, permission was first obtained through the official DHS and IDHS accounts. The analysis used is multiple logistic regression testing the risk factor model.

3. RESULT

The results of this study can show the effectiveness of film and leaflet media in making ovitrap as an effort to prevent DHF in Nagori Pematang Simalungun, Siantar District, Simalungun Regency.

Table 1. Increased Knowledge and Attitudes Seen From Pre-test and Post-test Values on Leaflet and Film

Knowledge Variable		P
Leaflet	Pretest	<0,001
	Posttest	
Film	Pretest	<0,001
	Posttest	
Attitude Variable		P
Leaflet	Pretest	0,001
	Posttest	
Film	Pretest	<0,001
	Posttest	

The results of the Wilcoxon test obtained a p value = 0.001, which means that statistically it shows that leaflet media is effective in increasing knowledge about ovitrap making. about the prevention of DHF about the manufacture of ovitrap. The results of the Wilcoxon test obtained p value = 0.001, meaning that statistically it showed that leaflet

media was effective in increasing attitudes about making ovitraps with a value of $z=3,946$. For the counseling group given film media, the value of $p=(0.0001) < 0.05$ means that film media is effective in increasing attitudes about DB prevention about ovitrape making.

4. DISCUSS

The findings of this study indicate that training respondents on how to make ovitraps through the use of film and leaflet media have been shown to increase respondents' knowledge. Kurniawati (2020) research indicates that homemakers have a lower level of knowledge about ovitrap. Housewives' lack of knowledge about ovitraps may result from a lack of socialization regarding ovitraps as part of the effort to control *Aedes aegypti* sp.

According to Anggraini (2016), homemakers are aware of the control of *Aedes aegypti* sp mosquito larvae through the draining, closing, and recycling of used goods but are unaware of the ovitrape. Knowledge serves as a catalyst for behavioural change, including behaviour related to health (Tarigan, 2020; Tambunan, 2020b). According to Kurniawan (2016), there are still many people who oppose mosquito nest eradication activities due to a lack of public awareness about the critical nature of mosquito nest eradication. People still do not routinely perform mosquito nest eradication, such as not closing water reservoirs, draining bathtubs once a week, burying used goods, and hanging clothes behind closed doors.

To see the effectiveness of leaflet media in increasing knowledge, the Wilcoxon test was carried out and obtained a probability value ($p < 0.001$) which means that leaflet media was effective in increasing the knowledge of cadres about making ovitrap. This is in accordance with research Susetya (2018) which shows that there is a significant difference between the knowledge of housewives before and after being given counseling on Dengue Hemorrhagic Fever Prevention (DHF) with film and leaflet media, because the p value is $0.000 < 0.05$, so counseling with film and leaflet media is effective. The results of this study are in line with research conducted Permatasari (2017) which states that leaflet media is able to provide an increase in knowledge about the prevention of gastritis with p value < 0.001 .

This is in accordance with research Dasilva (2019) which proves that there is a significant influence on knowledge, attitudes, and self-efficacy between before and after being given health education through film media (p -value < 0.05). This is in line with

research conducted Fitriani (2017) which reveals that film or video is a medium that can present factual or fictitious messages that can be informative, educative or instructional.

Ovitrap (Oviposition trap) is a device that is used to trap mosquito eggs and adult mosquitoes in order to locate mosquitoes and mosquito eggs. Ovitrape can also be used in an environment to control mosquitoes and mosquito larvae. Female mosquitoes will lay eggs on the walls of ovitrapes, making mosquito control easier. Ovitrap can take the shape of a vessel (can, plastic, or bamboo-part), filled with water and lined with paper to accommodate eggs (Nurjana, 2017). Ovitrap is placed near the bathroom in a location that meets the criteria, namely a location that is not too bright, humid, or windy. Ovitrape was placed in a predetermined location for 14 days. The ovitrape will be coated with various tractates to attract female mosquitoes to lay eggs; once the eggs hatch into insects, they will be shocked in the ovitrape's gauze-lined interior (Fadlilah, 2017).

Although housewives have been exposed to information about eradicating mosquito nests and using ovitrapes, implementation of eradicating mosquito nests and using ovitrapes remains extremely low. Housewives believe that eradicating mosquito nests should not be a routine practice, as mothers believe that eradicating mosquito nests is ineffective at controlling mosquitoes. Empowerment is critical for improving the practice of eradicating mosquito and ovitrap nests, particularly among housewives (Susianti, 2017).

When housewives make decisions, they frequently prioritize the economic aspect. Ovitrap is a cost-effective mosquito control method when compared to other methods such as biological and chemical mosquito control. When housewives are more likely to carry out mosquito control, this tendency increases when housewives understand what an ovitrap is, its purpose, benefits, and proper use. Mosquito control with ovitrapes is very cost effective because they are inexpensive, simple to make, and extremely effective at controlling *Aedes aegypti* mosquito larvae. The strong encouragement provided to housewives may serve as a catalyst for reactivating their role as agents of change in family health, which may be a determining factor in the success of the mosquito nest eradication program using ovitrapes to reduce the population of *Aedes aegypti* mosquitoes (Kurniawati, 2020).

In comparison to larval surveys, Ovitrap can be used as a surveillance tool to detect the incidence of DHF. The disadvantage of ovitrap is that it requires additional resources to operate (Zuhriyah, 2016). Tambunan (2020) asserts that film is a novel innovation in

teaching and learning relationships because it combines the two senses of sight and hearing simultaneously. The desired film can be viewed and heard in order to increase knowledge, enlightenment, and direction. According to Khaerani (2020), providing health education through the media will increase public awareness and attitudes toward health problems. By providing health education through the media, the target group will be more receptive to the material presented. According to Respati, (2016), the use of appropriate media will draw people's attention to the subject being studied; media can also increase people's interest and motivation.

Training is one method of increasing homemakers' knowledge about the manufacture and application of ovitraps for the control of *Aedes aegypti* sp mosquito larvae in the community. A thorough understanding of the manufacture of ovitraps is expected to be one of the most effective strategies for eradicating *Aedes aegypti* sp. (Ernyasih, 2019). The findings of Zuhriyah (2016) research indicate that people are not fully committed to ovitrap implementation at home; knowledge and awareness are still low, implying that ovitrap production is still in its infancy. Ovitrap production requires a high level of commitment to both care and supervision.

Increased knowledge in cadres who receive film media training can occur due to a learning process that provides cadres with information or messages via images and sound, such that cadres obtain information about how to make ovitrap from the images and sounds displayed. It is hoped that by increasing cadres' knowledge of how to make ovitraps, they will develop a greater desire and ability to make ovitraps, thereby reducing the incidence of dengue fever in Nagori Pematang Simalungun. It is critical to pay attention to health workers who provide training to cadres using films during the learning process.

The increase in cadres' skills was consistent with the increase in cadres' knowledge about making ovitrap for DHF prevention; increasing respondents' knowledge about how to make ovitrap for DHF prevention became the foundation for cadres to improve skills. Improving respondents' skills following training with film media is expected to increase cadres' ability to make ovitraps, thereby preventing dengue disease and lowering morbidity and mortality associated with DHF in cadres in Nagori Pematang Simalungun.

Changes in attitude are influenced by factors of knowledge and belief obtained from sensing results, one of which is obtained in education and the learning process. Similar to knowledge, the attitude of cadres also shows a change. This is in accordance

with research Lestari (2020) which proves that there is an effect of counseling with video media and leaflets on the knowledge and attitudes of adolescents about the risk of early marriage in the Gerung Butun Timur neighborhood in 2018.

Film or video media is a medium that can present messages that can be informative, educative or instructional. This is reinforced by the view (Sadiman, 2018) that film media is very good for explaining a process by using slow motion repetition to clarify the description. The medium of film is excellent for presenting theory and practice, saving time on explanations.

This study shows that the increase in knowledge that occurs in cadres who receive counseling with film media, this can occur because knowledge is the result of a learning process that provides cadres of information or messages through messages in the form of images and sound so that cadres get information about making ovitrap from picture and sound are displayed. It is hoped that by increasing the knowledge of cadres regarding information about making ovitraps, it is hoped that the desire and ability of cadres in making ovitraps can increase so as to reduce the incidence of dengue fever in Nagori Pematang Simalungun so that it is very important to be considered by health workers to provide counseling using films to cadres in the learning process.

5. CONCLUSIOON

Leaflet media is a medium that can improve the knowledge, attitudes and skills of cadres in making ovitrap in Nagori Pamatang Simalungun, Siantar District, Simalungun Regency, where this can be seen from the increase in the average score obtained before and after counseling using leaflet media. Film media is a medium that can increase the knowledge, attitudes and skills of cadres in making ovitrap in Nagori Pamatang Simalungun, Siantar District, Simalungun Regency, where this can be seen from the increase in the average score obtained before and after counseling with film media. Film media is more effective in increasing the knowledge, attitudes and skills of cadres in making ovitraps in Nagori Pamatang Simalungun, Siantar District, Simalungun Regency based on the average value of knowledge, attitudes and skills about ovitrap making based on the results of the pre test and post test conducted.

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