

# **Health Education Influence Increase Knowledge Of Housewives About Prevention Of Dengue Fever By Audiovisual Media**

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## **Abstract**

This research aims to determine the influence of health education through audiovisual media about the prevention of dengue fever on knowledge of housewives (IRT). This research uses Quasy Experiment research design with non-Equivalent Control Group research design. The research was conducted in RW 08 Kelurahan Tangkerang Utara District of Bukit Raya on 30 people, 15 for the experimental group and 15 people for the control group. This research method using purposive sampling. The measuring tool used is a questionnaire that has been tested for validity and reliability. The analysis used is univariate analysis and bivariate analysis using the independent test and dependent test. The results of this study indicate the effect of providing health education with audiovisual media to the knowledge of IRT about the prevention of dengue fever (p value 0,002). Based on the results of the study recommended to health workers to provide health education by using audiovisual media to improve knowledge for IRT about prevention of dengue fever

**Keywords:** Audiovisual, Housewife, Dengue Fever

## **Background**

Dengue Hemorrhagic Fever (DHF) is a disease caused by an infection that is transmitted through *Aedes Aegypti* mosquitoes. These mosquitoes are found in areas that have a tropical and subtropical climate among them occur in the archipelago in Indonesia to northern Australia (Vyas, 2013). Prior to 1970, it has occurred in 9 countries with dengue disease, but until now DHF has become an endemic disease in more than 100 countries. Countries with the highest rates of dengue cases include Africa, America, the Mediterranean, East Asia and the Western Pacific (World Health Organization, 2014). The number of cases in the United States,

Southeast Asia and the Western Pacific has more than 1.2 million cases in 2008 and more than 2.3 million cases in 2010. In 2013 there were reported 2.35 million cases in the United States and 37,687 cases is a severe dengue. Every year there is an increasing number of dengue cases in the country. the spread of dengue fever outside the tropics and subtropics is increasing, for example in Europe, local transmission was first reported in France and Croatia in 2010. In 2012 there have been more than 2,000 cases of dengue in 10 countries in Europe. Approximately 500,000 DHF patients require hospitalization every year, where the proportion of patients is mostly children and 25% of them have been reported dead (WHO, 2014).

DHF problems to date still require serious attention, especially in Riau province. By 2015 the number of DHF cases in Riau Province was reported as many as 3,261 people (Mortality or Incidence Rate (IR) = 51.4 per 100,000 population) and mortality rate of 20 people (CFR = 0.61%). One of the cities in Riau Province is Pekanbaru City which still found the case of DHF. The increase in the number of DHF patients in Pekanbaru City in 2015 was reported as many as 516 cases of patients and 5 cases died. (Health Profile of Riau Province, 2015).

Based on data from Pekanbaru City Health Office in 2016, the incidence of dengue fever was 873 cases and 10 deaths. But in 2017 there was a decline with the number of 598 cases of patients and 3 cases died. The number of DHF incidence based on 12 subdistricts in Pekanbaru is Sukajadi District with the incidence of 27 patients, Senapelan 38 patients and 1 died, Rumbai Pesisir 32 patients, Rumbai 38 patients, Pekanbaru Kota 23 patients, Fifty-six patients and 1 died, Sail 18 patients, Bukit Raya 91 sufferers, Tenayan Raya 83 cases of sufferers, Marpoyan Damai 71 patients and 1 died, Tampan 81 patients, Payung Sekaki 67 patients. One effort to overcome the case of dengue fever is with health education. Health education is an educational activity conducted by way of spreading the message, instilling confidence, so that people not only aware, know and understand but also willing and able to do a suggestion that has to do with health. (Fertman, 2010) The role of nurses in extension activities is to provide health information and health education programs for the community about the importance of healthy living and how to prevent disease. Nurses have a leading role in the service, the high intensity of the nurses

in dealing with the patient makes the nurse has a strategic role to preventive and promotive functions. The family as the smallest unit of society is an important component in dealing with this dengue fever case. The lack of or limited information obtained by families will definitely affect the public awareness to participate in the prevention of dengue fever. The description of the above conditions make the author moved to do research concerning the Effect of Health Education through audio visual media in Improving Knowledge of Housewives About Dengue Prevention

## **The Purpose of Study**

The purpose of this study aims to determine the effect of health education through audiovisual media in improving knowledge of housewife (IRT) about dengue prevention.

## **Methodology**

This research uses Quasy Experiment research design with non-Equivalent Control Group research design. The design involved two groups, the experimental group and the control group. The researchers gave intervention to the experimental group, while the control group was not given. Both groups were measured before intervention (pre-test) and measurement after intervention (post-test).

## **Result**

### **Table. 1**

Homogeneity of respondent characteristics in experiment and control group Experiment Group Characteristics

Characteristics	group Experiment (n=15)		control group (n=15)		Amount (n=30)		p value
	N	%	N	%	N	%	
Age							
Youth End (17-25 years old)	0	0	1	6.7	1	3.3	0.925
Early adult (26-35 years old)	11	73.3	7	46.7	18	60.0	
Mature end (36-46 years old)	4	26.7	7	46.7	11	36.7	
Education							
SD	1	6.7	0	0	1	3.3	0.925
SMP	2	13.3	3	20.0	5	16.7	
SMA	7	46.7	1	6.7	1	3.3	
PT	5	33.3	0	0	7	23.3	

Table 1 shows most characteristics of respondents age 18 IRT (60.0%) early adulthood. While for IRT education characteristic most of 17 IRT (56,7%) SMA, and result of statistical test using Chi Square and kolmogorov-Smirnov test to see homogeneity between experiment group and control group. The results obtained in the table characteristic of respondents in experimental group and control group is homogeneous with p value (0,925)

**Table2.**

Distribution Pretest knowledge measurement in experimental and control groups

Variabel	Amount	Mean	SD
group Experiment	15	5,33	1,397
control group	15	5,73	1,280

Table 2 shows the mean distribution of knowledge before being given a health education in the experimental group of 5.33 with the standard deviation of 1.397, while the mean of knowledge in the control group is 5.73 with the standard deviation of 1.280.

**Table 3.**

Distribution of knowledge in Experiment Group and Control Group After Provided health education

Variabel	Amount	Mean	SD
group Experiment	15	7.47	0.990
control group	15	6.00	1,309

Table 3 above shows the mean of knowledge after being given health education in the higher experimental group (7.47) with a standard deviation of 0.990 than the knowledge mean in the control group (6,00) with the standard deviation of 1,309.

## Bivariate Analysis

**Table 4.**

Knowledge of housewives about cervical cancer in the experimental group before and after being given health education by audiovisual method.

<b>Variabel</b>	<b>Mean</b>	<b>SD</b>	<b><i>p value</i></b>
<i>Pretest</i>	5,33	1,397	0,000
<i>Posttest</i>	7,47	1,280	

Table 4 above, from the statistical test results obtained the mean of IRT knowledge before being given health education in the experimental group of 5.33 with standard deviation of 1.397 and after being given health education of 7.47 with standard deviation of 0.990. Result of analysis obtained p value (0,000) < (0,05), hence can be concluded there is improvement of knowledge on IRT at posttest in experiment group.

**Table 5.**

Knowledge of housewives about cervical cancer in the control group before and after without being given audiovisual health education.

<b>Variabel</b>	<b>Mean</b>	<b>SD</b>	<b><i>p value</i></b>
<i>Pretest</i>	5,33	1,397	0,000
<i>Posttest</i>	7,47	1,280	

Table 5 above shows statistical test of mean IRT knowledge before health education given in the control group is 5,73 with standard deviation 1,280 and after without giving health education equal to 6.00 with standard deviation 1,309. Result of analysis obtained p value (0,164) > (0,05), hence can be concluded there is no increase of knowledge on IRT at posttest in control group.

**Table 6.**

Differences in housewife knowledge about cervical cancer in experimental group and

control group after being given health education about dengue fever

<b>Variabel</b>	<b>Mean</b>	<b>SD</b>	<b><i>p value</i></b>
Kelompok eksperimen	7,47	0,990	0,002
Kelompok kontrol	6,00	1,309	

Table 6 shows the average knowledge of IRT after being given a health education on dengue in the experimental group was 7.47 with a standard deviation of 0.990 and 6.00 in the control group without being given a health education on dengue using audiovisual with a standard deviation of 1.309. The results obtained p value (0.002) < (0.05), then  $H_0$  is rejected and  $H_a$  accepted. There was a significant influence between the average IRT knowledge of dengue fever and audiovisual after being given a health education in the experimental group and the average IRT knowledge of dengue without the audiovisual method of health education given to the control group, so it can be concluded that the audiovisual method greatly influenced the knowledge IRT.

## DISCUSSION

The results showed that education influenced the learning process, the higher the education of someone the easier the person to receive information (Notoatmodjo, 2005). From the results of research conducted on housewives found that most respondents are high school education status as much as 17 respondents (56.7%). This shows the respondents' education level quite well. According to Septalia (2010), education is an activity of learning process to develop or improve certain ability so that the target of education can stand alone,

education can influence one's perspective to information received, it can be said that the higher the education, the easier one receive information .

The average value of IRT knowledge about cervical cancer before and after intervention was given by experimental group and control group. Based on research conducted on IRT in RW 9 and RW 10 Tangkerang Utara Kecamatan Bukit Raya can be seen the average value of IRT knowledge before being given dengue fever health education in the experimental group that is 5.33 and the average value of knowledge after being given health education about dengue using audiovisual in experimental group that is 7.47. The average value of IRT knowledge before being given dengue fever health education in the control group is 5.73 and without being given a health education on dengue using audiovisual average knowledge of IRT is 6.00. The average increase of IRT knowledge in the control group that was not given health education with  $p\text{ value} = 0.164$  ( $p > 0.005$ ). This shows no change in prior and after IRT knowledge without the provision of health education through audiovisuals. The results of research conducted by Sitompul, Santosa, & Mutiara (2012) which states that age and education have an influence on the level of one's knowledge, the more one's age then the level of one's knowledge will increase. According to Notoadmodjo (2005) that age affects the capability and mindset of a person. Increasingly growing age also developed the ability to catch and the mindset, so that the knowledge gained better. The result of dependent test in the experimental group shows  $p\text{ value} (0,000) < (0,05)$ , meaning that there is a significant influence between the average knowledge of IRT before and after given health education about dengue

using audiovisual, and got the average increase of knowledge IRT of 2.14 points. In the control group showed  $p\text{ value} (0.164) > (0.05)$ , meaning there was no significant difference between mean IRT knowledge before and without health education about cervical cancer, dengue and obtained an average increase of IRT knowledge, but only 0.27 points. Statistical test result by using t Independent got  $p\text{ value} (0,002) < (0,05)$ . This means that there is a significant difference between the mean IRT knowledge of dengue given audiovisual after being given a health education in the experimental group and the control group, so it can be concluded that the provision of health education by audiovisual method can improve the knowledge of IRT on dengue According to Notoatmodjo (2007) , health education is all activities that provide and increase knowledge, attitudes and practices of the community in maintaining and improving their own health. According to Yusyaf (2011) indicates that there is an increase in family knowledge after being given back-page media education in the experimental group is not too significant to improve the knowledge of IRT while using the audiovisual media the knowledge level of IRT is increasing. According to Notoadmojo (2007) health education media are all means or efforts to display messages or information to be conveyed by communicators, be it through print media, electronic (television, radio, computer, etc.) and outdoor media, so the target can be increased his knowledge is ultimately expected to change his behavior towards positive towards health. Where the purpose of health education media that can facilitate the delivery of information, can avoid misperception, can clarify information, can facilitate understanding, reduce verbalistic

communication, can display objects that can not be captured with the eyes and facilitate komunikasi, and others.

### Conclusion

The result of the research showed that the majority of respondent's age was in the early adult age with the number of 18 people (60.0%), the education of the respondents was mostly 17 people (56.7%), average knowledge of IRT before and after health education about dengue fever in the experimental group showed p value (0,000) < (0.05), meaning that there is a significant difference between IRT knowledge mean before and after being given health education about dengue with audiovisual media. In the control group showed p value (0.164) > (0.05), meaning that there was no significant influence between prior and after IRT knowledge means without being given health education on dengue with audiovisual media.

The results of the independent test show pvalue (0.002) < (0.05). This means that there is a significant difference between the mean IRT knowledge in the experimental group and the control group after being given a health education on dengue using audiovisual media, so it can be concluded that the provision of health education with audiovisual media about dengue has an effect on increasing IRT knowledge.

### Suggestion

For the community researchers hope the community especially IRT can increase knowledge about dengue fever by seeking various kinds of information continuously. People with more knowledge about dengue provide such information to other IRTs. For researchers as experience in researching and increasing insight or knowledge of researchers about the effect of health

education with audiovisual media about dengue fever to the level of knowledge of IRT.

For later researchers it can be used as an evidence based and additional information to develop further research on prevention of dengue with different methods on IRT.

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