

## The Effect of Education Using Audio Visual Media on Maternal Knowledge About Diarrhea in Toddlers in Dusun Lima In Pelauw Village in 2024

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### ABSTRACT

Maternal knowledge and attitudes will help cure toddler diarrhea. Audiovisual media is an interesting counseling media and stimulates more senses. Diarrhea is a condition of defecation with a different frequency than usual, namely more often or more than 3 times a day, with a mushy or liquid consistency or even just water. The purpose of this study was to determine the effectiveness of audiovisual as a media counseling on changes in maternal knowledge and attitudes. This research was conducted in Dusun Lima, Pelauw Village. This type of research is quantitative research using the pre-experimental design method, namely the one group pre-test and post-test design approach. This study was conducted by giving an initial pretest (initial observation) first before being given an intervention and then a post test (final observation). The sample is part of the number and characteristics possessed by the population, the sample in this study were mothers who had toddlers as many as 45 respondents. The results of the analysis of the Effect of Education with Audio Visual media on maternal knowledge about diarrhea in toddlers in the hamlet of five megaria in Pelauw village in 2024 from the results of the Wilcoxon Test Respondents' knowledge increased by 45. Researchers recommend the use of audiovisual media in counseling activities in an effort to improve maternal knowledge and attitudes.

**Keywords:** Education, Audio Visual, Diarrhea, Maternal

#### Published by:

**Tadulako University**

#### Address:

Jl. Soekarno Hatta KM 9. Palu City, Central Sulawesi,  
Indonesia.

**Phone:** +6282197505707

**Email:** [preventifjournal.fkm@gmail.com](mailto:preventifjournal.fkm@gmail.com)

#### Article history:

Received: 25 03 2025

Received in revised form: 19 04 2025

Accepted: 26 04 2025

Available online : 30 04 2025

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## INTRODUCTION

Diarrhea is a condition of defecation with a different frequency than usual, namely more often or more than 3 times in one day, with a mushy or liquid consistency or even just water. Diarrhea is caused by viral or bacterial agents that infect the digestive tract. Diarrhea can cause dehydration to death if not treated properly (1). Diarrhea is still a health problem, especially in children. Less than 80% of diarrhea-related deaths occur in the first 2 years of life. The main cause of death in diarrhea is due to dehydration as a result of fluid and electrolyte loss. Diarrhea still often causes Extraordinary Events (KLB) with a large number of patients in a short time. However, with fast, precise and quality management of diarrhea, deaths can be minimized. Diarrhea is the second leading cause of death for children under five in the world. (2)

In Indonesia, diarrhea is a public health problem with a high prevalence. Based on data from the Indonesian Ministry of Health, the prevalence of diarrhea in 2018 was 37.88% or around 1,516,438 cases in toddlers. The prevalence increased in 2019 to 40% or around 1,591,944 cases in toddlers(2). In Maluku province diarrhea is a public health problem with a high prevalence based on riskesdas data for Maluku province in 2019 as much as 6.64 or around 5,927.45 cases the following diarrhea prevalence per district / city in Maluku West Maluku Tenggara district 4.83%, Maluku Tenggara district 2.76%, Central Maluku district 6.76% Buru district 9.53%, Kep district. Aru 4.35%, West Seram District 8.47%, East Seram District 8.56%, Southwest Maluku District 8.95%, South Buru District 0.90%, Ambon City 6.61%, Tual City 7.04%.

Diarrhea is an infectious disease and is characterized by symptoms such as changes in the shape and consistency of the stool to become mushy to liquefy and an increase in the frequency of defecation more than usual accompanied by vomiting, thus causing the patient

to experience a lack of fluid in the body or dehydration which in the end if not getting immediate help can cause severity to death. Toddlers who experience diarrhea will develop symptoms such as frequent defecation with liquid or watery stools, there are signs and symptoms of dehydration (decreased skin turgor, sunken fontanel and eyes, dry mucous membranes). Fever, vomiting, anorexia, weakness, pallor, changes in vital signs (3).

Diarrhea is a common symptom of gastrointestinal infection caused by a variety of pathogens, including bacteria, viruses and protozoa. Diarrhea is more common in developing countries due to lack of safe drinking water, sanitation and hygiene, and poorer nutritional status. According to the latest available figures, an estimated 2.5 billion people lack proper sanitation facilities, and nearly one billion people do not have access to safe drinking water. This unhealthy environment allows diarrhea-causing pathogens to spread more easily (4)

Educational Media or Learning Media is anything that can be used to channel messages from the sender to the recipient, so that it can stimulate the thoughts, feelings, attention and interests of students so that the learning process occurs. Educational media or learning media is one of the learning components that has an important role in teaching and learning activities. The accuracy of using learning media can affect the quality of the process and the results to be achieved. Researchers use learning media in the form of visual media based on learning videos about diarrhea. Audio visual media is a tool used to convey information through two elements, namely sound and image elements, so that it can be heard through the sense of hearing and can be seen through the sense of sight that allows a person to gain knowledge, skills and attitudes to achieve the learning objectives to be achieved. (5)

Knowledge is the result of human sensing of observed objects so that through this process there is an increase in new knowledge. Knowledge has six levels ranging from knowing, understanding, applying, analyzing and synthesizing, evaluating to creating. (7) Maternal factors play a major role in the incidence of diarrhea in toddlers. If a toddler suffers from diarrhea, the steps and actions taken by the mother will determine the morbidity of the toddler. Knowledge about the assessment, management and practice of prevention and control of diarrheal diseases among mothers is significantly still not good enough so that the need for mothers who have knowledge about diarrhea becomes a determinant in the health sector on how to achieve a healthy life, how to maintain health, how to avoid diseases that will affect the reduction of mortality and mordibitas due to diarrheal diseases. Then through this knowledge can cause awareness that makes people behave and take attitudes according to their knowledge[2]Based on the description above, the researcher wants to examine the effect of education with audio-visual media on maternal knowledge about diarrhea in toddlers in hamlet five megaria Pelauw village.

## METHODS

This research was conducted in Dusun Lima, Pelauw Village. This type of research is quantitative research using the *pre-experimental* design method, namely the *one group pre-test* and *post-test design* approach. This research was conducted by giving an initial *pretest* (initial observation) first before being given an intervention and then a *post test* (final observation). The sample is part of the number and characteristics possessed by the population (Sugiyono, 2019) the sample in this study were mothers who had toddlers as many as 45 respondents.

## RESULTS

### Univariate (Respondent characteristics)

**Table 1**  
**Frequency Distribution of Respondents Based on**  
**Age of Mothers in Hamlet Five in Pelauw Village**  
**Year 2024**

<b>Mother's Age</b>	<b>N</b>	<b>%</b>
20-30 years	26	57.8
31-40 years old	17	37.8
41-50 years old	2	4.4
<b>Total</b>	<b>45</b>	<b>100.0</b>

*Source: Primary Data*

Based on the results of table 1 above, it explains that the age of respondents 20-30 years totaled 26 people (57.8%), 31-40 years totaled 17 people (37.8%), 41-50 years totaled 2 people (4.4%), a total of 45 (100%).

**Table 2**  
**Frequency Distribution of Respondent Characteristics**  
**Education Level of Mothers in Dusun Lima**  
**Megaria Pelauw Village in 2024**

<b>Education Level</b>	<b>n</b>	<b>%</b>
Graduated from senior high school / equivalent Diploma /S1	39	86.7
	6	13.3
<b>Total</b>	<b>45</b>	<b>100.0</b>

*Source: Primary Data*

Based on the results of table 2 above, it explains that the level of graduating high school / equivalent amounted to 39 (86.7%), the level of Diploma / S1 amounted to 6 people (13.3%), a total of 45 (100%).

**Table 3**  
**Frequency Distribution of Respondent Characteristics According to**  
**Type of Mother's Occupation in Dusun Lima Megaria**  
**Pelauw Village in 2024**

Type of Work	n	%
Housewife	39	86.7
PNS	4	8.9
Merchant	2	4.4
<b>Total</b>	<b>45</b>	<b>100.0</b>

*Source: Primary Data*

Based on the results of table 3 above, it explains that the types of work of housewives are 39 people (86.7%), civil servants are 4 people (8.9%), traders are 2 people (4.4%), a total of 45 (100%).

### Maternal Knowledge Before Education Using Audio Visual Media

**Table 4**  
**Distribution of Respondents Based on Maternal Knowledge**  
**Educated Using Audio Visual Media**

Pre-Test Knowledge	n	%
Good	8	17,8
Simply	29	64,4
Less	8	17,8
<b>Total</b>	<b>45</b>	<b>100</b>

*Source: Primary Data*



Based on table 4, it can be seen that most mothers' knowledge before being given education using audio-visual media is sufficient with a total of 29 people (64.4%), and the least is good and less, totaling 8 people (17.8%).

### Maternal Knowledge After Education Using Audio Visual Media

**Table 5**  
**Distribution of Respondents Based on Maternal Knowledge After Educated Using Audio Visual Media**

Post-Test Knowledge	n	%
Good	45	100
<b>Total</b>	<b>45</b>	<b>100</b>

Source: Primary Data

Based on table 5, it can be seen that the results of maternal knowledge after being given education using audio-visual media increased, namely 45 (100%).

### Bivariate

#### Normality Test

Normality test is a statistical test used to test whether the observed data is normally distributed or not. The data used in this study were Pre-test and Post-Test data which were tested using the Shapiro-Wilk normality test as follows:

**Table 6**  
**Tests of Normality**

Group	Kolmogrov-Smirnov			Shapiro-Wilk		
	Statistic	Df	Sig.	Statistic	Df	Sig.
Pre-Test	.287	45	.000	.832	45	.000
Post-Test	.434	45	.000	.613	45	.000

Based on table 6, the significance result (2-tailed) is 0.000 so that  $0.000 > 0.05$ , so this research data is said to be abnormally distributed so that the Wilcoxon test must be carried out.

**Table 7**

**Wilcoxon Test Results  
Test Statistic**

<b>Post-Test Knowledge-Pre-Test Knowledge</b>	
Z	-5.646
Asymp. Sig. (2-tailed)	.000

Data is acceptable if the Asymp. Sig  $< 0.05$ . It can be seen in the table above that the Wilcoxon test results have a significance value of 0.00 so that the hypothesis is accepted. Therefore it can be concluded that there is an effect of education using audio-visual media on maternal knowledge about diarrhea.

## **DISCUSSION**

### **Maternal knowledge before education using audio-visual media about diarrhea in hamlet five megaria village pelauw 2024.**

Before given counseling health with audiovisual media mothers under five diarrhea in the control group and treatment group have similar characteristics, namely age, education, income, experience, and information. Knowledge and attitudes before the intervention also have similarities. The provision of health counseling with this media was conducted once and continued with discussion. Discussion was conducted if there were questions from respondents about the video played. The results



of the research conducted showed that the mother's knowledge before being given education using audio visuals was in the sufficient category with a frequency of 29 (64%), while in the good and poor categories had the same frequency of 8 (17.8%). From the results of the study before providing knowledge education about diarrhea they did not know and understand related to diarrhea, the causes of diarrhea, symptoms and how to prevent diarrhea. From a total of 10 questions, respondents only answered a few questions, which increased the prevalence of diarrhea. This is in line with the research of obtained the results of the study before the Pre-Test was given health education (education) about diarrhea in the majority of research respondents had a sufficient level of knowledge about preventing diarrhea in toddlers (7)

Based on research conducted that the majority of respondents have sufficient knowledge (50%), good knowledge (32.4%), and poor knowledge (17.6%) From the results of the description above, the authors assume that before provided knowledge education about diarrhea to mothers in Dusun Lima Megaria, they did not really know and did not understand what diarrhea was, the causes of diarrhea, symptoms, and how to prevent diarrhea. Then from these results the author analyzes that from a total of 10 statements in the questionnaire, respondents were only able to answer a few questions. and this is what underlies the increased prevalence of diarrhea in Dusun Lima Megaria in Pelauw Village in 2024. (4)

State that health education is the application or application of education in the health sector. Operationally, health education is all activities to provide and improve knowledge, attitudes, and practices of individuals, groups or communities in maintaining and improving public health. Health education intervention is one of the actions that can improve the knowledge and behavior of individuals, groups or communities. Health

education is a set of experiences that support habits, attitudes and knowledge related to the health of individuals, communities and races. (6)

### **Maternal knowledge after education using audio-visual media about diarrhea in Dusun Lima Megaria, Pelauw village 2024**

The results of research by researchers obtained knowledge of mothers increased after being given education (intervention) which is in the good category, namely 45 (100%), Then from these results it can be seen that the mother's knowledge increased after being given education using audio-visual media about diarrhea in the village of five megaria Pelauw village in 2024. This research is supported that the knowledge and attitudes of cadres after being given education about diarrhea to the knowledge and attitudes of cadres in efforts to prevent diarrhea in toddlers has increased with positive results as many as 16 respondents (46.7). The increase is interpreted as the result of health counseling with audiovisual media and continued with discussions given, because the characteristics of the initial respondents are the same. The selection and use of media is one of the important components (8)

This research is supported by the results of research in which the knowledge of group test respondents after being given health education with audio-visual media obtained the average value of student knowledge is 20 children or 64.5% categorized as good. This shows that students have good knowledge about diarrhea because students are interested and pay close attention to the video provided (9).

This study is in line with research where respondents' knowledge of diarrhea before and after being given health education increased significantly from poor and sufficient knowledge to good and very good knowledge. The increase in the average knowledge score

of the health counseling group with the help of video media before and after the intervention provides positive results, which indicates that the use of media in the learning process encourages the acquisition of new information (10).

**The effect of education using audio-visual media on maternal knowledge about diarrhea in toddlers in hamlet five megaria Pelauw village in 2024.**

The selection of audiovisual as a media for health counseling can be accepted well by respondents. This media offers counseling that is more interesting and not monotonous. Counseling with audiovisual displays motion, images and sound while counseling with printed media displays the writing and voice of the extension worker directly which makes it seem formal. At the time of the implementation of the research, because this media is fairly new most large respondents, have great curiosity towards the contents of the video and watch the video until it is finished seriously (11).

Based on the results of the analysis of the Effect of Education using Audio Visual Media on Maternal Knowledge About Diarrhea in Toddlers in Dusun Lima Megaria in Pelauw Village in 2024, from the results of the *Wilcoxon test* the respondents' knowledge increased by 45. This study provided intervention video two times for the treatment group and one time for the control group. The results showed a difference in knowledge between the treatment group and the control group. This research is supported by the research from the results of the Wilcoxon test obtained results with p-value = 0.000 < 0.05, it can be concluded that there is an effect of health education using video on maternal knowledge about diarrhea in toddlers at the mamboro health center (12).

The increase in knowledge and attitude of mothers after given treatment is a result of the provision of health education with audiovisual media. Thus audiovisual media as an effective health education media used to provide increased knowledge to mothers and change the attitude of mothers for the better. This is supported by research with the title of the effect of video education media on mothers' knowledge about diarrhea in the hamlet of jumeneng kidul, Sumberadi village in the working area of the melati II health center. This research method is quantitative using a *pre-experiment* research design with *one group pre-test and post-test*. The results of the *Wilcoxon test* show a significant value of  $p\text{-value } 0.000 < 0.05$  so that there is an effect of video education media on maternal knowledge about diarrhea in toddlers in Jumeneng Kidul village Sumberadi. (7)

This study is in line with research conducted that the results of the paired t test analysis have a significance value of 0.000 ( $p\text{ value } < 0.05$ ). so it can be concluded that there is an effect of video method health education on the level of knowledge about diarrhea in children. From the results of the description above, the researcher assumes that this occurs because when health education is given to the intervention group or respondents, the mother really pays attention and understands what is conveyed by the researcher about diarrhea, based on the assumptions of researchers seen from several research results that have been done before health education is proven to increase a person's knowledge, because the factors that can affect health education are the material giver, media, counseling, and the target given the intervention (5) . So the conclusion is that there is a *significant* influence after respondents are given education or  $H_a$  is accepted meaning that there is an effect of education using audio-visual media on maternal knowledge about diarrhea in toddlers in Dusun Lima Megaria Pelauw Village in 2024.

Health education is a process of planned behavior change in individuals, groups, or communities to be more independent in achieving the goal of healthy living (13). Health education is in the form of activities carried out by spreading messages, instilling confidence, so that people are not only aware, know and understand, but also want and can do a recommendation that has to do with health (14,15). The result of health education is the increased ability of individuals, groups, and communities to foster and maintain healthy behavior physically, mentally and socially to achieve the goal of healthy living. (8)

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