

Improving the Knowledge of Mothers Who Have Babies About Complete Basic Immunization with Animated Audio Visual Media and Leaflets in Kilmuri District, East Seram Regency

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ABSTRACT

The main obstacle to the success of infant and child immunization is the low awareness influenced by the level of knowledge of mothers in bringing their babies to be immunized and the absence of a sense of community need for immunization. This study aims to determine the increase in knowledge of mothers who have babies about complete basic immunization with *animated audio visual media* and *leaflets* in Kilmuri District, East Seram Regency. The type of analytical research with the type of *Pre Experimental Designs*, one *group pretest* and *posttest*. The population was 47 mothers who had babies, a sample of 47 respondents taken using *total sampling*. The independent variables are Animated Audio Visual Media and Leaflets and the dependent variable is the mother's knowledge . The research instrument is a questionnaire. Data were analyzed using the *t-dependent test*. The results showed that most of the respondents' knowledge about complete basic immunization before being given animated audio visual media and leaflets was low, which was 31 respondents (65.9%). And most of the respondents' knowledge about complete basic immunization after being given animated audio visual media and leaflets was high, which was 35 respondents (74.5%). Based on the T-test results table, the sig value (0.000) has a value <0.05. So it can be concluded that H_a is accepted and H_o is rejected, which means that there is an influence of the use of Animated Audio Visual Media and Leaflets in increasing mothers' knowledge about complete basic immunization in Kilmuri District, East Seram Regency. Based on the results of the study, it was concluded that there was an increase in the knowledge of mothers who had babies about complete basic immunization before and after being given animated audio visual media and leaflets.

Keywords: Animation, Audio, Immunization, Leaflet, Knowledge

INTRODUCTION

One form of intervention that can realize the level of public health is through immunization. Immunization is one of the prevention of infectious diseases, especially Immunization-Preventable Diseases (PD31) which are given to children since they are babies. How immunization works is by providing certain bacterial or viral antigens that have been weakened or killed with the aim of stimulating the body's immune system to form antibodies. Antibodies formed after immunization are useful for actively creating / increasing the baby's immunity so that it can prevent or reduce the effects of transmission of Immunization-Preventable Diseases (PD31) (Ministry of Health, 2016).

World Health Organization (WHO) program , the government requires immunization. The immunizations are BCG, DPT-HB, Polio, Measles and Hepatitis. The five immunizations are known as the five complete basic immunizations which are mandatory immunizations for children under 1 year old. The number and interval of each immunization varies, including one BCG immunization given when the baby is less than 3 months old, DPT-HB immunization given when the baby is 2,3,4 months old with a minimum interval of 4 weeks, polio immunization given to newborns and the next three times given with a minimum interval of 4 weeks. Measles immunization is given to babies aged 9 months (Lisnawati, 2014).

Basic immunization is a mandatory immunization for ages 0-12 months consisting of five basic immunizations, namely BCG, DPT-HB, Polio, Measles, and Hepatitis. Children who do not receive five complete basic immunizations are at greater risk of contracting infectious diseases such as tuberculosis, measles, tetanus, pertussis, diphtheria and polio. These infectious diseases can cause disorders in children's growth and development, cause disabilities that can reduce their quality of life and cause death (Ministry of Health, 2018).

Based on WHO data (2019) almost 20 million children are unvaccinated and incompletely vaccinated. Most of the missing children are those living in the poorest, most marginalized and conflict-affected communities. in the world today there are around 116.2 million children who have received complete vaccination (WHO, 2019).

Based on data from the Ministry of Health in 2018, basic immunization coverage in Indonesia was 81.99% with the highest coverage in South Sumatra Province at 100% and the lowest basic immunization coverage in Papua Province at 30.36%.

For Maluku Province itself, basic immunization coverage is 88.10% and basic immunization coverage in Kilmuri District, East Seram Regency is 52.1%.

The main obstacle to the success of infant and child immunization is the low awareness influenced by the level of knowledge of mothers in bringing their babies to be immunized and the absence of a sense of community need for immunization. Knowledge is a very important domain for the formation of infant actions (*overt behavior*), to improve maternal knowledge, health education is needed so that maternal perceptions become better Fangidae (2016).

Health education has an important role in changing people's behavior so that it creates positive behavior from the community. Therefore, health behavior is closely related to health education with the need for strategic intervention through health education. Health education is inseparable from the media because through the media the message conveyed is more interesting. *Leaflets* themselves are printed media that have the advantage of providing information in general with short, concise and clear sentences and are considered more practical (Faridah, 2019).

Health education or health education is always carried out using media or tools. Media comes from the Latin word "medius" which means "intermediary" or "introduction" which has a function to help communication between communicators and communicants. The development of the globalization era has a major role in educational media that is increasingly creative and innovative. This development makes it easier for communicators to present information or education. Likewise, anyone can access information or education anywhere and anytime online without having to meet face to face (I Nyoman Gejir et al., 2017).

Based on data from the Kilmuri Health Center in 2021, out of 112 targets, 7 babies (6.5%) were immunized with Hb0, 43 babies (40.0%) were immunized with BCG, 64 babies (59.6%) were immunized with DPTHB HiB 1, 80 babies (74.5%) were immunized with DPTHB HiB 2, 76 babies (70.7%) were immunized with DPTHB HiB 3, 47 babies (43.7%) were immunized with Polio 1, 64 babies (59.6%) were immunized with Polio 2, 80 babies (74.5%) were immunized with Polio 3, 72 babies (64.9%) were immunized with Polio 4 and measles 57 (53.0%).

The low coverage of immunization in the Kilmuri Health Center work area is partly due to the lack of health education and knowledge of mothers about immunization. One of the efforts to increase knowledge that has been done to bring children to immunization is to provide health education to mothers of babies with a lecture method so that mothers are less interested in participating in health education.

The results of an initial survey by researchers at the Kilmuri Health Center from February 14-16, 2022, of 10 mothers with babies showed that 4 mothers had never received health education about basic immunization at the integrated health post. 6 mothers said they had received health education about basic immunization at the integrated health post, but only 4 mothers had complete basic immunization for their babies, while 2 other mothers said they only received counseling after their babies were 7 months old, so it was too late to give their babies immunizations.

Based on the data, the researcher is interested in providing health education since pregnancy because mothers need to get health education as early as possible. So the author feels the need to research "Increasing the Knowledge of Mothers Who Have Babies About Complete Basic Immunization with Animated Audio Visual Media and Leaflets in Kilmuri District, East Seram Regency"

METHODS

This type of research is descriptive analytical quantitative. The research design used in this study is pre-experimental (*Pre Experimental Designs*), using one *group pre-test* and *post-test* to determine the increase in knowledge of mothers who have babies about complete basic immunization with *animated audio-visual media* and *leaflets* . The population in this study were all mothers who had babies in Kilmuri District, East Seram Regency, totaling 47 respondents, while the sample was 47 respondents. The sampling method used total sampling technique. Data collection used questionnaires. Statistical tests used dependent T-test.

RESULTS

1. General Data

a. Respondent Characteristics Based on Age

The frequency distribution of respondents based on age in Kilmuri District is as follows:

Respondent Age Frequency Percentage (%)		
<20	8	17
20 – 35	29	61.8
>35	10	21.2
Amount	47	100.0

Figure 1 Frequency distribution of respondents by age

Based on figure 1 above, it shows that most parents are aged 20-35 years, namely 29 respondents (61.8%).

b. Respondent Characteristics Based on Education

The frequency distribution of respondents based on respondent education in Kilmuri District is as follows:

Education	Frequency	Percentage (%)
No school	13	27.7
SD	15	32

JUNIOR HIGH SCHOOL	8	17
SENIOR HIGH SCHOOL	8	17
College/Academy	3	6.3
Amount	47	100.0

Figure 2. Frequency distribution of respondents based on education

Based on the table above, it shows that the majority of respondents have elementary school education, namely 15 respondents (32%).

c. Respondent Characteristics Based on Occupation

The frequency distribution of respondents based on respondent occupation in Kilmuri District is as follows:

Work	Frequency	Percentage (%)
Housewife	42	89.4
Self-employed	2	4.3
Honorary/Contract	3	6.3
civil servant	0	0
Amount	47	100.0

Figure 3. Frequency distribution of respondents based on occupation

Based on the table above, it shows that the majority of respondents work as housewives, namely 42 respondents (89.4%).

2. Special Data

a. Mother's Knowledge About Complete Basic Immunization Before It Is Given *Audio Visual Media Animation and Leaflets*

Mothers' knowledge about Complete Basic Immunization before being given Animated Audio Visual Media and Leaflets is as follows:

No	Knowledge	Frequency	Percentage (%)
1	Low	31	65.9
2	Tall	16	34.1
Total		47	100

Figure 4. Frequency distribution of mothers' knowledge about Complete Basic Immunization before being given Leaflet Media and Animated Audio Visuals

Based on the table above, it shows that the majority of respondents' knowledge about complete basic immunization before being given animated audio-visual media and leaflets was low, namely 31 respondents (65.9%).

b. Mother's Knowledge About Complete Basic Immunization After Being Given *Audio Visual Animation and Leaflet Media*

Mothers' knowledge about Complete Basic Immunization after being given Animated Audio Visual Media and Leaflets is as follows:

No	Knowledge	Frequency	Percentage (%)
1	Low	12	25.5
2	Tall	35	74.5
Total		47	100

Figure 5. Frequency distribution of mothers' knowledge about Complete Basic Immunization after being given Animated Audio Visual Media and Leaflets

Based on the table above, it shows that the majority of respondents' knowledge about complete basic immunization after being given animated audio-visual media and leaflets was high, namely 35 respondents (74.5%).

3. Cross Tabulation of General Data and Specific Data Before Being Given Animated Audio Visual Media and Leaflets

1. Age

Age * Pre Test Crosstabulation Value

Count		Pre Test Score		Total
		< 56	> 56	
Age	< 20 Years	5	3	8
	20 - 35 Years	18	11	29
	> 35 Years	8	2	10
Total		31	16	47

Figure 6. Age and Mother's Knowledge of Complete Basic Immunization before being given Animated Audio Visual Media and Leaflets

Based on the table above, it shows that based on age, the majority of respondents' knowledge about complete basic immunization before being given animated audio-visual media and leaflets was high at the age of 20-35 years, namely 11 people.

2. Education

Education * Crosstabulation Pre Test Scores

Count		Pre Test Score		Total
		< 56	> 56	
Education	No school	12	1	13
	SD	13	2	15
	JUNIOR HIGH SCHOOL	2	6	8
	SENIOR HIGH SCHOOL	4	4	8
	PT	0	3	3
Total		31	16	47

Figure 7. Education with Mother's Knowledge about Complete Basic Immunization before being given Animated Audio Visual Media and Leaflets

Based on the table above, it shows that based on education, most of the respondents' knowledge about complete basic immunization before being given animated audio-visual media and leaflets, all of whom answered correctly were in the PT education category, namely 3 respondents.

3. Work

Job * Pre Test Crosstabulation Value

Count		Pre Test Score		Total
		< 56	> 56	
Work	Housewife	30	11	41
	Self-employed	1	2	3
	Contract	0	3	3
Total		31	16	47

Figure 8. Jobs with Mother's Knowledge about Complete Basic Immunization before being given Animated Audio Visual Media and Leaflets

Based on the table above, it shows that based on work, most of the respondents' knowledge about complete basic immunization before being given animated audio-visual media and leaflets, all of whom answered correctly were in the Contract Work category, namely 3 respondents.

4. Cross Tabulation of General Data and Specific Data After Being Given Animated Audio Visual Media and Leaflets

1. Age

Age * Post Test Crosstabulation Value

Count		Post Test Score		Total
		< 56	> 56	
Age	< 20 Years	3	5	8
	20 - 35 Years	4	25	29
	> 35 Years	5	5	10
Total		12	35	47

Figure 9. Age and Mother's Knowledge of Complete Basic Immunization after being given Animated Audio Visual Media and Leaflets

Based on the table above, it shows that based on age, the majority of respondents' knowledge about complete basic immunization after being given animated audio-visual media and leaflets was high at the age of 20-35 years, namely 25 people.

2. Education

Education * Post Test Crosstabulation Score

Count		Post Test Score		Total
		< 56	> 56	
Education	No school	7	6	13
	SD	5	10	15
	JUNIOR HIGH SCHOOL	0	8	8
	SENIOR HIGH SCHOOL	0	8	8
	PT	0	3	3
Total		12	35	47

Figure 10. Education with Mother's Knowledge about Complete Basic Immunization after being given Animated Audio Visual Media and Leaflets

Based on the table above, it shows that based on education, the majority of respondents' knowledge about complete basic immunization after being given animated audio-visual media and leaflets, those who answered correctly were all in the PT education category, namely 3 respondents.

3. Job

Job * Post Test Crosstabulation Score

Count		Post Test Score		Total
		< 56	> 56	
Work	Housewife	12	29	41
	Self-employed	0	3	3
	Contract	0	3	3
Total		12	35	47

Figure 11. Jobs with Mother's Knowledge of Complete Basic Immunization after being given Animated Audio Visual Media and Leaflets

Based on the table above, it shows that based on work, most of the respondents' knowledge about complete basic immunization after being given animated audio-visual media and leaflets who answered correctly were all in the Contract Work and Self-Employed categories, namely 3 respondents.

5. Cross Tabulation of Mother's Knowledge Based on Age, Education and Occupation about Complete Basic Immunization Before and After Being Given Audio Visual Animation and Leaflets

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Age	47	1	3	2.04	.624
Education	47	1	5	2.43	1.247
Pekerjaan	47	1	3	1.19	.537
Nilai Pre Test	47	1	2	1.34	.479
Kategori Pre Test	47	1	2	1.34	.479
Nilai Post Test	47	1	2	1.74	.441
Kategori Post Test	47	1	2	1.74	.441
Valid N (listwise)	47				

Figure 12. Analysis of Mothers' Knowledge Based on Age, Education and Occupation about Complete Basic Immunization Before and After Being Given Audio Visual Animation and Leaflet Media

Based on the table above, the mean value of the pre-test was 1.34 with a standard deviation of .479, while in the post-test the mean value was 1.74 with a standard deviation of .441.

Data analysis

Tests of Normality								
	Audio Visual Animation and Leaflet	Kolmogorov-Smirnov ^a			Shapiro Wilk			
		Statistics	Df	Sig.	Statistics	Df	Sig.	
	Pre Test	.155	47	.007	.915	47	.002	

Audio Visual Animation and Leaflet	Post Test	.131	47	.043	.947	47	.032
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a. Lilliefors Significance Correction

Figure 13. Results of the Analysis of Knowledge of Mothers Who Have Babies About Complete Basic Immunization Before and After Being Given Animated Audio Visual Media and Leaflets in Kilmuri District, East Seram Regency

the Tests of Normality analysis above, the p value of the variable was obtained = $0.43 > \alpha$ (0.05), so H_0 is rejected and H_1 is accepted, which means there is an increase in the knowledge of mothers who have babies about complete basic immunization with animated audio-visual media and leaflets in Kilmuri District, East Seram Regency.

Table 4.14 Results of the Analysis of Knowledge of Mothers Who Have Babies About Complete Basic Immunization Before and After Being Given Animated Audio Visual Media and Leaflets in Kilmuri District, East Seram Regency Based on the T-Test

Paired Samples Test

		Paired Differences				t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference			
					Lower	Upper		
Pair 1	Pre Test - Post-Test	-28,383	14,972	2,184	-32,779	-23,987	-12,997	.000

Figure 14. Results of the Analysis of Knowledge of Mothers Who Have Babies About Complete Basic Immunization Before and After Being Given Animated Audio Visual Media and Leaflets in Kilmuri District, East Seram Regency

Based on the T-test results table, the calculated T value (12.997) has a value $>$ T Table 2.021 and the sig value (0.000) has a value $<$ 0.05. So it can be concluded that H_a is accepted and H_0 is rejected, which means that there is an average difference between the results of the mother's knowledge in the Pre-Test and Post-Test, which means that there is an influence of the use of Animated Audio Visual Media and Leaflets in increasing mother's knowledge about complete basic immunization.

DISCUSSION

Based on the results of the cross tabulation between Age and Mother's Knowledge About Complete Basic Immunization, it is known that before being given Animated Audio Visual Media and Leaflets, it is high at the age of 20-35 years, which is 11 people. Based on the results of the cross tabulation between Education, most of the respondents' knowledge about complete basic immunization before being given animated video visual media and leaflets who answered correctly were all in the PT education category, which is 3 respondents. And based on the results of the cross tabulation between Occupation, most of the respondents' knowledge about complete basic immunization after being given animated video visual media and leaflets who answered correctly were all in the Contract Work and Self-Employed categories, which are 3 respondents. The analysis shows that there is a significant relationship between age, parental education level and parental occupation with the provision of complete basic immunization to infants. This shows that the older the age, the higher the education and the better the job will affect the mother's knowledge about providing complete basic immunization to infants.

Notoatmodjo (2019), knowledge is the result of knowing and this occurs after people sense a particular object. Sensing occurs through the five human senses, namely: the senses of sight, hearing, smell, taste and touch. Most human knowledge is obtained through hearing and sight. Knowledge is the basis for the formation of a person's actions. Knowledge is theoretically a predisposing factor for behavior, such as knowledge about complete basic immunization. A person's knowledge is influenced by information factors, with new information about something providing a new cognitive foundation for the formation of attitudes towards the new thing. Sufficiently good information from various media can increase a person's knowledge (Widuri, 2021).

According to researchers, the low level of maternal knowledge about complete basic immunization in infants is caused by the mother's education level so that the information given to the mother cannot be accepted by the mother. Providing health education with animated audio-visual media and leaflets is one very effective way to increase maternal knowledge about complete basic immunization, by using these media mothers become interested in participating in health education and understand the benefits of basic immunization for infants through video displays and leaflets because so far mothers have only received health education using lecture media. Mothers are very interested in pictures and language that are easy to understand so that mothers find it easier to understand the contents of animated audio-visuals and leaflets. Mothers need to get information about basic immunization to increase their knowledge, with good knowledge it is hoped that mothers can provide basic immunization to babies according to the schedule given by health workers.

Based on the results of cross tabulation between ages, most of the respondents' knowledge about complete basic immunization after being given animated visual video media and leaflets was high at the age of 20-35 years, which was 25 people. Based on the results of cross tabulation between Education, most of the respondents' knowledge about complete basic immunization after being given animated visual video media and leaflets who answered correctly were all in the Contract Work and Self-Employed categories, which were 3 respondents. And based on the results of cross tabulation between Occupation, most of the respondents' knowledge about complete basic immunization before being given animated visual video media and leaflets who answered correctly were all in the Contract Work category, which was 3 respondents.

The basic concept of education is a learning process that means changes towards being more mature, better and more mature in individuals, families and communities. Education is very important in influencing knowledge. Individuals who have a high level of education tend to be more receptive to information as well as information about immunization provided by health workers, conversely mothers with low levels of education will have difficulty in receiving the information available so that they do not understand the completeness of immunization. Different people's education will also affect someone in decision making, in mothers with high education it is easier to accept a new idea than mothers with low education so that information can be more easily accepted and implemented. The level of education obtained by someone from formal school can affect a person's knowledge. Health education can help mothers or community groups in addition to increasing knowledge also to improve their behavior to achieve optimal health. The level of education and knowledge of mothers greatly influences the implementation of child/baby immunization activities, both formal and non-formal education.

This is because the mother has been given information about the side effects of immunization. Information obtained from both formal and non-formal education can provide a short-term impact (immediate impact) resulting in changes or increased knowledge (Notoatmodjo, 2003).

Leaflet media is considered effective in changing respondents' mindsets regarding complete basic immunization coverage in children.

According to researchers, one strategy to achieve behavioral change is to provide information to increase knowledge so as to raise awareness and this can be done by providing health education.

Based on the T-test results table, the calculated T value (12.997) has a value $> T$ Table 2.021 and the sig value (0.000) has a value < 0.05 . So it can be concluded that H_a is accepted and H_o is rejected, which means that there is an average difference between the results of the mother's knowledge in the Pre-Test and Post-Test, which means that there is an influence of the use of Animated Audio Visual Media and Leaflets in increasing mother's knowledge about complete basic immunization in Kilmuri District, East Seram Regency.

Knowledge is the result of knowing that occurs after someone senses a particular object. Most knowledge is obtained through the senses of sight and hearing. Knowledge is needed to create self-confidence and attitudes and behavior every day, so it can be said that knowledge is a very important domain in the formation of a person's actions. Knowledge about a disease can affect a person's perception of a disease which can ultimately affect a person's behavior to reduce the threat of a disease. People who have knowledge about something will apply their knowledge in their daily lives, as well as the problem of immunization, parents/mothers with high knowledge about immunization will provide complete basic immunization to their babies and pay attention to when is the right time to give the immunization. Likewise, mothers who have low knowledge will not know what should be done to their babies, especially regarding immunization. Therefore, the action that can be taken to increase parental knowledge is to strive for routine counseling to the community, especially mothers who have babies, this counseling can be carried out at the Health Center, Integrated Health Posts both individually and in groups. Counseling can also be done by distributing leaflets/posters or social media.

According to the researcher's opinion, efforts that can be made related to the problem of providing complete basic immunization are to increase routine counseling to the community, especially mothers who have babies, either individually or in groups. Individual counseling can be carried out during immunization activities, while group counseling can be carried out at certain times according to a predetermined schedule. Counseling can also be done by distributing leaflets, putting up posters or through social media. Counseling materials that can be provided include the importance of immunization, the side effects of immunization and the content of immunization given to babies so that they can change the negative perception of the community about immunization. In addition, health workers can also train posyandu cadres so that cadres can also provide counseling to the community.

CONCLUSION

Based on results study Before given animated audio visual media and knowledge leaflets Mother about immunization base complete in the District Kilmuri is low which is 65.9%. After given animated audio visual media and knowledge leaflets Mother about immunization base complete in the District Kilmuri is tall which is 74.5%. And the results of the data analysis show The calculated T value (12,997) has value $> T$ Table 2.021 and the sig value (0.000) has value < 0.05 . Then it can be concluded that H_a is accepted and H_o is rejected which means that There is the average difference between results knowledge Mother Pre Test with Post Test

which means There is influence Use of Audio Visual Media Animation and Leaflets in increase knowledge Mother about immunization base complete .

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