JURNAL KESEHATAN BUDI LUHUR
P-ISSN: 1978-8479
E-ISSN: 2581-0111
Published By: STIKes Budi Luhur Cimahi

The Effectiveness of Audio-Visual Media and Flip Sheets on Cadres' Knowledge, Attitude and Skills in Screening Children's Growth and Development

Agus Riyanto[1], Novi Mauliku[1], Yani Suryani[1], Budiman[1], Dyan Kunthi[1]

[1]Universitas Jenderal Achmad Yani, Cimahi, Indonesia

ABSTRACT

The problem of stunting in Indonesia is still a national concern, stunted children are at higher risk of developing degenerative diseases, such as cancer, diabetes, obesity and cognitive impairment. Analyzing the Effectiveness of Audio-Visual Media and Flip Sheets in increasing the Knowledge, Attitudes and Skills of cadres in conducting child growth and development screening in the Cianjur Regency City Health Center area. Research design with a Quasi Experimental approach. The total sample size was 84, divided into 2 groups with a ratio of 1:1. The statistical analysis used is univariate, bivariate using the paired sample T test and Wilcoxon test, Multivariate using the multiple logistic regression test. The results showed significant difference in knowledge (p-value=0.001), attitude (p-value = 0,001) and skills (p-value = 0,001) before and after being given audiovisual media in the intervention group. And there is a significant difference in knowledge (p-value = 0.013); attitude (p-value = 0.026); and skills (p-value =0.001) in the intervention group and control group. The results of research using the multiple logistic regression test showed that there were confounding variables, namely age and education on attitudes and skills, while there were no confounding variables on knowledge. Therefore, it can be concluded that audiovisual media is effective in increasing the knowledge and skills of cadres. Therefore, audiovisual media can be used to increase cadres' knowledge and skills in screening children's growth and development.

Keywords: audiovisual media, flip sheets, knowledge, attitudes, and skills.

Correspondence:
Yani Suryani
Universitas Jenderal Ahmad Yani
Email address nayanieyani@gmail.com

How to cite:
Riyanto, A., Mauliku, N., Suryani, Y., Budiman, & Kunthi, D. (2026). The effectiveness of audio-visual media and flip sheets on cadres' knowledge, attitude and skills in screening children's growth and development. *Jurnal Kesehatan Budi Luhur: Jurnal Ilmu-Ilmu Kesehatan Masyarakat, Keperawatan, dan Kebidanan*, 19(1), 162–172. https://doi.org/10.62817/jkbl.v19i1.434

INTRODUCTION

Stunting is a condition in which a child experiences growth disorders, so that the child's height does not match his age as a result of chronic nutritional problems, namely a lack of nutritional intake for a long time (Rahman et al., 2023). Stunting is associated with an increased risk of morbidity and mortality, decreased physical abilities, developmental disorders, and motor and mental functions of children. The World Health Organization (WHO) estimates child malnutrition for indicators of stunting, wasting, overweight, underweight describe the magnitude and pattern of malnutrition and excess nutrition. In 2022, there were 148.1 million children under

5 years of age who were too short for their age (stunting), 45.0 million children were too thin for their height (wasting) and 37.0 million children were too heavy for their height (overweight) (WHO, 2023).

The results of the study, which were reported by IDAI in 2020, estimated that 5-10% of Indonesian children experience developmental delays (Khadijah et al., 2022). The problem of stunting in Indonesia is a problem that has become a national concern. The prevalence of stunting in Indonesia has decreased from 24.4% in 2021 to 21.6% in 2022. However, it is still a problem because stunted children are at higher risk of developing degenerative diseases, such as cancer, diabetes, obesity, and cognitive disorders. The stunting rate in West Java decreased by 24.4% in 2021 to 21.6% in 2022. Meanwhile, in Cianjur Regency, the stunting rate in 2022 decreased by 20.1% compared to the 2021 Indonesian Nutritional Status Survey (SSGI) from 33.7% to 13.6%.

In the study of Arini et al in Surabaya, children with stunting stated that the degree of stunting is related to cognitive and motor development. The sample consisted of 145 children, the results of the study showed that there was a relationship between the degree of stunting and impaired motor development.(Arini et al., 2019) In Nahar et al's 2019 study in Bangladesh, 265 children aged 6-24 months were evaluated by trained psychologists and the results showed that stunted children had ECD scores (z-scores obtained from cognitive, motor skills).k, Language, and socio-emotional) were lower than children who were not stunted in terms of cognitive (p=0.049), psychomotor (p=0.001), Language (p=0.001) and socio-emotional (p=0.038). The results of this study indicate that children who experience stunting, underweight and thin are affected by the same impact. Continuous coaching and evaluation efforts are needed so that cadre skills improve and posyandu performance improves. Based on the impacts caused by stunting, efforts are needed to increase knowledge related to child growth and development screening.

Midwives and traditional birth attendants are an important part of the community that is strategic enough to be involved in this activity, because they are very close to mothers and the community .(Nugroho et al., 2021) Posyandu cadres play an important role in improving community welfare in posyandu activities to local residents through counseling by bringing together agreed communities and disseminating health information and assistance to monitor and monitor activities (Esli Zuraidah Siregar, 2021). Because the role of posyandu cadres is very important, there are things that influence the practice of cadres in their services. Characteristics greatly influence their behavior, namely Presdisposing factors including age, education, occupation and length of time as a cadre (Purba & Sugiantini, 2023).

Good health promotion media can support the effectiveness of delivering messages and education to targets. This is supported by research that says there is a difference after being given health education using health promotion media. Good health promotion media can be a solution to problems and become a message that can be understood and implemented by the community, then understanding these problems can change good behavior in the community in the field of Health(Ariyanto Sinanto, 2022). analysisThe Effectiveness of Audio-Visual Media and Flip Sheets in Improving Knowledge, Attitudes and Skills of Cadres in Conducting Child Growth and Development Screeningin the area of the Cianjur City Health Center

Video is a medium for conveying messages or information that leads to the socialization of programs in the health sector, prioritizing education and information as well as persuasive health communication. (Noflidaputri et al., 2022).

METHOD

This study is a true experiment design with a randomized pretest and posttest control group design approach. It is one of the research designs commonly used in scientific experiments. The population in this study were cadres in the working area of the City Health Center in Sayang Village who were taken as samples using a total sample technique of 129. The sample was divided into two groups, namely the intervention group and the control group according to the

inclusion criteria. The instruments used in this study were flipcharts, audiovisual media, questionnaires, and skills checklists. Data analysis used was univariate analysis with frequency distribution, bivariate with the T test, Wilcoxon Test and Mann Whitney Test and multivariate with multiple logistic regression tests.

RESULT

Table 1. Distribution of Respondents by Cadre Characteristics in the Health Center Areas of Cianjur Regency

Characteristics	Intervention		Control	
	N	%	n	%
Age				
20 - 35 Years	35	83.3%	24	57.1
36 - 50 Years	7	16.7%	18	42.9
Education				
Low	19	45.2	23	54.8
High	23	54.8	19	45.2
Duration as Cadre				
< 10 years	40	95.2	39	92.9
> 10 years	2	4.8	3	7.1
Total	42	100	42	100

Table 1 It can be explained that the age of cadres in the intervention group ranged from 20-35 years as many as 35 people (83.3%), while the age of the control group was 24 people (57.1%). Education in the Intervention group 23 people (54.8%) had higher education, while in the control group 23 people (54.8%) had lower education. The length of time as a cadre <10 years in the intervention group was 40 people (95.2%), and in the control group <10 years was 39 people (92.9%).

Table 2. Description of Respondent's Knowledge Before and After the Intervention Using Audiovisual Media and Flipcharts in the Intervention and Control Groups

Knowledge	Intervention		Control	
	n	%	n	%
Before				
Good	29	69.0	25	59.5
Not Sufficient	13	31.0	17	40.5
After				
Good	36	85.7	30	71.4
Not Sufficient	6	14.3	12	28.6
Total	42	100	42	100

The data in table 2 shows that the knowledge of cadres before being given audio-visual media and flipcharts in the intervention group mostly had good knowledge as many as 29 people (69.0%), in the control group most had good knowledge as many as 25 (59.5%). while the

knowledge of cadres after being given audiovisual media and flipcharts in the intervention group mostly had good knowledge as many as 36 people (85.7%), in the control group most had good knowledge as many as 30 (71.4%).

Description of respondents' attitudes before and after being given audiovisual media and flipcharts in the intervention and control groups.

Table 3. Description of Respondents' Attitudes Before and After the Intervention Using Audivsvisual Media and Flipcharts in the Intervention and Control Groups

Attitude	Intervention		Control	
	n	%	n	%
Before				
Positive	20	47.6%	20	47.6%
Negative	22	52.4%	22	52,4%
After				
Positive	20	47.6%	14	33.3%
Negative	22	52.4%	28	66.7%
Total	42	100%	42	100

Table 3 shows that the attitude of the cadres before being given audiovisual media and flipcharts in the intervention group mostly had a negative attitude of 22 people (69.0%), in the control group most had a negative attitude of 25 (59.5%). while the attitude of the cadres after being given audiovisual media and flipcharts in the intervention group mostly had a negative attitude of 22 people (52.4%), in the control group most had a negative attitude of 28 (66.7%). Description of respondents' skills before and after being given audiovisual media and flipcharts in the intervention and control groups.

Table 4. Description of respondents' skills before and after being given audiovisual media and flipcharts in the intervention and control groups.

Skills	Intervention		Control	
	n	%	n	%
Before				
Good	13	31.0%	15	35.7%
Not enough	29	69.0%	27	64.3%
After				
Good	30	71.4%	12	28.6%
Not enough	12	28.6%	30	71.4%
Total	42	100%	42	100%

Table 4 shows that the skills of cadres before being given audiovisual media and flipcharts in the intervention group mostly had poor skills as many as 29 people (69.0%), in the control group most had poor skills 27 (64.3%), while the skills of cadres after being given audiovisual media and flipcharts in the intervention group mostly had good skills as many as 30 people (71.4%). in the control group. Most had poor skills as many as 30 people (71.4%).

Table 5. Differences in respondents' knowledge before and after being given audiovisual media and flipcharts in the intervention and control groups.

Group Knowledge	n	Mean	Mean Difference	Min-Max	Standard Deviation	*p-value*
Intervention						
Pre	42	11.90	1.60	(5-17)	2.912	*0.001*
Post	42	13.50		(5-19)	2.848	
Control						
Pre	42	11.55	0.45	(5 - 17)	2.965	0.013
Post	42	12.00		(7 - 17)	2.538	

Table 5 shows the difference in knowledge before and after the intervention was given, with an average before the intervention of 11.90 with a standard deviation of 2.912 and a standard error of 0.449, while the average after the intervention was given was 13.50 with a standard deviation of 2.848 and a standard error of 0.439. The independent T-test in the intervention group produced p-value 0.001 < 0.05 so it can be concluded that there is a significant difference in knowledge before and after being given audiovisual media and flipcharts in the intervention group.

Meanwhile, the control group showed a difference in knowledge before and after being given audiovisual media and flipcharts in the control group had an average before being given the intervention of 11.55 with a standard deviation of 2.965 and a standard error of 0.457, while the average after being given the intervention was 12.00 with a standard deviation of 2.538 and a standard error of 0.392. The independent T-test in the control group produced a p-value of 0.013 <0.05 so it can be concluded that there is a significant difference in knowledge before and after being given audiovisual media and flipcharts in the control group.

Table 6. Comparison of Attitude Score Before and After Intervention in the Intervention and Control Groups.

Group Attitude	N	Average	Mean Difference	Min-Max	Standard Deviation	*p-value*
Intervention						
Pre	42	62.90	1.74	(54 - 74)	4.504	*0.001*
Post	42	64.64		(59 - 75)	4.349	
Control						
Pre	42	62.55	0.19	(51 – 75)	4.613	0.439
Post	42	62.36		(51 – 75)	4.888	

Table 6 shows the difference in attitudes before and after the intervention has an average before the intervention is 62.90 with a standard deviation of 4.504 and a standard error of 0.695, while the average after the intervention is 64.64 with a standard deviation of 4.349 and a standard error of 0.671. The independent T-test in the intervention group produces a p-value of 0.001 <0.05 so it can be concluded that there is a significant difference in attitudes before and after being given audiovisual media and flipcharts in the intervention group.

Meanwhile, the difference in attitudes before and after the intervention in the control group had an average before the intervention of 62.55 with a standard deviation of 4.613 and a standard error of 0.712, while the average after the intervention was 62.36 with a standard deviation of

4.888 and a standard error of 0.754. The independent T-test in the control group produced a p-value of 0.439> 0.05 so it can be concluded that there is no significant difference.

Table 7. Differences in skills before and after being given audiovisual media and flipcharts in the intervention group and control group.

Skills Group	n	Average	Mean Difference	Min-Max	Standard Deviation	*p-value*
Intervention						
Pre	42	29.50	3.60	(5 – 37)	5.845	*0,000*
Post	42	33.10		(22 – 39)	3.779	
Control						
Pre	42	29.50	0.05	(5 – 37)	5.667	0.581
Post	42	29.45		(5 – 37)	5.571	

Table 7 shows the difference in skills before and after the intervention has an average before the intervention is 29.50 with a standard deviation of 5.845 and a standard error of 0.902, while the average after the intervention is 33.10 with a standard deviation of 3.779 and a standard error of 0.583. The Wilcoxon test in the intervention group produces a p value of 0.000 <0.05 so it can be concluded that there is a significant difference in skills before and after being given audiovisual media and flipcharts in the intervention group. Meanwhile, the difference in skills before and after the intervention in the control group had an average before the intervention of 29.50 with a standard deviation of 5.667 and a standard error of 0.874, while the average after the intervention was 29.45 with a standard deviation of 5.571 and a standard error of 0.860. The Wilcoxon test in the control group produced a p value of 0.581> 0.05 so it can be concluded that there is no significant difference in skills before and after being given audiovisual media and flipcharts in the control group.

Table 8. Differences in Cadre Knowledge After Being Given Audiovisual Media and Flip Sheets in the Intervention and Control Groups

Group Knowledge	n	Average	Mean Difference	Standard Deviation	*p-value*
Intervention	42	13.50	1.50	0.439	0.013
Control	42	12.00		0.392	

Table 8 shows the difference in knowledge between the intervention and control groups with an average value in the intervention group of 13.50 with a standard deviation of 0.439 while the average in the control group was 12.00 with a standard deviation of 0.392. The difference in mean value is 1.50.

In the independent T-test, the knowledge of the control and intervention groups produced a p-value of 0.013 > 0.05, so it can be concluded that there is a significant difference in the knowledge of the control and intervention groups.

Table 9. Differences in respondents' attitudes after being given audiovisual media and flipcharts in the intervention and control groups

Group Attitude	n	Mean	Difference Mean	Standard Deviation	*p-value*
Intervention	42	64.64	2.28	4.349	0.001
Control	42	62.36		4.888	

Table 9 shows the difference in attitudes between the intervention and control groups with an average value in the intervention group of 64.64 with a standard deviation of 4.349 while the average in the control group was 62.36 with a standard deviation of 4.888. The difference in mean value is 2.28. The T-test results obtained pValue = 0.001 which means there is a significant difference in attitudes between the intervention and control groups.

Table 10. Differences in respondent skills after being given audiovisual media and flipcharts in the intervention and control groups.

Group Skills	n	Mean	Difference Mean	Standard Deviation	*p-value*
Intervention	42	33.10	3.65	3.779	0.001
Control	42	29.45		5.571	

Table 10 shows the difference in skills of the intervention and control groups with an average value in the intervention group of 33.10 with a standard deviation of 3.779 while the average in the control group is 29.45 with a standard deviation of 5.571. The difference in mean value is 3.65. The Man Whitney Test on the skills of the control and intervention groups produces a p value of 0.001> 0.05 so it can be concluded that there is a significant difference in the skills of the control and intervention groups.

Table 11. Confounding factors influencing knowledge

Variables	B	*P*	Exp (B)	OR (95% CI)
Intervention	0.875	0.117	2.400	(0.804-7.161)
Constant	- 2.667			

Table 11 shows that audiovisual media and flipchart interventions do not affect knowledge. Age, education, and length of time as a cadre are not confounding variables of knowledge.

Table 12. Confounding factors influencing the attitudes of cadres in the City Health Center area

Variables	B	*P*	Exp (B)	OR (95% CI)
Intervention	0.611	0.220	1.842	(0.693-4.891)
Age	0.520	0.355	1.683	(0.559-5.066)
Education	1.114	0.020	3.046	(1.193-7.777)
Constant	-2.826			

Table 12 shows that audiovisual media and flipchart interventions do not affect attitudes. Age and education are confounding variables of attitudes. Based on the OR value, it shows 1.842, which means that cadres (respondents) who are given audiovisual media and flipcharts have the

opportunity to have better attitudes compared to those who are not given audiovisual media and flipcharts after controlling for age and education.

Table 13. Confounding factors that influence the skills of cadres in the City Health Center area

Variables	B	*P*	Exp (B)	OR (95% CI)
Intervention	2.131	0,000	8.423	(2.855-24.854)
Age	-0.545	0.353	0.580	(0.184-1.824)
Education	0.714	0.0160	2.041	(0.755-5.518)
Constant	-3.561			

Table 13 shows that audiovisual media and flipchart interventions do not affect skills. Age and education are confounding variables of skills. Based on the OR value, it shows 8.423, which means that cadres (respondents) who are given audiovisual media and flipcharts have the opportunity to have better skills compared to those who are not given audiovisual media and flipcharts after controlling for age and education.

DISCUSSION

Based on the researcher's assumption, audio-visual media provides knowledge by involving the senses of sight and hearing, thus providing stimulation when delivering information or educational education through motion audio-visuals, while flip charts are additional media for respondents to see a picture of each step that must be taken by cadres and are a tool when cadres will provide education to parents of toddlers.

The results of this study indicate that the knowledge of the intervention group and the control group increased after one month of intervention. The intervention group was given flipcharts and audiovisual media 4 times a month, while the control group was not given anything. The results of the data analysis test showed that both the control group and the intervention group experienced an increase, in several theories discussing the increase in knowledge obtained in various ways such as in providing education. In the control group there was an increase in knowledge, this was assumed by the researcher based on analysis in the field that the cadres generally lived in the same environment with easy access between the cadres who were given the intervention and the cadres in the control group. Another thing that could possibly happen in increasing the knowledge of this control group could be influenced by the curiosity or activeness of the cadres in seeking additional information even though they were a group that was not given the intervention. Based on the results of the analysis, it also shows that the characteristics of cadres in education have a fairly high level which can also support the increase in knowledge, besides that, it is also based on age, it can be seen that the characteristics of cadres are still in the dominant young age category ranging from 20-35 years so that it can increase the activeness and productivity of cadres in activities related to services.

The results of this study show that the attitude in the intervention group increased while the control group did not experience an increase. In the difference in the value of the cadre's attitude in the intervention group, statistically, there was a difference before and after the media was given. This shows that this audiovisual media can be given to improve the attitude of cadres, although in terms of value differences or clinically the changes that occur are not very significant between the control group and the intervention group because the difference in the average value difference in the intervention and control groups is not much different.

The results of this study showed a significant difference in the intervention group before and after being given flipcharts and audiovisual media, this is indicated by a p value <0.000. While in

the control group there was no difference before and after being given flipcharts and audiovisual media. In the intervention group, it was given once a week for 4 weeks, given directly on a schedule to the cadres. Flipcharts were given before being given videos, then the cadres would be assessed for their skills by providing direct screening actions to children at the integrated health post. The results of skills after being given audiovisual media experienced differences, this could be influenced by the absorption and understanding of the videos given because the contents of the videos provided examples of actions that must be taken by cadres in screening child growth and development. The absorption of information and education provided can be influenced by the media used when given to cadres. The cadres' memory in receiving information will increase if more senses are involved in absorbing information. Memory increases when presented in the form of a video as explained in the cone of experience explaining that reading, listening, seeing pictures, and watching videos can increase the memory of education recipients by up to 60% so that every information and education provided can be absorbed well and can improve skills because the results of the memory obtained can be used when providing services.

The results of this study indicate that there is a difference in the statistical value of the knowledge of cadre skills in the control group and the intervention group. In the intervention group, increased knowledge can occur because education is given through flipcharts and audiovisual media which are given continuously for one month every week. While in the control group, education is not given continuously and no educational media is given, but even so, when viewed from the difference in the average value in the intervention group and the control group, it is not much different. This is clinically, although there is a difference but it is not much different. Factors that can be supporting the visible difference that is not much different can be possible according to the researcher's assumption because of the similarity of dominant characteristics in the control group. Age tends to be young so that they have high curiosity and can find out from the cadres who are given intervention because the place of residence is close together and allows interaction between cadres within a one-month interval of intervention.

CONCLUSION

Based on the results of this study, it can be concluded that audiovisual and audiovisual media are effective in improving the knowledge, attitudes and skills of cadres in screening child growth and development in the work area of the City Health Center, Sayang Village, Cianjur Regency.

RECOMMENDATION

It is hoped that this research can provide input for implementing education using audiovisual media to improve the knowledge, attitudes and skills of cadres.

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