

The Effect of Health Education with Audio Visual Media on Mothers' Knowledge of Stunting in Toddlers in the Working Area of the Dekai Health Center Yahukimo Regency Mountainous Papua

Verawaty Mentaruk¹, Adam Badwi^{2*}, Harnia³, Andi Nurhalizah Tenriyola Ap⁴, Arga⁵

¹²³⁴⁵Universitas Pejuang Republik Indonesia, Indonesia

Corresponding Author: adam.badwi@gmail.com

Article History

Received: 02-05-2026;

Reviewed: 20-05-2026;

Accepted: 05-06-2026;

Published: 30-06-2026;

ABSTRACT

This study aims to analyze the effect of health education using audiovisual media on mothers' knowledge about stunting in toddlers at Dekai Health Center, Yahukimo Regency, Papua Pegunungan. The research used a pre-experimental design with a one group pretest-posttest approach. The sample consisted of mothers with toddlers who were selected through purposive sampling. Data collection was conducted using questionnaires, and data were analyzed using the Wilcoxon test. Results showed that the average pretest knowledge score was 6.12, which increased to 9.18 after health education using audiovisual media. The Wilcoxon test showed $p\text{-value} = 0.000$ ($p < 0.05$), indicating a significant influence of audiovisual media-based education on mothers' knowledge about stunting. These findings suggest that audiovisual media is an effective tool to increase knowledge and awareness of mothers in preventing stunting in toddlers.

Keywords: Stunting; Health Education; Audiovisual Media; Mothers' Knowledge.

INTRODUCTION

Stunting is a chronic growth disorder in toddlers that is marked as height/body by age (TB/U) < -2 SD according to WHO standards. The impact of stunting is short- and long-term: impaired cognitive development, decreased learning capacity and productivity in adults, and increased risk of metabolic diseases. Indonesia still faces a high stunting rate, which has become a national priority (the First 1,000 Days of Life program and a target to reduce the prevalence). In Yahukimo Regency, the prevalence in 2023 was recorded at ~7.54%, while in the work area of the Dekai Health Center it was 8.29% (local data) — a figure that shows the need for more intensive education and prevention interventions.

One of the factors that contribute to the incidence of stunting is the lack of maternal knowledge about pregnant women's nutrition, exclusive breastfeeding, MP-ASI, and appropriate parenting behavior at 1,000 HPK. At the Dekai Health Center, preliminary findings show that many mothers have low knowledge about stunting so that they have the potential to maintain the incidence of stunting.

Audiovisual media (video) combines visual and auditory elements so that it is easier to attract attention, easier to understand by audiences with different levels of literacy, and allows complex messages to be simplified through images, sounds, and narratives. Previous research has

shown that audiovisual media is effective in increasing maternal knowledge about stunting prevention than leaflets or lectures alone.

Based on this description, this study aims to analyze the influence of health education with audiovisual media on maternal knowledge about stunting in toddlers in the working area of the Dekai Health Center, Yahukimo Regency, Mountainous Papua.

METHODS

This study is a pre-experimental quantitative research with a One Group Pretest–Posttest design. This means that one group (without control) is given a pre-intervention measurement (pretest), an intervention (audiovisual education), and then re-measured (posttest).

The research was carried out in the working area of the Dekai Health Center, Yahukimo Regency, Mountainous Papua Province, in April-May 2025. The target population is all mothers who have toddlers in the Dekai Health Center area.

The research sample amounted to 34 mothers under five who met the inclusion criteria, taken by purposive sampling technique. The inclusion criteria included: mothers willing to be respondents, lived in the work area of the Dekai Health Center, and were not illiterate; exclusion criteria included sick mothers or toddlers in critical condition ($n = 34$).

The independent variable in this study was health education with audiovisual media (educational videos broadcast via laptop/LCD), while the bound variable was maternal knowledge about stunting which was measured using a 10-item questionnaire (true = 1, false = 0). The total score ranged from 0–10 and the average score was used for the analysis. The instrument is an adaptation of Febri Indah Cahyo (2020) with Cronbach's alpha reliability = 0.954.

The educational devices used were in the form of educational videos containing stunting material (definition, causes, prevention of 1,000 HPK, breastfeeding and MP-ASI, hygiene), laptops, and LCDs/projectors. The research procedure was carried out through stages: pretest → video playback accompanied by a question and answer/discussion session → posttest immediately after the intervention.

The normality test of knowledge data was carried out with Shapiro–Wilk and showed data that was not normally distributed ($p = 0.000$), so a non-parametric statistical test was used. The main test used was the Wilcoxon Signed-Rank Test to compare pretest and posttest knowledge scores, accompanied by descriptive statistics in the form of frequency, percentage (respondent characteristics), and average pretest and posttest scores.

RESEARCH RESULTS

Respondent Characteristics

The majority of respondents were in the age group of 26–35 years old (61.8%) and the highest level of education was high school (35.3%), as presented in the following table.

Table 1. Distribution of Respondent Frequency by Age Group in the Working Area of the Dekai Health Center, Yahukimo Regency, Mountainous Papua Province

Age Group	n	Percentage (%)
17-25	5	14,7
26-35	21	61,8
>35	8	23,5
Total	34	100

Table 2. Distribution of Respondent Frequency by Education Level in the Working Area of the Dekai Health Center, Yahukimo Regency, Mountainous Papua Province

Education Level	n	%
SD	5	14,7
SMP	11	32,4
SMA	12	35,3
BACHELOR	6	17,6
Total	34	100

Source: Primary Data, 2025

Maternal Knowledge Before and After Intervention

The average value of maternal knowledge before being given health education using audiovisual media was 6.12, which indicates that most mothers have less knowledge about stunting. After health education was provided, the average value of knowledge increased to 9.18.

Table 3. Distribution of Maternal Knowledge about Stunting in Toddlers Before and After Health Education with Audio Visual Media

Variabel	n	Mean	SD	Min	Max
Knowledge Before Intervention	34	6,12	1,274	4	8
Post-Intervention Knowledge	34	9,18	0,758	8	10

Statistical Test

The results of the Wilcoxon test showed a value of $p = 0.000$ ($p < 0.05$), which means that there is a significant influence of health education with audiovisual media on increasing maternal knowledge about stunting.

DISCUSSION

The results of this study prove that audiovisual media is effective in increasing mothers' knowledge about stunting. Audiovisual is able to attract attention, facilitate understanding, and improve the memory of health messages because it involves two senses at once.

These findings are in line with the research of Dianna et al. (2020) which found significant differences in the knowledge of mothers under five before and after being given counseling about stunting using videos and leaflets. Research by Eko (2013) also supports that audiovisual media is effective in increasing the knowledge and attitudes of mothers in the care of toddlers.

The advantage of audiovisual media is that it can present health messages in an attractive, easy-to-understand, and easier to remember message. In addition, the use of audiovisual also overcomes literacy limitations in people who may have a low level of education.

Thus, the use of audiovisual media can be used as a health education strategy in health centers and posyandu to increase maternal knowledge, so that it can support efforts to prevent stunting from an early age.

CONCLUSIONS AND RECOMMENDATIONS

Conclusion

The average maternal knowledge about stunting before health education using audiovisual was 6.12 and increased to 9.18 after health education using audiovisual. There was a significant

effect of health education with audiovisual media on increasing maternal knowledge about stunting in toddlers ($p = 0.000$).

Recommendations

For mothers: health education needs to be actively followed so that knowledge about nutrition and parenting increases, so that it can prevent stunting from pregnancy to 2 years old.

For Puskesmas and Related Agencies: it is recommended to carry out health education programs regularly by utilizing audiovisual media, because it has been proven to be effective in increasing maternal knowledge.

For Educational Institutions: the results of this study can be a reading material for nursing, midwifery, and nutrition students to understand the effectiveness of educational media.

For the Next Researcher: it is recommended to research other variables that affect stunting incidence, such as socioeconomic factors, number of children, family history of stunting, and nutritional intake.

REFERENCES

- Adriani, M., & Wirjatmadi, B. (2016). *Peranan Gizi dalam Siklus Kehidupan*. Jakarta: Prenadamedia Group.
- Almatsier, S. (2015). *Prinsip Dasar Ilmu Gizi*. Jakarta: Gramedia Pustaka Utama.
- Arba, M. A., Rerung, C. T., Hasanuddin, M. I., & Hasyim, M. Q. (2025). Pelatihan Sepak Bola Berbasis Permainan untuk Meningkatkan Kerjasama Tim di Kalangan Siswa SD Negeri 156 Buntu. *Jurnal Perjuangan Dan Pengabdian Masyarakat: JPPM*, 1(1), 26–34.
- Arga, & Riskal Fitri. (2025). Peningkatan Kemampuan Motorik Kasar Melalui Permainan Interaktif Di TK Thalabul Ilmi. *SPORTIVE: Journal of Physical Education, Sport and Recreation*, 9(6), 273–283.
- Arga, A. (2025a). Analisis Denyut Nadi Sebelum dan Sesudah Melakukan Lari 12 Menit Mahasiswa Pendidikan Kepelatihan Olahraga Universitas Pejuang Republik Indonesia. *Jurnal Pendidikan Kepelatihan Olahraga (PEJUANG)*, 1(2), 11–22.
- Arga, A. (2025b). Pengaruh Latihan Leg Raise Terhadap Kekuatan Otot Perut Mahasiswa PKO UPRI. *Jurnal Pendidikan Kepelatihan Olahraga (PEJUANG)*, 1(1), 18–23.
- Asmuji, & Faridah. (2018). *Promosi Kesehatan untuk Perawat di Rumah Sakit dan Puskesmas*. Yogyakarta: Pustaka Panasea.
- Badwi, A., Arba, M. A., Rahmatullah, W., Rerung, C. T., Aulria, S. N. M., Arga, A., & Hasran, H. (2025). Socialization of Petanque Sports at SMAS YASPIB Bontolempangan Gowa. *Jurnal Perjuangan Dan Pengabdian Masyarakat: JPPM*, 1(2), 1–8.
- Dianna, N., Septianingsih, N., & Pangestu, J. F. (2020). Perbedaan pengetahuan ibu balita sebelum dan sesudah diberikan penyuluhan tentang stunting melalui media video dan leaflet di Wilayah Kerja Puskesmas Saigon Kecamatan Pontianak Timur. *Jurnal Kebidanan Khatulistiwa*, 6(1), 7. <https://doi.org/10.30602/jkk.v6i1.493>
- Eko, R. K. (2013). Efektivitas audiovisual sebagai media penyuluhan kesehatan terhadap peningkatan pengetahuan dan sikap ibu dalam tatalaksana balita dengan diare di dua rumah sakit Kota Malang. *Jurnal Ilmu Keperawatan*.
- Hasandi, L. A., Maryanto, S., & Anugrah, R. M. (2020). Hubungan usia ibu saat hamil dan pemberian ASI eksklusif dengan kejadian stunting pada balita. *Jurnal Gizi dan Kesehatan*, 11(25).
- Imani, N. (2020). *Stunting pada Anak*. Yogyakarta: Hikam Media Utama.
- Sufitriyono, S., Suherman, W., Rismayanthi, C., Irvan, I., Juhanis, J., Sudirman, S., Arga, A., Agusman, M., Gandasari, M., Rejeki, H., Zainuddin, E., & Usbah, M. (2025). Exploring the Effects of Hand-Eye Coordination Training on Boccia Throwing Accuracy in Cerebral Palsy Athletes: A Study of BC1, BC4, and BC5 Categories at the Makassar Student Boccia Club. *International Journal of Human Movement and Sports Sciences*, 13, 608–614. <https://doi.org/10.13189/saj.2025.130315>
- Tinri, M. D. N., Anas, F., Arga, A., Rahmatullah, W., & Aulria, S. N. M. (2024). Penyuluhan Pengelolaan Konflik Sosial Masyarakat Rentan: Membangun Keluarga yang Sehat dan Produktif di Kecamatan Tallo Kota Makassar. *Bima Abdi: Jurnal Pengabdian Masyarakat*, 4(4), 291–298.