


The Influence of Education with Audio Visual Media on the Knowledge and Attitude of Postpartum Mothers: A-quasi Expe...

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The Influence of Education with Audio Visual Media on the Knowledge and Attitude of Postpartum Mothers: A-quasi Experimental Study

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ABSTRACT

Objective: Stunting is a disorder characterised by inadequate growth in children under five years of age due to persistent malnutrition. This results in children needing to be longer for their age. Malnutrition in children who experience stunting occurs from when the baby is in the womb until after birth co, commonly called the First 1,000 Days of Life (HPK). Children who experience stunting until the age of five will find it difficult to correct so that it continues into adulthood and can increase the risk of offspring with LBW. This study aimed to analyze the effect of Audiovisual Media on stunting on the knowledge and attitudes of postpartum mothers. **Method** This research used a quasi-experimental design using a pretest-posttest control group methodology. The sample taken in this study were all postpartum mothers on days 1-14 and met the inclusion requirements in Setia Negara Village, Siantar Sitalasari District, amounting to 30 respondents. **Results:** The study showed that respondents' knowledge increased by 7.27 and attitudes by 23.7. The statistical test results showed a significant effect of audiovisual media on knowledge and attitudes ($p < 0.001$). Audiovisual media can increase mothers' knowledge by attracting respondents' attention and increasing understanding in mothers with toddlers. Providing health education to the community can increase knowledge and skills in health behavior. **Novelty:** Providing education using modern technology through audio-visuals can provide new scientific contributions to maternal health education.

INTRODUCTION

Stunting is a disorder characterised by inadequate growth in children under five years of age due to persistent malnutrition. This results in children needing to be longer for their age. Malnutrition in children who experience stunting occurs from when the baby is in the womb until after birth co, commonly called the First 1,000 Days of Life (HPK). Children who experience stunting until the age of five will find it difficult to correct so that it continues into adulthood and can increase the risk of offspring with LBW (Apriluana & Fikawati, 2018).

Improving maternal and child health is an investment for a country. Children with good health status will provide a higher rate of return in the short and long term. (Beattie et al., 2016) Mentions that healthy children will have better learning abilities. Meanwhile, in the long term, children will be more productive and healthy than adults, thus driving economic growth. Healthy children can reduce mortality rates so that the proportion of the working-age population in the future can increase. (Purba et al., 2023) mentions that Asia's economic growth is due to demographic and health changes resulting from declining infant and child mortality, birth rates, and improvements in reproductive health. These reasons make it essential to work on children's health.

Global estimates state that reducing child and maternal mortality rates will save seven billion dollars in yearly health costs (Organization, 2021) (Kirigia et al., 2015). Conversely, deaths due to preventable diseases in children and mothers can result in losses of 15 billion dollars per year due to lost productivity globally (Asian Development Bank, 2009). Removing direct and indirect barriers to accessing health

services can increase access to essential services to improve well-being, especially for children and mothers (Lungu et al., 2016).

In 2016, roughly 23 percent of children under five worldwide were stunted. Stunting denotes a child's height being insufficient for their age. This disorder characterises chronic malnutrition resulting from inadequate nutritional quality in utero, throughout infancy, and from infections or diseases. Stunting is of great concern because of its long-term effects, which result in children not being able to reach their total growth capacity, tending to have lower cognitive abilities, and being more susceptible to disease (Unicef & WHO, 2020).

In the future, it will impact work productivity and employability, leading to diminished family income at the micro level and hindering national economic growth at the macro level. Addressing stunting has emerged as a top objective both internationally and inside Indonesia. The 2020-2024 National Medium-Term Development Plan (RPJMN) identifies the reduction of stunting prevalence in toddlers as a primary initiative, aiming for a goal of 14.00 percent by 2024. Realising this objective requires diligent effort by the Government and several stakeholders.

Despite a notable reduction from the 2018 Basic Health Research (Kemenkes RI, 2018), which reported a stunting prevalence of 30.80 percent (Ministry of Health, 2021), the 2021 Indonesian Nutritional Status Study (SSGI) indicates that the stunting prevalence among toddlers in Indonesia remains at 24.41 percent. To attain the 2024 stunting objective, the Government has promulgated Presidential Regulation of the Republic of Indonesia Number 72 of 2021 on the Acceleration of Stunting Reduction. The Presidential Regulation stipulates that the acceleration of stunting reduction in Indonesia be conducted holistically, integratively, and with quality via inter-party cooperation.

Numerous studies have shown that poverty, sanitation, and environmental health are additional variables that impact stunting in toddlers. Moreover, inadequate maternal education and understanding significantly affect the prevalence of stunting in toddlers (Ali et al., 2017; Sarma et al., 2017). The community's socio-economic conditions, maternal characteristics during pregnancy, parenting practices, and environmental factors such as population density, adverse climate, and sanitation conditions are contributing elements (Awosolu et al., 2021; Gupta & Santhya, 2020).

The World Health Organisation (WHO) and the United Nations Children's Fund (UNICEF) report that over 50% of baby and toddler fatalities are attributable to malnutrition. Two-thirds of these fatalities are associated with improper feeding habits in newborns and children, including the failure to initiate breastfeeding within the first hour post-delivery and the premature or delayed introduction of supplementary meals. This disorder will impair the immune system, often resulting in illness and stunted growth (Kemenkes, 2019). According to (Hartuti et al., 2021) the knowledge and role of mothers are significant factors, and knowledge is dominant in the incidence of stunting in children under five years of age. If a mother has good nutrition knowledge and health, she will have the proper healthy behavior in choosing to consume balanced nutritious food for herself and her baby.

High educational status also increases breastfeeding in the first hour after delivery. Mothers with less knowledge tend to throw away the first colostrum, which has many benefits for the baby. Early breastfeeding in the first hour after delivery mutually influences colostrum expenditure (Abdelhady et al., 2022; Monroe et al., 2021; Yeshambel Wassie et al., 2020).

RESEARCH METHOD

This research used a quasi-experimental design using a pretest-posttest control group methodology. The study was conducted in Setia Negara Village, Siantar Sitalasari District, and the research subjects were mothers born 1-14 days postpartum. The sample taken in this study were all postpartum mothers on days 1-14 and met the inclusion requirements in Setia Negara Village, Siantar Sitalasari District, amounting to 30 respondents. This study has obtained ethical approval from the Medan Health Polytechnic Research Ethics Committee Number: 01.26 590 / KEPK / POLTEKKES KEMENKES MEDAN 2024. The study began with a pretest conducted on the treatment group regarding the audiovisual method of assessing the knowledge and attitudes of postpartum mothers about stunting in infants and toddlers. Then, the researcher demonstrated through audiovisual topics to the participants: Postpartum Mother Nutrition, Balanced Diet, Meal Menu for Postpartum Mothers, Exclusive Breastfeeding, Stunting, Impact of Stunting, and Preventing Stunting. The researcher also provided socialization to the respondents from the audiovisual material. After the intervention was given, a post-test was conducted to evaluate the results and determine the increase in knowledge and attitudes after the intervention. Before the questionnaire was given, the knowledge and attitude questionnaires were tested for validity and reliability before the questionnaire was given. The results of knowledge and attitudes were processed, and data was analyzed using Statistical Package and Service Solution (SPSS) version 25.0 for Windows.

RESULTS AND DISCUSSION

Results

Characteristics of Research Subjects

This study's findings include a univariate descriptive analysis detailing respondent characteristics. The attributes of the respondents include age, education, profession, and income. The research included 30 postpartum women in the audiovisual media intervention group. The attributes of the respondents are shown in the following table:

Table 1. Characteristics of Research Subjects

Characteristics	n	%
General		
< 20 and > 35 Years	8	26.7
20 – 35 Years	22	73.3
Education		
Base	2	6.7
Intermediate	18	60
Tall	10	33.3
Income		
<Rp. 2,433,381/Month	15	50
≥Rp. 2,433,381/Month	15	50
Work		
Housewife	20	66.7
Work	10	33.3
Amount	30	100

Table 1 above shows that 22 respondents (73.3%) in the audiovisual media group) are aged 20-35 years. Only a few respondents, namely two (6.7%) in the audiovisual media group, have primary education (elementary/junior high school). Regarding job characteristics, in the audiovisual media group, some respondents, namely 20 respondents (66.7%), are housewives. Regarding income characteristics, half of the respondents, namely 15 (590%), have an income of <Rp for the audiovisual media group. 2,433,381/month.

The Influence of Audiovisual Media on Stunting on Postpartum Mothers' Knowledge

Analyzing differences in pretest and post-test aims to see the differences and improvements in knowledge between pretest and post-test scores caused by audiovisual media. This research evaluated variations and enhancements in mother understanding of stunting. The pretest and post-test scores were evaluated using the paired T-test (Wilcoxon test, an option used due to the non-normal distribution of the data). The pre-, post-test, and knowledge differences were assessed for normality, yielding data that were not normally distributed, with a p-value <0.05 (using the Shapiro-Wilk test for samples less than 50). Table 2 below illustrates the disparities in knowledge values.

Table 2 The influence of Audio Visual media on stunting on the knowledge of postpartum mothers (maximum score = 20)

Variable	Mean \pm SD	Average change	P Value*
Knowledge			
Before	10.86 \pm 1.382	- 7.27 \pm 0.918	0.001
After	18.13 \pm 2,300		

*Wilcoxon test

Table 2 above indicates that the knowledge variable exhibited an increase in median value before and after the introduction of audiovisual medium. Statistically, audiovisual media had a substantial impact on knowledge ($p < 0.001$). The respondents' knowledge increased by 7.27.

The Influence of Audiovisual Media on Stunting on the Attitude of Postpartum Mothers

Analyzing the differences in pretest and post-test aims to see the differences and improvements in attitudes between the pretest and post-test scores caused by audiovisual media. The aspects assessed in this study were the differences and improvements in mothers' attitudes regarding stunting. The pretest and post-test scores were evaluated using the paired T-test (Wilcoxon test, an option used due to the non-normal distribution of the data). The pre-, post-, and attitude difference data were assessed for normality, revealing a non-normal distribution with a p-value <0.05 (utilising Shapiro-Wilk for samples <50). The disparity in knowledge values is seen in Table 3 below:

Table 3. The influence of Audio Visual media on stunting on the attitudes of postpartum mothers (maximum score = 40)

Variable	Mean \pm SD	Average change	P Value*
Attitude			
Before	7.26 \pm 2.531	- 23.7 \pm 0.02	0.001
After	30.96 \pm 2.511		

*Wilcoxon test

Table 3 above indicates that the attitude variable exhibited an increase in median value before and after the introduction of audiovisual media. Audiovisual media significantly impact attitudes ($p < 0.001$). The respondents' opinions improved by 23.7.

Discussion

The mother's educational attainment correlates with her ability to access external information on diet and health. Mothers with a higher educational attainment will more rapidly acquire knowledge from external sources than those with a lower educational attainment. The educational attainment of low-income households is mostly poor owing to economic constraints that hinder their ability to pursue further education. Higher education facilitates the absorption and comprehension of knowledge, which may then be utilised in daily life. The mother's educational attainment may influence health outcomes, since it impacts safe pregnancy planning and the provision of enough nutrition within effective parenting practices for mothers and their children (Haerunnisa, 2019). Comprehensive mother information of stunting during pregnancy is anticipated to enhance positive attitudes and behaviours aimed at preventing stunting, particularly in relation to nutritional fulfilment throughout pregnancy (Deviyanti, 2022; Herawati et al., 2024). Adequate nutritional needs support good nutritional status in toddlers. Nutrients are essential for regulating body functions, such as immune function, growth, and cognition (Polverino et al., 2021; Sekartini et al., 2023). A mother's understanding of stunting is crucial, since her ignorance of the condition may jeopardise her child's health, increasing the likelihood of stunting. Mothers with substantial expertise are anticipated to effectively use such information in their daily lives. Behaviour is impacted not just by knowledge but also by socio-economic, socio-cultural, and environmental variables (Notoatmodjo, 2005).

This research demonstrates that disseminating information on stunting via audiovisual media might enhance the knowledge and attitudes of postpartum moms concerning stunting in the Setia Negara sub-district, Siantar Sitalasari district. As stated by Notoatmodjo (2005), knowledge is derived from the process of knowing and arises subsequent to individuals seeing a certain thing. Sensation transpires via the five human senses: olfaction, vision, audition, and tactile perception. Knowledge is often acquired via formal schooling or many sources of knowledge, including radio, television, the internet, newspapers, magazines, and counselling.

The use of audiovisual media in learning engages the senses of sight and sound, therefore successfully harnessing the child's sensory capabilities. Children can readily comprehend the content offered in the video. The objective is to enhance cognitive faculties by delivering stimulation via dynamic visuals and auditory stimuli, while transmitting messages to affect attitudes and emotions (Sanaki, 2011).

Health promotion media should follow the development of the times. Currently, video-type audiovisual media is widely used to increase public knowledge. The advantages of video include conveying objects or events as they are in their original

state. The audiovisual method can also present theoretical material into practice. Therefore, the information conveyed through video can be understood quickly and comprehensively, motivating learning.(Anggraini et al., 2020; Mayasari, 2017). The research results from(Ginting et al., 2022; Shah et al., 2016; Sitorus et al., 2025) showed a difference in knowledge in the target after being given health education using audiovisual or video media. Audiovisual media is a medium for conveying messages that activate the target's sense of sight and hearing. Audio visual media is a type of media that contains elements of sound that can be heard and elements of images that can be seen. Forms of audiovisual media include video recordings, films, sound slides, etc. Audiovisual instructional medium yields effective outcomes in the recognition, recall, and association of information and ideas (Ernawati, 2020).

4 The study's findings indicate that prior to receiving instruction via audiovisual medium, the knowledge variable exhibited an increase in median value between the pre- and post-intervention assessments. Audiovisual medium statistically had a substantial impact on knowledge ($p < 0.001$). The respondents' knowledge increased by 7.27. This type of media has better capabilities because it includes auditory (hearing) and visual (seeing) media, which means materials or tools used in learning situations to help writing and spoken words transmit knowledge, attitudes, and ideas.

The study's results in the table show that the attitude variable experienced an increase in median value before and after being given audiovisual media. Statistically, there was a significant influence of audiovisual media on attitudes ($p < 0.001$). Respondents' attitudes increased by 23.7. Attitude is a response to something and is influenced by many factors, often emotional and a subconscious reaction to social stimuli.(Rahma, 2020). Health education can change a person's attitude by increasing knowledge and understanding, influencing readiness to have a positive attitude.(Leonita Cania, 2022).

2 In this study, respondents who had received audiovisual videos about stunting, balanced nutrition, and its prevention could experience and could change from the results of the counseling that had been obtained so that the counseling could change the mother's attitude from disagreeing to agreeing in preventing children from stunting. In addition, mass media can also influence a person's attitude because, in the current era of globalization, many people use mass media. Hence, mothers find it very easy to get various information about stunting and nutrition. The findings of this study support research conducted by(Souza et al., 2022)in Brazil, which showed that the educational video approach effectively increased the knowledge of pregnant and postpartum mothers regarding newborn care. Another aspect affecting attitudes is the impact of key individuals, such as healthcare professionals who provide health education on balanced nutrition and stunting; this will shape the mother's perspective towards her child's health and the prevention of different illnesses.

Audiovisual media can increase mothers' knowledge by attracting respondents' attention and increasing understanding in mothers with toddlers. Knowledge is a process that follows the perception of a certain thing, resulting in an individual's awareness. Sensory perception may originate from several modalities, including vision, auditory stimuli, olfaction, gustation, and tactile sensation. The majority of an individual's knowledge is acquired via visual and auditory perception (Julita et al., 2023). Other studies show that there is a significant influence of knowledge on stunting prevention that is not possessed by mothers who have children with stunting disorders. Messages delivered through audiovisual media are easier to understand and

comprehend and will impact learning outcomes in the cognitive, affective, and psychomotor domains.(Winarni, 2016). Audiovisual media involves all the senses, so the more senses are involved in receiving and processing information, the greater the possibility of the content of the information being obtained and understood (Winarto et al., 2020). The eyes are the sensory organs that provide the most information to the brain. Approximately 75%-87% of human information is acquired visually, whilst the remaining 13%-25% is conveyed via other senses. Media must effectively engage the senses; the greater the stimulation of the information, the more readily it will be absorbed (Julita et al., 2023).

Providing health education to the community can improve health behavior knowledge and skills. In addition, higher education also affects thinking skills and facilitates a person's understanding of information.(Kholisotin et al., 2019). Researchers argue that audiovisual media can increase knowledge because it involves sight and hearing, with exciting images and sounds to understand the material. In addition, the majority of respondents are highly educated, which can help them absorb the information provided better than those with low levels of education.

CONCLUSION

The study's results in the table show that before being given education with audiovisual media, the variables of knowledge and attitude experienced an increase in median values between before and after being given audiovisual media. Respondents' knowledge increased by 7.27, and attitudes increased by 23.7. The results of the statistical test showed that there was a significant influence of audiovisual media on knowledge ($p < 0.001$). Audiovisual media can increase mothers' knowledge by attracting respondents' attention and increasing understanding in mothers with toddlers. Knowledge is a process after sensing a particular object that produces a sense of knowing in a person. Implication: **Implication** : This study can be a basis for health workers to use audio-visual media in providing health education for mothers. and this study can be used to design multimedia-based education programs for mothers, especially in areas with limited access to health workers. **Limitation** : Samples are limited to one particular region or group. **Future Research** : Developing more interactive technology-based education models: For example, with augmented reality (AR) or artificial intelligence (AI)-based applications.