



MINI BOOK AND AUDIOVISUAL INTERVENTIONS SIGNIFICANTLY IMPROVE KNOWLEDGE IN PRIMIGRAVIDA WOMEN

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ABSTRACT

Low rates of exclusive breastfeeding are generally due to limited knowledge about the benefits of breast milk, which is rooted in a lack of access to adequate information. This suggests that comprehensive education is essential to increase primigravida mothers' knowledge about exclusive breastfeeding. For health education to be more effective, communication media that is engaging and easily understood by mothers are needed. Objective to determine the effect of education using mini books and audiovisual media on the knowledge of third-trimester primigravida women regarding exclusive breastfeeding. A quasi-experimental study with a two-group pre-test–post-test design was conducted. A total of 60 third-trimester primigravida women participated: 30 received a mini book intervention (Purwokerto Timur 1 Health Center, total sampling), and 30 received an audiovisual intervention (Sumbang II Health Center, simple random sampling). Instruments included a video, mini book, and questionnaire with validity test results ranging from 0.502 to 0.986, and a reliability value of 0.768. Data were analyzed using Wilcoxon and Mann-Whitney tests. Both groups showed significant improvements in knowledge (mini book: $p = 0.001$; audiovisual: $p = 0.000$). However, no significant difference was found between the two groups in pre-test ($p = 0.511$) or post-test ($p = 0.277$) scores. Mini book and audiovisual media are equally effective in increasing knowledge about exclusive breastfeeding among third-trimester primigravida women.

Keywords: audiovisual media; exclusive breastfeeding; health education; maternal knowledge; mini book

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INTRODUCTION

Exclusive breastfeeding plays a crucial role in infant health, as it provides complete nutrition including water, proteins, vitamins, fats, carbohydrates, minerals, and antibodies essential for optimal development (Tarmizi, 2024). According to Government Regulation of the Republic of Indonesia No. 33 of 2012 on Exclusive Breastfeeding, exclusive breastfeeding is defined as the provision of breast milk alone to infants from birth up to six months, without any additional food or liquids. The United Nations Children's Fund (UNICEF) and the World Health Organization (WHO) recommend initiating breastfeeding within one hour of birth and continuing exclusively for the first six months of life.

Globally, between 2015 and 2020, only 44% of infants aged 0–6 months were exclusively breastfed, falling short of the 50% global target set for 2025 (WHO, 2023). In Indonesia, the Ministry of Health reported an increase in exclusive breastfeeding coverage from 61.5% in 2022 to 63.9% in 2023. However, Central Java Province ranked 16th nationally with a coverage of 64.3%, a decline from 71.4% in the previous year (Dinas Kesehatan Jawa Tengah, 2024). In Banyumas Regency, exclusive breastfeeding coverage rose from 57.8% in 2022 to 72.1% in 2023. Despite this progress, some community health centers such as Purwokerto Timur I and Sumbang II reported the lowest rates, at 37.2% and 39.5% respectively (Dinas Kesehatan Banyumas, 2024).

Research indicates that while most Indonesian mothers initiate breastfeeding, only 49.8% follow WHO guidelines to exclusively breastfeed for the full six months (Hardjito, 2023). This highlights a lack of comprehensive maternal understanding regarding the importance of exclusive breastfeeding. The low rate is often attributed to limited knowledge about the benefits and objectives of breastfeeding, largely stemming from inadequate access to accurate information (Parapat et al., 2022). Muskhafi and Isytiaroh (2021) emphasize that insufficient maternal understanding of breastfeeding benefits, correct techniques, and lactation counseling contributes to this challenge. Furthermore, limited dissemination of breastfeeding practices among healthcare providers and communities exacerbates the issue (Maryam, 2024).

Additional barriers include misconceptions that breast milk alone is insufficient, prompting early introduction of formula or complementary foods, which increases the risk of malnutrition and illness (Nahak, 2021). A lack of understanding about lactation physiology and the benefits of breast milk leads many mothers to choose formula feeding due to its perceived convenience and reliability (Rahmatin, 2022). These various challenges underline the importance of comprehensive educational interventions to improve the knowledge of primigravida mothers. Educational approaches utilizing engaging and accessible media, such as mini books and audiovisual materials, have demonstrated strong potential to enhance maternal understanding of exclusive breastfeeding. Mini books offer concise, structured information supported by appealing visual designs, facilitating easier absorption of content (Sari et al., 2021). Audiovisual media, on the other hand, engage multiple senses, thereby enhancing retention and comprehension (Wirastri, 2023).

The content covered in both mini books and audiovisual media includes key aspects of exclusive breastfeeding such as definitions, stages of lactation, infant breast milk needs, benefits of exclusive breastfeeding, proper positioning and latching techniques, breast milk expression and storage methods, as well as tips for maintaining milk production and quality. In this study, the mini book is supplemented with frequently asked questions and lactation consultant resources to provide practical and applicable guidance. Therefore, this study aims to examine the effect of education using mini book and audiovisual media on improving the knowledge of third-trimester primigravida mothers regarding exclusive breastfeeding

METHOD

This quantitative study employed a pre-experimental design with a two-group pretest-posttest approach. Two intervention groups were involved: the mini book group and the audiovisual group. Before the intervention, participants underwent a pretest, followed by a posttest after the intervention. The study was conducted at Purwokerto Timur I and Sumbang II Community Health Centers (Puskesmas) from April 10 to May 10, 2025. The sample consisted of third-trimester primigravida mothers registered at both Puskesmas who met the inclusion criteria: willing to participate, obstetric status G1P0A0, in the third trimester, able to attend all educational sessions, and having access to audiovisual media. Exclusion criteria included incomplete attendance, health conditions preventing breastfeeding education or exclusive breastfeeding, and refusal to participate during the study. Sampling at Purwokerto Timur I used total sampling, including all eligible mothers (n=30), while Sumbang II applied simple random sampling to select 30 respondents. The first 30 mothers who responded to researcher messages were included.

The study was conducted in the working area of Purwokerto Timur I Public Health Center using a mini book as the intervention medium. The researcher coordinated with the health center to participate in an antenatal class, distributed informed consent forms and a pre-test questionnaire to assess participants' knowledge of exclusive breastfeeding. Afterwards, the participants received the mini book, followed by a brief explanation and discussion of its content. The mini book could be taken home for further study over a period of seven days, and on the eighth day, the researcher conducted home visits to administer the post-test.

In the working area of Sumbang II Public Health Center, the intervention used educational videos in three antenatal class locations (Gandatapa Village, Kotayasa, and Limpakuwus). After the pre-test, a 20-minute video was shown via projector, followed by a discussion session. The video was also shared via a WhatsApp group for participants to rewatch over the next seven days. A monitoring sheet was provided to be completed and signed daily by a designated family member acting as a supervisor. On the eighth day, the researcher visited participants' homes to administer the post-test and collect the completed monitoring sheets.

Data analysis involved univariate and bivariate approaches. Univariate analysis described respondent characteristics (age, education, occupation, marriage duration) and knowledge levels before and after the intervention. Bivariate analysis assessed the effect of the interventions on exclusive breastfeeding knowledge using Wilcoxon tests within groups and Mann-Whitney tests for comparing effectiveness between groups. All categorical data were analyzed using non-parametric methods according to data characteristics. Prior to the pretest, respondents received a thorough explanation and signed informed consent to confirm their voluntary participation.

RESULT

Before the intervention began, all respondents were asked to complete a pre-test questionnaire to assess their baseline knowledge regarding exclusive breastfeeding. Subsequently, an educational session was conducted using the designated media, with each group receiving approximately 30 minutes of counseling.

Table 1.
Respondent characteristics (n=60)

Characteristics	Puskesmas Purwokerto Timur I (<i>Mini Book</i>)		Puskesmas Sumbang II (Audiovisual)	
	f	%	f	%
Age				
< 20 years	0	0	5	16,7
20– 25 years	25	83,3	23	76,6
> 35 years	5	16,7	2	6,7
Education				
Primary Education	2	6,7	5	16,7
Secondary Education	23	76,7	23	76,6
Higher Education	5	16,6	2	6,7
Occupation				
Housewife	26	86,7	29	96,7
Employed	4	13,3	1	3,3
Duration of Marriage				
< 1 years	3	10,0	13	43,3
1 – 5 years	18	60,0	9	30,0
> 5 years	9	30,0	8	26,7

The characteristics of the respondents showed that the majority were aged between 20–35 years (mini book: 83.3%; audiovisual: 76.7%) and had a secondary level of education (76.7% in both groups). Most respondents were unemployed (mini book: 86.7%; audiovisual: 96.7%). The highest proportion of respondents in the mini book group had been married for 1–5 years (60%), while in the audiovisual group, the majority had been married for less than 1 year (43.3%).

Table 2.
Frequency Distribution of Knowledge Levels Among Third Trimester Primigravida Mothers Regarding Exclusive Breastfeeding Before and After Education Using Mini Book Media.

Knowledge Level	Before		After	
	f	%	f	%
Good	14	46,7	21	70
Fair	10	33,4	9	30
Poor	6	19,9	0	0

Based on table 2, prior to the mini book intervention, 46.7% of respondents (14 individuals) had good knowledge about exclusive breastfeeding. After the intervention, this increased to 70% (21 individuals).

Table 3.
Frequency Distribution of Knowledge Levels Among Third Trimester Primigravida Mothers Regarding Exclusive Breastfeeding Before and After Education Using Audiovisual Media.

Knowledge Level	Before		After	
	f	%	f	%
Good	12	40	25	83,4
Fair	10	33,3	5	16,6
Poor	8	26,7	0	0

Based on table 3, prior to the audiovisual intervention, 40% of respondents (12 individuals) had good knowledge about exclusive breastfeeding. After the intervention, this increased to 83.4% (25 individuals).

Table 4.
Pre- and Post-Intervention Differences in Knowledge of Exclusive Breastfeeding Among Third Trimester Primigravida Mothers Using Mini Book Media.

Knowledge level	Before		After		<i>p value</i>
	f	%	f	%	
Good	14	46,7	21	70	0,001
Fair	10	33,4	9	30	
Poor	6	19,9	0	0	

Table 4 shows that before the intervention using the mini book media, the majority of respondents had good knowledge at 46.7% (14 individuals). After the educational session, the proportion of respondents with good knowledge increased to 70% (21 individuals). The Wilcoxon test yielded a p-value of 0.001 (<0.005), indicating a significant difference before and after the education.

Table 5.
Pre- and Post-Intervention Differences in Knowledge of Exclusive Breastfeeding Among Third Trimester Primigravida Mothers Using Audiovisual Media.

Knowledge Level	Before		After		<i>p value</i>
	f	%	f	%	
Good	12	40,0	25	83,4	0,000
Fair	10	33,3	5	16,6	
Poor	8	26,7	0	0	

It shows that before the intervention using audiovisual media, the majority of respondents had good knowledge at 40% (12 individuals). After the educational session, the proportion of respondents with good knowledge increased to 83.4% (25 individuals). The Wilcoxon test yielded a p-value of 0.000 (<0.005), indicating a significant difference before and after the education.

Table 6.
Pre-Education Differences in Exclusive Breastfeeding Knowledge Among Third Trimester Primigravida Mothers Using Mini Book and Audiovisual Media

Knowledge Level	Mini Book		Audiovisual		<i>p value</i>
	f	%	f	%	
Good	14	46,7	12	40	0,511
Fair	10	33,4	10	33,3	
Poor	6	19,9	8	26,7	

Table 6 shows that before the intervention, the majority of respondents had good knowledge (mini book: 46.7%; audiovisual: 40%). The Mann-Whitney test yielded a p-value of 0.511 (>0.05), indicating no significant difference in knowledge levels between the two groups prior to education.

Table 7.
Post-Education Differences in Exclusive Breastfeeding Knowledge Among Third Trimester Primigravida Mothers Using Mini Book and Audiovisual Media

Knowledge Level	Mini Book		Audiovisual		<i>p value</i>
	f	%	f	%	
Good	21	70	25	83,4	0,277
Fair	9	30	5	16,6	
Poor	0	0	0	0	

Table 7 shows that after the intervention, the majority of respondents had good knowledge (mini book: 70%; audiovisual: 83.4%). The Mann-Whitney test yielded a *p*-value of 0.277 (>0.05), indicating no statistically significant difference between the two groups after the intervention.

DISCUSSION

The analysis revealed that the majority of respondents in both intervention groups mini book and audiovisual were between 20 and 35 years of age. This age range is considered an optimal reproductive age with a lower risk of pregnancy complications (Dumilah, 2019). In terms of education, 76.7% of respondents had a secondary level education (equivalent to high school), which aligns with Lindawati (2019), who reported that mothers with higher education levels are six times more likely to provide exclusive breastfeeding. Most respondents were unemployed, comprising 86.7% in the mini book group and 96.7% in the audiovisual group. This condition likely afforded them more time to participate in breastfeeding education. Lestari and Afridah (2023) similarly stated that housewives tend to devote more time to breastfeeding and are more receptive to information related to breastfeeding. Regarding marital duration, most respondents in the mini book group had been married for 1–5 years (60%), while in the audiovisual group, the majority had been married for less than one year (43.3%). This indicates that respondents in the mini book group generally had greater marital maturity. Andari and Ayuningrum (2019) explained that longer marital duration contributes to better physical, psychological, and financial preparedness for childbirth.

Following the intervention using the mini book, there was a significant increase of 23.3% in the knowledge level of third-trimester primigravida mothers regarding exclusive breastfeeding. This finding demonstrates the effectiveness of the mini book as an educational medium. It presents material in a concise, engaging, and easily understandable format, facilitating information absorption and retention. Its systematic structure, appealing visuals, and dense yet accessible content enhance the focus of learning (Nadira et al., 2024). The average knowledge score increased by 39.6 points from the pre-test, and all respondents (100%) showed improvement after the intervention. These results are supported by Sofiana and Ayu (2017), who found that pocketbooks containing practical and straightforward information significantly improved knowledge scores.

In the audiovisual group, the percentage of respondents with good knowledge increased from 40% to 83.4%, reflecting a 43.4% improvement. The integration of visual and audio elements effectively enhanced understanding, making audiovisual media a highly recommended tool for promoting maternal and child health. Puspitarini et al. (2019) found that video media significantly improved learning outcomes compared to conventional methods. Similarly, Tambulana et al. (2024) reported an increase in knowledge from 52% to 96% after an audiovisual intervention. The Wilcoxon test revealed statistically significant improvements in both groups: $p = 0.001$ in the mini book group and $p = 0.000$ in the audiovisual group ($p < 0.05$). These findings reinforce the effectiveness of visual-based educational media—both print and digital in enhancing health knowledge, particularly for primigravida mothers who lack prior breastfeeding experience. Sukriani and Wahyuni (2024) reported that pocketbook-based education significantly increased knowledge and practice of exclusive breastfeeding among working mothers. Meanwhile, studies by Ishak, Kartika, and Muhammad (2022), and Puspitasari & Sunarsih (2021), showed that audiovisual interventions significantly improved maternal knowledge on exclusive breastfeeding.

Prior to the intervention, both groups demonstrated relatively equal baseline knowledge. The Mann-Whitney test produced a p-value of 0.511 ($p > 0.05$), indicating no statistically significant difference in initial knowledge levels between the groups. This baseline equivalence is crucial to maintain internal validity and ensure that post-intervention changes can be attributed to the media used (Nuraeni et al., 2024). Post-intervention, the Mann-Whitney test again showed no statistically significant difference between groups ($p = 0.277$; $p > 0.05$). Nevertheless, descriptively, the audiovisual group exhibited a greater increase in knowledge (43.4%) compared to the mini book group (23.3%). This aligns with the findings of N. Safitri (2022), who reported that video-based health education significantly improved mothers' attitudes toward exclusive breastfeeding.

Although both media proved effective, each offers unique advantages. Audiovisual media excels in capturing attention and enhancing understanding through audiovisual integration, while the mini book offers flexibility and accessibility, allowing mothers to revisit the content as needed. This is particularly beneficial for individuals who prefer reading or have limited access to digital devices. Kasmawati et al. (2021) also confirmed that printed media such as booklets significantly improve pregnant women's knowledge and attitudes, highlighting that educational media should be selected based on the characteristics and needs of the target audience.

CONCLUSION

The knowledge level of pregnant women at Purwokerto Timur I Community Health Center and Sumbang II Community Health Center increased significantly after being given education using mini book media (from 46.7% to 70%) and audiovisual media (from 40% to 83.4%), with p-values of 0.001 and 0.000 respectively ($p < 0.005$). However, there was no significant difference between the two media groups either before the intervention ($p = 0.511$) or after the intervention ($p = 0.277$), indicating that both media were equally effective in improving mothers' knowledge about exclusive breastfeeding.

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