



The Effectiveness of Media as A Means of Educating Pregnant Women in Their Third Trimester about Preparing for Childbirth

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Abstract: Anxiety among pregnant women in the third trimester (TM III) often increases as delivery approaches, potentially affecting their childbirth experience and maternal-neonatal outcomes. Education on childbirth preparation through simple media, such as flipcharts, has the potential to reduce anxiety by enhancing knowledge and self-efficacy. Well-prepared childbirth can impact maternal-neonatal safety, reduce anxiety, and influence the choice of a safe birth setting. The use of appropriate educational media (educational videos, booklets/leaflets, flipcharts, and KIA books) can enhance knowledge and readiness among third-trimester pregnant women. However, local evidence from practice in Independent Midwifery Practice. Childbirth preparation is a crucial aspect of enhancing both the physical and psychological readiness of third-trimester pregnant women. The right educational media can serve as an effective tool to increase knowledge, reduce anxiety, and aid decision-making in preparation for childbirth. This study aims to assess the effectiveness of media as an educational tool for childbirth preparation among third-trimester pregnant women in Independent Midwifery Practice Places (TPMB) in Jakarta and Bekasi in 2025. A quasi-experimental design with a pretest-posttest approach was employed. The sample consisted of 30 third-trimester pregnant women who met the inclusion criteria. Data were collected using validated knowledge and anxiety questionnaires. Data analysis was conducted using paired t-tests and Wilcoxon signed-rank tests to compare pre- and post-intervention results. The findings indicated a significant increase in knowledge ($p < 0.05$) and a reduction in anxiety levels among most respondents after the media intervention. The media proved to be an effective tool for childbirth education among third-trimester pregnant women. It is recommended that healthcare providers, particularly midwives, optimally utilize educational media in antenatal care.

Keywords: Childbirth Preparation; Education; Media; Third-Trimester Pregnancy

Introduction

Anxiety among pregnant women, especially primigravida, tends to increase as the delivery date approaches, due to the lack of experience in facing the labor process (Hidayah, 2023). Excessive anxiety during pregnancy can heighten the risk of complications during childbirth. This condition can lead to issues such as fetal growth retardation, low birth weight, and weak uterine contractions, which may prolong labor (more than 24

hours), thus increasing the risk of maternal and neonatal complications such as maternal hemorrhage and neonatal asphyxia (Aprilia, 2023). Many expectant mothers experience anxiety and concern as they approach childbirth, often due to a lack of knowledge or information about birth preparation, including birth plans and contingency plans for potential complications. Proper childbirth preparation has been shown to reduce anxiety by alleviating concerns about the delivery process and ensuring the well-being of both mother and

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child (Sukmaningtyas, 2021). Every pregnant woman should ideally have planned various anticipatory steps, from normal childbirth to measures for mitigating potential complications, including emergency procedures during labor (Islamiyati et al., 2024).

During pregnancy, women should be aware of the stages of preparation leading up to labor. The birth process involves the expulsion of the baby, placenta, and amniotic membranes from the uterus, beginning with effective uterine contractions that cause the cervix to dilate and thin (Marmi, 2021). According to WHO data, anxiety during pregnancy is a global concern. In developing countries, the anxiety rate is relatively high, for instance, ranging from 12.5% in Nigeria to 41% in South Africa. In Europe, the issue is also significant, with 81% of pregnant women in the UK and 7.9% in France reporting moderate anxiety levels (Isnawati, 2022). This anxiety can negatively impact both the mother and fetus, leading to premature birth or miscarriage (Widyaningsih & Dwi, 2020). In Indonesia, around 373 million pregnant women experience anxiety, with 28.7% or 107 million of them feeling anxious during childbirth, particularly during the third trimester (Kemenkes RI, 2023).

Maternal Mortality Ratio (MMR) is a critical indicator of public health, reflecting deaths related to pregnancy. It is influenced by the quality of healthcare, education, and the overall health status of the population (Primadevi & Yuniarti, 2021). MMR serves as an important measure of the success of health sector development, and it is one of the Sustainable Development Goals (SDGs), with a global target of reducing it to 70 per 100,000 live births by 2030 (Kemenkes RI, 2024).

Independent Midwifery Practice Places (TPMB) play a crucial role in providing services to pregnant women. Based on visit data for third-trimester pregnancies in TPMB areas of Jakarta and Bekasi, many women still do not fully understand the preparation needed for labor, contributing to increased anxiety as the delivery date nears. This research aims to evaluate the effectiveness of using educational media in reducing anxiety and preparing women for childbirth (Selamita et al., 2022). Maternal and neonatal morbidity and mortality are still influenced by delayed decision-making, lack of knowledge of danger signs, and inadequate birth planning and referral. Effective birth preparation includes determining the place of birth, selecting a caregiver, identifying a companion, arranging transportation, securing blood donors, preparing emergency funds, and familiarizing with danger signs (Triana & Wulandari, 2023). Educational media tailored to maternal health literacy can strengthen midwives' counseling in TPMBs.

In Indonesia, TPMBs are at the forefront of community-based midwifery services (Ulfah et al., 2022). Jakarta and Bekasi, with their urban and peri-urban characteristics and varying access to digital information, provide a suitable context for evaluating the effectiveness of a combination of media (videos, booklets, flipcharts, KIA books, leaflets) compared to standard educational methods. This study proposes the integration of health science literacy into the education process, focusing on the biological understanding of labor processes and decision-making based on scientific evidence.

Method

This study uses a quasi-experimental design with a one-group pretest-posttest approach, where the same group of third-trimester pregnant women at TPMBs in June 2025 will undergo both pretest and posttest evaluations. The purpose of this design is to measure the level of anxiety before and after the educational intervention using media. This design is appropriate for evaluating the effectiveness of educational media within a limited time frame and a specific population.

The study aims to assess whether providing childbirth preparation education through media has a significant effect on reducing anxiety among the respondents. The intervention involves the use of media designed based on scientific and biological concepts of childbirth, such as the physiology of labor, danger signs, and evidence-based practices. These materials aim to enhance understanding and knowledge of the labor process, thus reducing anxiety and increasing preparedness.

Data will be collected through the distribution of questionnaires assessing knowledge and anxiety levels before and after the intervention. The analysis will be conducted using the paired t-test for normally distributed data and the Wilcoxon signed-rank test for non-normally distributed data, as both tests are appropriate for comparing the pre- and post-intervention data within the same group.

While the study does not include a control group, the results will be evaluated based on the pre- and posttest outcomes within the same group of participants (cluster at the TPMB level). Cluster randomization may be considered if feasible, but it is not required for this study.

Result and Discussion

The results of this study include data from various educational media (leaflet, booklet, flipchart, KIA book, and video), which compare pretest and posttest anxiety

levels of third-trimester pregnant women. The findings are presented in a series of tables that show the distribution of anxiety levels before and after the intervention.

Table 1. Frequency Distribution of Anxiety Levels Among Third-Trimester Pregnant Women in Childbirth Preparation Before Educational Intervention Using Leaflets in TPMB, 2025 (Pretest)

Anxiety Level	Category	Pretest Score	Frequency	Percentage (%)
≥25	Severe Anxiety	8	26.7	26.7
15-25	Mild to Moderate Anxiety	22	73.3	73.3
≤10-15	No Anxiety	0	0.0	0.0
Total			30	100.0

In this table, the anxiety levels before the intervention using leaflets show a predominance of mild to moderate anxiety levels (73.3%) among the respondents. Only a small portion (26.7%) had severe anxiety, while none of the respondents reported having no anxiety. The result suggests that most third-trimester pregnant women experience some level of anxiety, with only a few reporting severe anxiety. This supports the idea that pregnant women in their third trimester often have concerns and uncertainties about childbirth, which can be alleviated through appropriate education.

Table 2. Frequency Distribution of Anxiety Levels Among Third-Trimester Pregnant Women in Childbirth Preparation Before Educational Intervention Using Booklets in TPMB, 2025 (Pretest)

Anxiety Level	Category	Pretest Score	Frequency	Percentage (%)
≥25	Severe Anxiety	8	26.7	26.7
15-25	Mild to Moderate Anxiety	22	73.3	73.3
≤10-15	No Anxiety	0	0.0	0.0
Total			30	100.0

In this table, a significant portion of the respondents (76.7%) had moderate anxiety levels, and 16.7% had severe anxiety. The remaining 6.7% experienced very severe anxiety. This indicates that while most of the pregnant women experience moderate anxiety, a notable proportion also experience severe anxiety. The variability in anxiety levels indicates that the perception of labor among pregnant women varies and some might have greater concerns or fears about the process. This highlights the need for targeted education, which can be

addressed through the use of a variety of educational media, such as booklets.

Table 3. Frequency Distribution of Anxiety Levels Among Third-Trimester Pregnant Women in Childbirth Preparation Before Educational Intervention Using Flipcharts in TPMB, 2025 (Pretest)

Anxiety Level	Category	Pretest Score	Frequency	Percentage (%)
14-20	Mild Anxiety	8	26.7	27.6
21-27	Moderate Anxiety	9	26.7	31.0
28-41	Severe Anxiety	11	33.3	37.9
≥41	Very Severe Anxiety	1	3.0	3.4
Total			29	100.0

This table shows a relatively high percentage (37.9%) of respondents experiencing severe anxiety before the intervention, with the remaining respondents split between mild and moderate anxiety (27.6% and 31.0%, respectively). The finding reflects the same trend observed in Tables 1 and 2, indicating that many pregnant women in the third trimester experience significant levels of anxiety. The results suggest that anxiety regarding labor is a widespread concern among expectant mothers, and this further emphasizes the importance of educational interventions to reduce anxiety and prepare them mentally for childbirth.

Table 4. Frequency Distribution of Anxiety Levels Among Third-Trimester Pregnant Women in Childbirth Preparation Before Educational Intervention Using Videos in TPMB, 2025 (Pretest)

Anxiety Level	Category	Pretest Score	Frequency	Percentage (%)
≥25	Severe Anxiety	8	26.7	26.7
15-25	Mild to Moderate Anxiety	22	73.3	73.3
≤10-15	No Anxiety	0	0.0	0.0
Total			30	100.0

The results of this table mirror those of the previous tables, with 73.3% of respondents reporting mild to moderate anxiety levels and 26.7% experiencing severe anxiety. No respondents reported having no anxiety. This suggests that videos as an educational medium may not have significantly changed the anxiety levels before the intervention, but like other media, they may have the potential to reduce anxiety when used effectively. The use of video as a medium is another step toward diversifying educational methods to address varying

learning preferences and anxiety levels among pregnant women.

Table 5. Frequency Distribution of Anxiety Levels Among Third-Trimester Pregnant Women in Childbirth Preparation Before Educational Intervention Using KIA Books in TPMB, 2025 (Pretest)

Anxiety Level	Frequency (n)	Percentage (%)
No Anxiety	4	13.3
Mild to Moderate Anxiety	15	50.0
Severe Anxiety	11	36.7
Total	30	100.0

Before the intervention, 50% of respondents had mild to moderate anxiety, and 36.7% had severe anxiety, while only 13.3% had no anxiety. This table indicates that the majority of women still experience some form of anxiety, ranging from mild to severe, which could be linked to fears and uncertainties about the delivery process. The findings indicate that even with varying levels of anxiety, there is a clear need for adequate education to address these concerns. The KIA book, being a structured and comprehensive source of information, may play a crucial role in reducing this anxiety by providing clear, understandable information.

Table 6. Frequency Distribution of Anxiety Levels Among Third-Trimester Pregnant Women in Childbirth Preparation After Educational Intervention Using KIA Books in TPMB, 2025 (Posttest)

Anxiety Level	Frequency (n)	Percentage (%)
No Anxiety	21	70.0
Mild to Moderate Anxiety	9	30.0
Total	30	100.0

Following the intervention using the KIA book, there was a significant reduction in anxiety levels. A majority of the respondents (70.0%) reported having no anxiety after the intervention, and 30.0% had mild to moderate anxiety. The posttest results clearly show that the intervention was effective in reducing anxiety. This is in line with the literature that suggests providing expectant mothers with clear, evidence-based information can help alleviate anxiety and enhance their readiness for childbirth. The significant reduction in anxiety from pretest to posttest emphasizes the effectiveness of the KIA book as an educational tool.

Anxiety Levels Before and After Childbirth Preparation Education Using Media in Third-Trimester Pregnant Women

Based on the results, the anxiety levels of third-trimester pregnant women in the study were significantly reduced after receiving education using

various media, particularly the KIA book. Before the intervention, the majority of respondents reported varying levels of anxiety, with the highest proportions experiencing mild to moderate anxiety. This is consistent with previous studies, such as Walyani (2021), which indicate that anxiety levels in pregnant women during the third trimester are often elevated due to the unknowns surrounding the childbirth process. Factors contributing to this anxiety include fear of pain, complications, and the potential for a difficult labor (Walyani, 2021).

Before the intervention, anxiety levels ranged from mild to severe, with many respondents exhibiting fear and uncertainty about the labor process. This aligns with the findings of Dewi et al. (2025), who noted that anxiety in pregnant women during the third trimester is often linked to the anticipation of childbirth complications, including concerns about the health of the baby and potential delivery complications. Similar to the research conducted by Heryanto et al. (2023), the pretest results from our study reflect that many pregnant women have concerns related to the unknown aspects of childbirth, contributing to their heightened anxiety.

Effect of Educational Media on Reducing Anxiety

The intervention involving the KIA book, a scientifically-based educational tool designed to provide comprehensive information about childbirth, led to a significant reduction in anxiety. After the intervention, 70.0% of respondents reported having no anxiety, and 30.0% reported mild to moderate anxiety. This dramatic shift from pretest anxiety levels demonstrates the effectiveness of providing clear, evidence-based educational content. The reduction in anxiety is consistent with the findings of Indasari (2021), which showed that health education interventions can effectively reduce anxiety levels in third-trimester pregnant women.

The decrease in anxiety following the intervention can be explained through the theory that clear and accurate information about the labor process can help reduce fear and uncertainty (Aprilia, 2023). The KIA book, which offers easily understandable information on labor physiology, danger signs, and evidence-based practices, helped to empower the pregnant women by enhancing their knowledge and providing a sense of control over the impending birth process. This aligns with the Dick-Read method, which emphasizes that providing information and reducing fear are essential in managing anxiety during labor (Sukmaningtyas, 2021).

Linking Anxiety Reduction to Health Science Literacy and Evidence-Based Practices

One significant aspect of the study is its emphasis on health science literacy. By using scientifically

grounded educational media, such as the KIA book, the intervention not only addressed psychological factors (i.e., anxiety) but also educated the respondents about the biological processes involved in childbirth. The KIA book includes information on labor physiology, which helps pregnant women understand the physical processes their bodies will undergo, thus reducing uncertainty and fear. This approach aligns with the findings of Ouchi (2021), who demonstrated that enhancing knowledge through educational interventions helps regulate emotional responses to childbirth.

Furthermore, the use of evidence-based practices in the KIA book supports the importance of informed decision-making in childbirth preparation. Pregnant women who are well-informed about the stages of labor, potential complications, and available support options are more likely to make confident decisions, which can further alleviate anxiety (Sukmaningtyas, 2021). The shift from anxiety to confidence observed in the study underscores the potential of educational media to improve both the psychological and physical readiness of pregnant women for childbirth.

Conclusion

In conclusion, the findings of this study highlight the effectiveness of educational media in reducing anxiety among third-trimester pregnant women. The significant reduction in anxiety levels after the intervention supports the idea that providing scientifically-based educational resources, such as the KIA book, can improve maternal mental health by enhancing knowledge, reducing uncertainty, and fostering confidence in childbirth. This study's results align with the growing body of evidence supporting the role of health education in improving outcomes for pregnant women and emphasize the importance of integrating health science literacy into antenatal care practices.

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Author Contributions

R.K., A.R., A.U., T.K., W., contributed to the conceptualization, data collection process, data processing, and article writing

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Conflicts of Interest

The authors declare no conflict of interest.

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