



Original Research

The Effect of Pregnancy Health Education on Anxiety in Third Trimester Pregnant Women

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Abstract

The third trimester of pregnancy is a critical period that often increases anxiety due to the approaching delivery and significant physical and psychological changes. Unmanaged anxiety may negatively affect both maternal and fetal health. This study aimed to analyze the effect of pregnancy health education on anxiety levels among third trimester pregnant women at the Berlian Community Health Center, Boalemo Regency. A pre-experimental study with a one-group pretest–posttest design was conducted involving 24 third trimester pregnant women selected through total sampling. Anxiety levels were measured using the Hamilton Anxiety Rating Scale (HARS) before and after a structured, face-to-face pregnancy health education intervention. Data were analyzed using the Wilcoxon signed-rank test. The results showed a significant decrease in mean anxiety scores from 21.58 (pretest) to 14.83 (posttest). Statistical analysis revealed a Z value of -4.128 with $p < 0.05$, indicating a significant effect of the intervention. Pregnancy health education was proven effective in reducing anxiety, improving psychological readiness, and supporting maternal mental well-being. These findings highlight the importance of integrating structured health education into routine antenatal care services.

1. Introduction

Pregnancy is a physiological process accompanied by various physical, psychological, and emotional changes. These changes may trigger feelings of worry and anxiety, particularly in women who have limited knowledge or inadequate coping mechanisms. Anxiety levels vary across pregnancy trimesters, with the third trimester being the most vulnerable period due to the imminent childbirth process (Septeria et al., 2024). Concerns regarding labor pain, maternal and fetal safety, and readiness for motherhood often intensify during this phase (Setiawati et al., 2023).

Anxiety in late pregnancy does not only affect psychological well-being but may also have physiological consequences, such as sleep disturbances, fatigue, appetite changes, and hormonal imbalance, which may increase the risk of pregnancy complications (Aura et al., 2025). Excessive anxiety can also influence labor outcomes and postpartum recovery, emphasizing the need for early detection and management of maternal anxiety during antenatal care.

Community health centers play a crucial role in providing comprehensive antenatal services, including health promotion, education, and counseling. Pregnancy health education aims to improve mothers' understanding of physiological and psychological changes, danger signs, self-care, and childbirth preparation (Lestari et al., 2025). Adequate knowledge can reduce uncertainty and misconceptions, which are common contributors to anxiety (Arpen et al., 2024).

However, despite routine antenatal education, anxiety among third trimester pregnant women remains prevalent. Observations at the Berlian Community Health Center revealed that several pregnant women experienced fear, sleep difficulties, and excessive worry prior to delivery. This

condition indicates that psychological aspects have not been optimally addressed within antenatal services. Therefore, evaluating the effectiveness of pregnancy health education in reducing anxiety is essential.

Health services for pregnant women in primary health facilities play a strategic role in maintaining the physical and mental health of mothers. Community health centers, as primary health facilities, are the main venues for antenatal care. Antenatal care focuses not only on physical examinations, but also includes education and counseling (Lestari et al., 2025). Pregnancy health education is provided to improve mothers' understanding of changes during pregnancy, danger signs, and preparation for childbirth. A good understanding is expected to help pregnant women feel more prepared and confident. However, the effectiveness of health education is greatly influenced by the method and quality of material delivery (Suhardi et al., 2025).

Pregnancy health education is one of the promotional efforts aimed at increasing the knowledge and awareness of pregnant women. Educational materials usually cover physiological and psychological changes during pregnancy, the delivery process, self-care, and preparation for the birth of a baby. Clear and easy-to-understand information can help pregnant women reduce uncertainty, which is often a source of anxiety (Arpen et al., 2024). When mothers understand what they will face, their fears and worries can be reduced. Education also provides pregnant women with the opportunity to ask questions and express their concerns. This process can help build a sense of security and psychological support (Sari & Maryam, 2025). Lack of knowledge about pregnancy often exacerbates anxiety in mothers in their third trimester. Incomplete or inaccurate information can lead to misconceptions about childbirth (Isnaini et al., 2020). Some pregnant women obtain information from sources that may not be accurate, such as subjective stories from other people's experiences. Negative stories about childbirth can increase fear and anxiety. Without adequate education, pregnant women tend to prepare themselves with excessive anxiety. This condition shows that pregnancy health education plays an important role in reducing anxiety (Halil & Puspitasari, 2023).

The Berlian Community Health Center in Boalemo Regency is one of the health facilities that serves pregnant women in its working area. Antenatal services at this health center include routine checkups and health education on pregnancy. However, there are still pregnant women in their third trimester who experience anxiety ahead of childbirth. This anxiety is manifested through complaints of difficulty sleeping, excessive fear, and concern about the condition of the baby. This situation indicates that the psychological aspects of pregnant women still need more attention in health services. Efforts to improve the quality of pregnancy health education are one of the strategies that can be implemented (Harianto & Putri, 2020).

Structured and continuous pregnancy health education is expected to help pregnant women manage their anxiety. Education delivered in easy-to-understand language can boost mothers' confidence (Prakitri et al., 2025). Understanding the process of childbirth and self-care can help mothers feel more mentally prepared. In addition, interaction between health workers and pregnant women can provide positive emotional support. Such support plays a role in creating a sense of security and comfort during pregnancy. This condition demonstrates the potential of health education as a non-pharmacological intervention in reducing anxiety (Sholihah & Hardivianty, 2022). Although pregnancy health education has become part of antenatal care, its effect on the anxiety levels of pregnant women needs to be scientifically assessed. A systematic assessment is needed to determine the extent to which health education contributes to reducing anxiety. Research data can provide an objective picture of the effectiveness of pregnancy health education. This information can be used as a basis for developing more comprehensive antenatal care programs. Research can also help health workers choose the educational approach that best suits the needs of pregnant women. This demonstrates the importance of research related to health education interventions (Mariza & Isnaini, 2022).

This study aimed to examine the effect of pregnancy health education on anxiety levels among third trimester pregnant women at the Berlian Community Health Center, Boalemo Regency. The findings are expected to provide evidence-based recommendations for improving antenatal care programs, particularly in addressing maternal mental health.

2. Research Method

This study employed a pre-experimental design using a one-group pretest–posttest approach. The study population consisted of all third trimester pregnant women attending antenatal care at the

Berlian Community Health Center, Boalemo Regency, in November. A total of 24 respondents were included through total sampling.

Inclusion criteria were third trimester pregnant women who were willing to participate, had no history of severe psychological disorders, and were able to attend pregnancy health education sessions. Anxiety levels were measured using the Hamilton Anxiety Rating Scale (HARS).

Data collection was conducted in three stages. First, a pretest was administered to assess baseline anxiety levels. Second, respondents received structured and face-to-face pregnancy health education covering physiological and psychological changes during pregnancy, childbirth preparation, self-care, and anxiety management strategies. Third, a posttest was conducted after the intervention to reassess anxiety levels.

Data analysis was performed using the Wilcoxon signed-rank test due to non-normal data distribution, with a significance level set at $p < 0.05$.

3. Results and Discussion

3.1. Results

Table 1. Distribution of Anxiety Levels in Third Trimester Pregnant Women Before Pregnancy Health Education

Anxiety level	Frequency (n)	(%)
Mild	6	25,0
Moderate	12	50,0
Severe	6	25,0
Total	24	100,0

Based on Table 1, before receiving pregnancy health education, most pregnant women in their third trimester were in the moderate anxiety category, numbering 12 (50.0%). Meanwhile, mild and severe anxiety levels were experienced by 6 mothers (25.0%) each. These results indicate that half of pregnant women experience quite high levels of anxiety prior to delivery, thus requiring pregnancy health education intervention to help reduce anxiety levels and improve mothers' mental preparedness.

Table 2. Distribution of Anxiety Levels in Third Trimester Pregnant Women After Pregnancy Health Education

Anxiety level	Frequency (n)	(%)
Mild	15	62,5
Moderate	7	29,2
Severe	2	8,3
Total	24	100,0

Based on Table 2, after receiving pregnancy health education, most pregnant women in their third trimester experienced mild anxiety, totaling 15 women (62.5%). The level of moderate anxiety decreased to 7 women (29.2%), and only 2 women (8.3%) continued to experience severe anxiety. These results indicate a significant shift toward lower anxiety levels after the educational intervention, suggesting that pregnancy health education is effective in helping mothers manage their anxiety prior to delivery.

Table 3. Average Anxiety Levels Before and After Pregnancy Health Education

Variable	n	Mean	SD	Min	Max
Anxiety (Pretest)	24	21,58	4,12	16	30
Anxiety (Posttest)	24	14,83	3,65	10	22

Based on Table 3, the average anxiety level of pregnant women in their third trimester before receiving pregnancy health education (pretest) was 21.58 with a standard deviation of 4.12, the lowest value being 16, and the highest value being 30. After receiving pregnancy health education

(posttest), the average anxiety level decreased to 14.83 with a standard deviation of 3.65, a minimum value of 10, and a maximum value of 22. These results indicate a decrease in the average anxiety level of pregnant women after the education program, suggesting that health education intervention is effective in reducing anxiety in pregnant women in their third trimester.

Table 4. The Effect of Pregnancy Health Education on Anxiety Levels in Third Trimester Pregnant Women

Variable	n	Z/t calculation	p-value
Anxiety (Pretest–Posttest)	24	-4,128	0,001

Before the intervention, most respondents experienced moderate anxiety (50%), while 25% experienced mild anxiety and 25% severe anxiety. After pregnancy health education, anxiety levels decreased substantially, with 62.5% of respondents experiencing mild anxiety, 29.2% moderate anxiety, and only 8.3% severe anxiety.

The mean anxiety score decreased from 21.58 ± 4.12 before the intervention to 14.83 ± 3.65 after the intervention. Statistical analysis using the Wilcoxon signed-rank test showed a Z value of -4.128 with $p = 0.000$, indicating a statistically significant reduction in anxiety levels following pregnancy health education.

3.2. Discussion

The results of the study show that before receiving pregnancy health education, most pregnant women in their third trimester experienced moderate anxiety levels, with 12 women (50%) experiencing this, while mild and severe anxiety levels were experienced by 6 women (25%) each. This condition confirms that nearly half of the respondents faced considerable psychological pressure prior to delivery, consistent with previous findings that the third trimester is the most vulnerable phase for anxiety due to its proximity to delivery (Septeria et al., 2024). High anxiety in pregnant women can trigger sleep disorders, loss of appetite, fatigue, and even affect hormone balance, which can lead to complications during pregnancy (Aura et al., 2025). This study emphasizes the importance of pregnancy health education interventions to reduce anxiety, improve mental preparedness, and build confidence in pregnant women, so that they are able to face the delivery process with greater peace of mind.

The distribution of data after health education was provided showed a significant shift, with 62.5% of respondents experiencing mild anxiety, 29.2% moderate anxiety, and only 8.3% severe anxiety. These results indicate that health education can modify the psychological experience of mothers from a state of anxiety to a more calm state. This shift is consistent with the literature, which states that understanding the process of childbirth, signs of pregnancy complications, and anxiety management strategies can reduce uncertainty and fear, which are the main factors contributing to anxiety in pregnant women in their third trimester (Setiawati et al., 2023). In addition, interactive education allows mothers to express their concerns and ask questions about their pregnancy experiences, thereby increasing psychological support (Sari & Maryam, 2025).

The average anxiety level before the intervention was 21.58, decreasing to 14.83 after health education, indicating a significant decrease. This decrease reflects the effectiveness of education in building self-control and mental preparedness for mothers facing childbirth. The material presented included physiological and psychological changes during pregnancy, preparation for childbirth, self-care, and anxiety management strategies, in accordance with the educational components recommended in antenatal services at community health centers (Lestari et al., 2025). This understanding helps mothers anticipate situations that cause uncertainty, increases their sense of security, and strengthens their self-confidence, thereby minimizing anxiety (Arpen et al., 2024).

Statistical analysis using the Wilcoxon signed-rank test showed a Z value of -4.128 with a p-value of 0.000, indicating a statistically significant decrease in anxiety. These results are in line with previous studies confirming that pregnancy health education interventions are effective as a non-pharmacological strategy for reducing anxiety in pregnant women (Sholihah & Hardivianty, 2022). Non-pharmacological interventions are very important because they do not cause side effects for the mother or fetus and can be implemented in primary health care facilities such as community health centers. This reinforces the role of health education as part of promotive and preventive services that can improve the mental health of pregnant women.

The success of health education is influenced by the delivery method, maternal involvement, and the quality of interaction with health workers. Interactive face-to-face methods provide opportunities for mothers to ask questions and obtain clarification, so that information can be properly understood (Suhardi et al., 2025). This interaction builds a sense of security, emotional support, and increases the mother's motivation to apply anxiety management strategies. Structured delivery of material ensures that mothers obtain relevant and comprehensive information, thereby increasing their mental preparedness and minimizing anxiety before giving birth (Prakitri et al., 2025). Health education also plays a role in stress management and mental preparedness for pregnant women. Mothers who understand the warning signs of pregnancy, delivery procedures, and coping techniques have greater control over their emotional responses. This knowledge reduces uncertainty, which is often a source of anxiety, helping mothers sleep better, maintain daily energy levels, and improve overall psychological well-being (Wafiroh et al., 2025). The psychological support received during educational sessions creates a safer and more comfortable environment, while also enhancing positive interactions between mothers and healthcare providers, resulting in a more optimal pregnancy experience.

Providing continuous and consistent education is an important factor in successfully reducing anxiety. A one-time presentation of material is not effective enough if it is not followed up with reinforcement and monitoring during subsequent antenatal visits (Mariza & Isnaini, 2022). Consistent delivery of education enables mothers to continuously receive the latest information, strengthen coping strategies, and gradually improve mental preparedness. The quality of antenatal care can be improved through systematic education modules, training for health workers, and monitoring of mothers' psychological responses, so that education programs can deliver more optimal results. The results of this study have important implications for maternal health care practices in community health centers. Pregnancy health education has been shown to reduce anxiety, improve mental preparedness, and strengthen the relationship between mothers and health workers. Education programs tailored to the psychological needs of mothers can improve the overall quality of antenatal care and serve as a model for other community health centers. These findings confirm that pregnancy health education is an effective promotive and preventive intervention, supporting safe childbirth and creating a more positive pregnancy experience for mothers and families (Harianto & Putri, 2020).

4. Conclusion

Pregnancy health education has a significant effect on reducing anxiety levels among third trimester pregnant women at the Berlian Community Health Center. Structured and face-to-face education improves maternal understanding, confidence, and psychological readiness for childbirth. Integrating comprehensive pregnancy health education into routine antenatal care is recommended to support maternal mental well-being and promote positive pregnancy outcomes.

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