

ARTICLE INFORMATION

Received: April 17, 2026

Revised: April 24, 2026

Available online: April 26, 2026

at: <https://e-jurnal.iphorr.com/index.php/mchc>

The effectiveness of childbirth education in reducing pre-labor anxiety among primigravida mothers

Suci Qardhawijayanti*, Asmah Sukarta, Selviana Rahayu

Institut Teknologi Kesehatan dan Sains Muhammdiyah Sidrap

Corresponding author: *E-mail: suciqardhawijayanti26@gmail.com

Abstract

Background: Childbirth is defined as the process of the expulsion of a full-term fetus, initiated by regular uterine contractions and ending with the delivery of the baby, followed by the expulsion of the placenta and fetal membranes. Childbirth is one of the events most likely to provoke fear and anxiety in pregnant women, particularly among primigravida mothers.

Purpose: to determine and analyze the effectiveness of childbirth education in reducing pre-labor anxiety among primigravida mothers.

Method: This study employed a pre-experimental design using a quantitative approach. The sampling technique applied was total sampling. The sample consisted of 35 primigravida mothers, and data were collected using the Pregnancy-Related Anxiety Questionnaire-Revised 2 (PRAQ-R2).

Results: The results of this study, based on the Wilcoxon signed-rank test, showed that the significance value before and after childbirth education was 0.001, which is less than 0.05. This indicates a statistically significant difference in anxiety levels before and after the provision of childbirth education.

Conclusion: In conclusion, there was a significant difference in the anxiety levels of primigravida mothers before and after receiving childbirth education. Therefore, childbirth education can help reduce anxiety prior to labor.

Keywords: Anxiety; Childbirth Education; Labor; Primigravida Mothers.

INTRODUCTION

Pregnancy and childbirth are physiological processes accompanied by various physical and psychological changes in women. These changes require adequate adaptive capacity, both physically and emotionally. In a first pregnancy, limited experience and knowledge often become factors that complicate the adaptation process, thereby increasing the risk of anxiety prior to labor. Anxiety that is not properly managed may affect the mother's psychological and physiological condition and can influence the progress of labor (Glover, 2014; Nurseha, Kusumastuti, Mardianingsih, & Marlinawati, 2024).

Globally, the maternal mortality rate (MMR) remains a serious public health concern. Data indicate that in 2023, approximately 260.000 women died due to complications related to pregnancy,

childbirth, and the postpartum period (United Nations Population Fund, 2025). The high MMR reflects persistent gaps in access to and the quality of maternal healthcare services. Therefore, efforts to improve maternal health should not only focus on medical aspects but also on the mental and psychological readiness of women during pregnancy and childbirth (World Health Organization, 2022).

In Indonesia, the MMR has not yet met the targets set by the National Medium-Term Development Plan (RPJMN) or the Sustainable Development Goals (SDGs) for 2030 (Central Statistics Agency, 2020). This condition indicates that promotive and preventive interventions still need to be optimized. One approach that can be implemented is childbirth education, which aims to enhance pregnant women's

knowledge and preparedness in facing the labor process (Indrayani & Syafar, 2020).

At the regional level, Southeast Sulawesi Province has recorded a higher maternal mortality rate compared to the national average. Although Kendari City has shown a declining trend in maternal mortality cases in recent years, fluctuations still occur, indicating that risks persist (Kendari City Health Office, 2024). This underscores the importance of sustained interventions, particularly at the primary healthcare level, to improve both physical and psychological readiness among pregnant women.

Primigravida mothers are particularly vulnerable to experiencing anxiety prior to childbirth. Studies indicate that primigravida women tend to have higher anxiety levels compared to multigravida women. Contributing factors include lack of knowledge, fear of labor pain, concerns about maternal and fetal safety, and negative environmental influences (Alder, Fink, Bitzer, Hösli, & Holzgreve, 2007; Windari, 2025; Nurseha et al., 2024).

Childbirth education is one of the non-pharmacological interventions proven to reduce anxiety among pregnant women. Previous studies have shown that structured antenatal education can significantly improve knowledge, self-confidence, and psychological readiness (Brixval, Axelsen, Thygesen, Due, & Koushede, 2016; Ferguson et al., 2013). In line with demonstrated a significant reduction in anxiety levels among primigravida mothers after receiving childbirth education (Ningsih & Fauzi, 2022).

RESEARCH METHOD

This study employed a quantitative method with an experimental design, specifically a one-group

pretest–posttest design. This design involved a single group of respondents who were measured before and after the intervention, with the aim of determining the effectiveness of childbirth education on anxiety levels among primigravida mothers.

The subjects of this study were primigravida mothers in the working area of BLUD UPTD Puskesmas Mata. The total number of respondents was 35, and the sampling technique used was total sampling, determined based on the Slovin formula. This study was conducted from September to October 2025 in the working area of BLUD UPTD Puskesmas Mata. The measurement instrument used in this study was the Pregnancy-Related Anxiety Questionnaire–Revised 2 (PRAQ-R2), which was utilized to assess the level of childbirth-related anxiety among primigravida mothers.

The data collection procedure began with the administration of a pretest to determine the respondents' anxiety levels prior to the educational intervention. Subsequently, the respondents were provided with childbirth education. After the intervention was completed, a posttest was administered using the same instrument as the pretest to evaluate changes in anxiety levels before and after the provision of childbirth education.

Subsequently, data analysis was performed by comparing pretest and posttest scores using the Wilcoxon Signed-Rank Test through SPSS software to determine whether there was a significant difference before and after the educational intervention. In addition, effect size was calculated to assess the magnitude of the impact of childbirth education on anxiety levels among primigravida mothers.

Suci Qardhawijayanti*, Asmah Sukarta, Selviana Rahayu

Institut Teknologi Kesehatan dan Sains Muhammdiyah Sidrap
Corresponding author: *E-mail: suciqardhawijayanti26@gmail.com

DOI: 10.56922/mchc.v5i1.2908

RESEARCH RESULT**Table 1. characteristics of Respondent (N=35)**

Variable	Results
Anxiety Levels Before Educational Intervention	
Mild	1/3.0
Moderate	33/94.0
Severe	1/3.0
Anxiety Levels After Educational Intervention	
Mild	26/74.2
Moderate	9/25.7
Severe	0/0

Based on Table 1, it is known that prior to the implementation of childbirth education, the level of anxiety among primigravida mothers was predominantly at a moderate level (94.2%), while only 2.85% were classified as having mild and severe anxiety. the distribution of anxiety levels after the provision of childbirth education demonstrated a significant decrease, with 74.2% of primigravida mothers experiencing mild anxiety and 25.7% experiencing moderate anxiety.

Table 2. Results of the Wilcoxon Signed-Rank Test

Variable	Pre-test – Post-test
Z	-5.167 ^b
Asymp. Sig. (2-tailed)	< 0.001

Based on the table 2. results of the Wilcoxon Signed-Rank Test, a Z value of -5.167 was obtained, with a significance value (Asymp. Sig. 2-tailed) of < 0.001. This value is smaller than the significance level of $\alpha = 0.05$; therefore, the alternative hypothesis (H_1)

DISCUSSION

The results of this study indicate that childbirth education has a significant effect on reducing anxiety levels among primigravida mothers prior to labor. Before the intervention, most respondents experienced moderate anxiety. This finding is consistent with previous studies stating that primigravida mothers are more likely to experience higher anxiety due to lack of experience and uncertainty about the childbirth process (Alder et al., 2007; Saisto & Halmesmäki, 2003; Windari, 2025).

After the provision of childbirth education, there was a significant shift in anxiety levels, with most respondents categorized as having mild anxiety and none experiencing severe anxiety. This indicates that

is accepted. In addition to the Wilcoxon Signed-Rank Test, the effect size was calculated using the formula ($r = \frac{Z}{\sqrt{N}}$). The results showed an r value of 0.87, which is classified as a large effect size.

childbirth education is effective in reducing anxiety by providing structured and accurate information, thereby decreasing uncertainty and fear. Increased knowledge has been shown to positively influence coping mechanisms and emotional readiness (Guardino & Dunkel Schetter, 2014; Indrayani & Syafar, 2020).

These findings are consistent with previous research showing that Antenatal education programs significantly reduce anxiety and improve maternal confidence in facing childbirth (Brixval et al., 2015; Ferguson, Davis, & Browne, 2013). Other reported a significant decrease in anxiety levels among primigravida mothers following health education interventions (Ningsih & Fauzi, 2022)

Suci Qardhawijayanti*, Asmah Sukarta, Selviana Rahayu

Institut Teknologi Kesehatan dan Sains Muhammdiyah Sidrap
Corresponding author: *E-mail: suciqardhawijayanti26@gmail.com

DOI: 10.56922/mchc.v5i1.2908

Furthermore, childbirth education contributes to increased self-efficacy among mothers. With better understanding, mothers are able to manage emotional responses and develop positive coping strategies during labor. This aligns with the holistic approach in midwifery care, which emphasizes not only physical care but also psychological support (Haninggar, Rangkuti, Yuliani, Siagian, Damayanti, Sari, & Anita, 2024; World Health Organization, 2018).

CONCLUSION

Based on the findings of this study, it can be concluded that the pre-test and post-test conducted showed a significant change. Routine and structured childbirth education can assist pregnant women, particularly primigravida mothers, in coping with anxiety prior to labor.

REFERENCES

- Alder, J., Fink, N., Bitzer, J., Hösli, I., & Holzgreve, W. (2007). Depression and anxiety during pregnancy: a risk factor for obstetric, fetal and neonatal outcome? A critical review of the literature. *The Journal of Maternal-Fetal & Neonatal Medicine*, 20(3), 189-209.
- Brixval, C. S., Axelsen, S. F., Thygesen, L. C., Due, P., & Koushede, V. (2016). Antenatal education in small classes may increase childbirth self-efficacy: results from a Danish randomised trial. *Sexual & Reproductive Healthcare*, 10, 32-34.
- Central Statistics Agency. (2020). Angka Kematian Ibu/AKI (Maternal Mortality Rate/MMR) Hasil Long Form SP2020 Menurut Provinsi, 2020. Retrieved from: <https://www.bps.go.id/id/statistics-table/1/MjlxOSMx/angka-kematian-ibu-aki--maternal-mortality-rate-mmr---hasil-long-form-sp2020-menurut-provinsi--2020.html>
- Ferguson, S., Davis, D., & Browne, J. (2013). Does antenatal education affect labour and birth? A structured review of the literature. *Women and birth*, 26(1), e5-e8.
- Glover, V. (2014). Maternal depression, anxiety and stress during pregnancy and child outcome; what needs to be done. *Best practice & research Clinical obstetrics & gynaecology*, 28(1), 25-35.
- Guardino, C. M., & Dunkel Schetter, C. (2014). Coping during pregnancy: a systematic review and recommendations. *Health psychology review*, 8(1), 70-94.
- Haninggar, R. D., Rangkuti, N. A., Yuliani, M., Siagian, N. A., Damayanti, E. A. F., Sari, P. I. A., & Anita, N. (2024). *Konsep Asuhan Kebidanan*. Yayasan Kita Menulis.
- Indrayani, T., & Syafar, M. (2020). *Promosi kesehatan untuk bidan*.
- Kendari City Health Office. (2024). *Profil Kesehatan Tahun 2023 Dinkes Kendari*. Retrieved from: <https://www.scribd.com/document/799032759/Profil-Kesehatan-Tahun-2023-Dinkes-Kendari>
- Ningsih, M. S. W., & Fauzi, A. (2022). Pengaruh Pendidikan Kesehatan tentang Persalinan terhadap Kecemasan Ibu Hamil Primigravida Trimester III di Kecamatan Walantaka Kelurahan Pipitan Kota Serang. *Malahayati Nursing Journal*, 4(11), 2879-2890.
- Nurseha, N., Kusumastuti, B., Mardianingsih, S., & Marlinawati, I. T. (2024). *Buku ajar psikologi kehamilan, persalinan, dan nifas*. Nuansa Fajar Cemerlang.
- Saisto, T., & Halmesmäki, E. (2003). Fear of childbirth: a neglected dilemma. *Acta obstetrica et gynecologica Scandinavica*, 82(3), 201-208.

Suci Qardhawijayanti*, Asmah Sukarta, Selviana Rahayu

Institut Teknologi Kesehatan dan Sains Muhammdiyah Sidrap
Corresponding author: *E-mail: suciqardhawijayanti26@gmail.com

DOI: 10.56922/mchc.v5i1.2908

United Nations Population Fund. (2025). Trends in Maternal Mortality 2000-2023: Estimates by WHO, UNICEF, UNFPA, World Bank Group and UNDESA/Population Division. Retrieved from: <https://www.unfpa.org/publications/trends-maternal-mortality-2000-2023>

Windari, I. M. (2025). Overview of anxiety levels among third trimester primigravida pregnant women. Proceedings of National Seminar, 290–297.

World Health Organization. (2018). WHO recommendations: intrapartum care for a positive childbirth experience. Retrieved from: <https://www.who.int/publications/i/item/9789241550215>

World Health Organization. (2022). WHO guide for integration of perinatal mental health in maternal and child health services. Retrieved from: <https://www.who.int/publications/i/item/9789240057142>

Suci Qardhawijayanti*, Asmah Sukarta, Selviana Rahayu

Institut Teknologi Kesehatan dan Sains Muhammdiyah Sidrap
Corresponding author: *E-mail: suciqardhawijayanti26@gmail.com

DOI: 10.56922/mchc.v5i1.2908