



## SCIENCE-BASED ACUPRESSURE SELF-CARE EDUCATION FOR PREGNANT WOMEN AT CESAREAN RISK

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<p><b>Info Article</b></p> <p>Received: 02 Februari 2026</p> <p>Revised: 04 Maret 2026</p> <p>Accepted: 02 April 2026</p> <p>Publication: 30 April 2026</p>	<p><b>Abstract:</b> <i>The rate of cesarean section has increased significantly and has become a major concern in maternal healthcare services. Therefore, promotive and preventive strategies are needed to enhance the independence of pregnant women, one of which is through the application of self-care acupressure as a safe and practical non-pharmacological complementary therapy. This study aimed to evaluate the effectiveness of self-care acupressure in improving knowledge, practical skills, and independence among pregnant women at risk of cesarean section in the working area of Katobengke Public Health Center, Baubau City. A quantitative approach with a quasi-experimental one group pretest–posttest design was used. The study was conducted in 2026 involving 30 participants selected through purposive sampling. Before the intervention, most respondents had low knowledge levels. After the education program, knowledge improved significantly, with statistical analysis showing a meaningful difference before and after the intervention.</i></p> <p><b>Abstrak:</b> Tindakan sectio caesarea mengalami peningkatan yang cukup signifikan dan menjadi perhatian dalam pelayanan kesehatan ibu. Oleh karena itu, diperlukan strategi promotif dan preventif yang mampu meningkatkan kemandirian ibu hamil, salah satunya melalui penerapan self-care akupresur sebagai terapi komplementer nonfarmakologis yang relatif aman dan mudah dipraktikkan. Penelitian ini bertujuan untuk mengkaji efektivitas penerapan self-care akupresur dalam meningkatkan pengetahuan, keterampilan praktik, serta kemandirian ibu hamil dengan risiko sectio caesarea di wilayah kerja Puskesmas Katobengke, Kota Baubau. Penelitian ini menggunakan pendekatan kuantitatif dengan desain quasi-experimental melalui model one group pretest–posttest. Penelitian dilaksanakan pada tahun 2026 dengan jumlah sampel sebanyak 30 ibu hamil risiko sectio caesarea yang dipilih menggunakan teknik purposive sampling. Sebelum intervensi, mayoritas responden memiliki tingkat pengetahuan yang rendah. Setelah diberikan edukasi, terjadi peningkatan pengetahuan dengan kategori baik. Hasil analisis statistik menunjukkan adanya perbedaan yang signifikan antara sebelum dan sesudah intervensi</p>
<p><b>Keywords:</b> <i>Acupressure, Pregnant Women, Health Education, Knowledge, Independence</i></p> <p><b>Kata Kunci:</b> Akupresur, Ibu Hamil, Edukasi Kesehatan, Pengetahuan, Kemandirian</p>	
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## INTRODUCTION

Maternal health represents a fundamental indicator in global health development, as it is closely associated with the quality of future generations. The World Health Organization (WHO) highlights that improving the quality of maternal healthcare services is a key priority in reducing maternal and neonatal morbidity and mortality rates (Afifah Noer, 2025). Within modern obstetric practice, cesarean section (CS) is recognized as a crucial medical intervention that can save the lives of both mother and infant, particularly in situations where vaginal delivery is considered unsafe or not feasible (Alexander & Pebrianti, 2018). Despite its clinical benefits, the increasing prevalence of cesarean section deliveries over recent decades has become a major public health concern. Globally, the rate of cesarean births has risen significantly, from approximately 7% in 1990 to more than 21% in recent years, with projections suggesting it could reach nearly 29% by 2030 if current trends persist. This situation is concerning because the increase in cesarean deliveries does not always correspond to improved maternal and neonatal health outcomes (Afifah Noer, 2025).

Evidence from various studies indicates that the rise in cesarean section rates is not solely driven by medical indications. Non-medical factors such as maternal anxiety, preference for scheduled delivery, previous obstetric experiences, and sociocultural influences also contribute significantly (Syahrianti et al., 2020). Furthermore, advancements in healthcare technology and improved access to modern medical facilities have played a role in the growing number of cesarean procedures. However, when performed without clear medical justification, cesarean section may increase the risk of complications, prolong recovery time, and lead to higher healthcare costs compared to vaginal delivery (Amelia et al., 2021).

Consequently, current maternal healthcare strategies increasingly emphasize promotive and preventive approaches during pregnancy to enhance maternal preparedness for childbirth (Ediyono et al., 2025). One approach that has gained considerable attention is strengthening maternal self-care through structured health education and the use of safe complementary therapies (Arum Meiranny et al., 2021). Techniques such as relaxation exercises, massage, and acupressure have been shown to alleviate physical discomfort, improve maternal well-being, and enhance psychological readiness prior to labor. Integrating these methods into antenatal education programs can empower pregnant women to take a more active role in maintaining their health and may help reduce unnecessary medical interventions. In primary healthcare settings,

incorporating self-care education into antenatal care programs is considered an effective strategy to improve maternal knowledge and participation in health maintenance during pregnancy (Wilujeng, 2025). Primary healthcare facilities play a vital role in delivering health education, conducting early risk detection, and continuously monitoring maternal conditions. Through structured educational interventions, pregnant women can develop a better understanding of physiological changes during pregnancy and acquire practical skills that support their overall well-being.

Since 1985, the World Health Organization has recommended that the optimal rate of cesarean section should range between 10% and 15% of all births at the population level. This threshold is considered appropriate when cesarean procedures are performed based on clear medical indications and contribute to reducing maternal and neonatal mortality. However, further increases beyond this level do not necessarily result in additional health benefits. This trend is also evident in developing countries, including Indonesia, where the rate of cesarean deliveries has increased significantly over the past two decades. This increase is influenced by multiple factors, including both medical and non-medical determinants, such as advanced maternal age, pregnancy complications, previous delivery history, and psychological factors like anxiety related to childbirth. Additionally, changes in healthcare delivery systems and increased accessibility to modern medical facilities have contributed to the growing use of cesarean section (Aritonang et al., 2020).

Pregnant women at risk of cesarean delivery often face a range of health challenges during pregnancy. In addition to complex physiological changes, they frequently experience physical discomfort such as back pain, fatigue, sleep disturbances, and muscle tension (Sutrisna Altahira, 2023). Psychologically, anxiety related to impending childbirth is also common, particularly among high-risk pregnancies. These conditions may affect maternal readiness for labor and influence both maternal and fetal well-being. Therefore, it is essential to implement approaches that not only focus on medical interventions but also enhance the ability of pregnant women to manage their health independently (Smith et al., 2017). The concept of self-care has emerged as an important approach in maternal health services. Self-care refers to an individual's capacity to actively maintain health and well-being through independent actions. During pregnancy, self-care may include maintaining a balanced

diet, engaging in safe physical activities, practicing relaxation techniques, and utilizing complementary therapies (Astuti, 2015).

One complementary therapy that has gained increasing attention is acupressure. Acupressure is a non-pharmacological technique that involves applying pressure to specific points on the body to stimulate the nervous system, improve blood circulation, and promote physiological balance (Purba, A., & Sembiring, 2020). Previous studies have demonstrated that acupressure can help reduce common pregnancy-related discomforts, enhance relaxation, and alleviate pain during labor. Moreover, this technique is relatively simple, safe, and can be learned by pregnant women, making it suitable for self-care practice. From the perspective of the philosophy of science, the development of health interventions should not rely solely on empirical evidence but also consider ontological, epistemological, and axiological foundations (Yanti et al., 2020). This perspective provides a comprehensive framework for understanding how health-related knowledge is constructed, validated, and applied in practice. Consequently, health education should not merely function as a process of information transfer but also as a means of fostering deep understanding, enabling individuals to internalize and apply knowledge in their daily lives (Cahyo et al., 2008).

In primary healthcare settings such as community health centers, self-care-based educational approaches are highly relevant. Community health centers play a strategic role in delivering maternal health education (Notoatmodjo, 2018). However, preliminary observations indicate that pregnant women still have limited knowledge regarding self-care practices during pregnancy, particularly in relation to complementary therapies such as acupressure. Existing health education tends to focus primarily on routine medical examinations, while approaches that promote maternal independence in self-care have not been widely implemented in a systematic manner (Cunningham et al., 2022). Based on these conditions, there is a need for innovative, evidence-based, and scientifically grounded educational approaches to enhance maternal knowledge and independence (Kurniasari & Berthilia, 2016). One potential strategy is the development of a self-care acupressure education model for pregnant women at risk of cesarean section. Through structured education grounded in the philosophy of science, it is expected that pregnant women will not only understand the theoretical benefits of acupressure but also be able to apply it independently as part of their daily health practices (Desnita, 2024). Therefore, this study aims to analyze the implementation of a self-care acupressure education model among pregnant women at

risk of cesarean section in the working area of Katobengke Public Health Center, Baubau City. The findings of this study are expected to contribute to the development of complementary therapy-based health education models and support improvements in maternal healthcare services at the primary care level (Putri et al., 2021).

**METHOD**

This study applied a quantitative approach using a quasi-experimental design with a one-group pretest–posttest framework to evaluate changes in knowledge and independence among pregnant women following a self-care acupressure educational intervention (Sugiyono, 2010). The research was conducted in 2026 within the working area of Katobengke Public Health Center, Baubau City. The study population consisted of pregnant women identified as having a risk of cesarean delivery. A total of 30 participants were selected using purposive sampling based on predefined inclusion criteria. The independent variable in this study was self-care acupressure education, while the dependent variables included the level of knowledge and the degree of independence of pregnant women.

Data were collected using structured instruments, including a respondent characteristics questionnaire, a knowledge assessment questionnaire, and an observation checklist to evaluate acupressure practice. All instruments had previously undergone validity and reliability testing. The research procedure involved several stages, including coordination with the health center, participant identification, administration of the pretest, delivery of educational sessions accompanied by acupressure demonstrations, independent practice by participants, and finally the posttest assessment. Data analysis was performed using both univariate and bivariate techniques. To assess differences before and after the intervention, statistical tests such as the paired sample t-test or the Wilcoxon Signed Rank Test were applied, depending on data distribution.

**RESULTS AND DISCUSSION**

**Table 1. Distribution Characteristics Respondents**

Characteristics Respondents	Frequency (n)	Percentage (%)
Age		
< 20 years	4	13.3
20–35 years	18	60
> 35 years	8	26.7
Education		
Junior High School	7	23.3

Senior High School	17	56.7
College	6	20
Work		
Housewife	20	66.7
Work	10	33.3
Age Pregnancy		
Second Trimester	11	36.7
Third Trimester	19	63.3
Total	30	100

Source: Primary Data

The findings indicated that the majority of participants were within the reproductive age range of 20–35 years (60%). Most respondents had completed secondary education (56.7%), and a large proportion were housewives (66.7%). In terms of gestational age, most participants were in the third trimester of pregnancy (63.3%).

**Table 2. Level of Knowledge of Pregnant Women Before Acupressure Self-Care Education**

Level of Knowledge	Frequency (n)	Percentage (%)
Good	4	13.3
Enough	8	26.7
Not enough	18	60
Total	30	100

Source: Primary Data

Prior to the educational intervention, the majority of respondents demonstrated a low level of knowledge regarding self-care acupressure, accounting for 60% of participants. Only a small proportion had sufficient (26.7%) or good (13.3%) knowledge.

**Table 3. Level of Knowledge of Pregnant Women After Acupressure Self-Care Education**

Level of Knowledge	Frequency (n)	Percentage (%)
Good	19	63.3
Enough	8	26.7
Not enough	3	10
Total	30	100

Source: Primary Data

Following the implementation of self-care acupressure education, there was a marked improvement in participants’ knowledge. A total of 63.3% of respondents were categorized as having good knowledge, while 26.7% were in the sufficient category and only 10% remained in the low category. These findings indicate a substantial increase in understanding of both the benefits and techniques of acupressure. Bivariate analysis was conducted to determine differences in knowledge levels before and after the

intervention. The Wilcoxon Signed Rank Test was used due to the paired nature of the data and its non-normal distribution.

**Table 4. Results of the Wilcoxon Influence Test Acupressure Self-Care Education to Knowledge of Pregnant Women**

Variables	Mean Rank	Sum of Ranks	p-value
Knowledge before education	6.20	93.00	
Knowledge after education	18.80	282.00	0,000

Source: Primary Data

The statistical results showed a p-value of 0.000 ( $p < 0.05$ ), indicating a significant difference between pre-intervention and post-intervention knowledge levels. This confirms that the educational program had a meaningful impact on improving participants' knowledge. This study involved 30 pregnant women at risk of cesarean section within the Katobengke Public Health Center area. The majority were aged 20–35 years, had a secondary education level, were housewives, and were in the third trimester of pregnancy. Before receiving the intervention, most participants exhibited low levels of knowledge regarding self-care acupressure. After the educational program, there was a significant improvement, with the majority of respondents reaching a good level of knowledge. Additionally, approximately 70% of participants were able to independently perform acupressure techniques following the demonstration.

Statistical analysis further revealed a significant increase in knowledge scores, rising from 56.4 before the intervention to 82.7 after the intervention ( $p < 0.05$ ). These findings demonstrate that self-care acupressure education significantly contributes to improving both knowledge and independence among pregnant women. This study was conducted to examine the effect of self-care acupressure education on improving the knowledge and independence of pregnant women at risk of cesarean section in the Katobengke Public Health Center, Baubau City. The findings revealed that prior to the intervention, most participants had limited understanding regarding the benefits and techniques of acupressure during pregnancy. This indicates that the use of complementary therapies in maternal health services has not yet been widely recognized or fully understood by pregnant women. Insufficient knowledge about self-care practices may negatively affect maternal readiness for childbirth as well as their ability to independently maintain their health.

The demographic characteristics showed that the majority of respondents were within the reproductive age range of 20–35 years, which is generally considered a

biologically safe period for pregnancy. However, age alone does not determine a woman's preparedness for pregnancy and childbirth. Educational background and access to health information also play a crucial role in shaping maternal knowledge regarding health maintenance practices. In this study, most participants had a secondary level of education, which generally enables them to comprehend health-related information effectively when delivered through appropriate educational methods. Before the intervention, the pretest results indicated that most participants had low levels of knowledge about self-care acupressure. This finding suggests that information regarding complementary therapies such as acupressure is still not sufficiently disseminated through routine maternal health services. Existing antenatal care practices tend to focus more on physical examinations, pregnancy monitoring, and nutritional supplementation, while structured education on self-care strategies to enhance comfort during pregnancy remains limited.

Following the educational intervention, there was a significant improvement in participants' knowledge levels. Most respondents showed a transition from low to moderate and high knowledge categories. Statistical analysis using the Wilcoxon Signed Rank Test confirmed a significant difference between pre-intervention and post-intervention scores ( $p < 0.05$ ). These results demonstrate that structured health education is effective in increasing pregnant women's understanding of both the benefits and techniques of acupressure as a self-care method. The improvement in knowledge highlights the importance of effective educational delivery methods. Educational sessions that combine theoretical explanations with practical demonstrations provide participants with opportunities to not only understand concepts but also develop hands-on skills. This approach aligns with learning theories that emphasize the effectiveness of combining verbal instruction with experiential practice to enhance knowledge retention and learning outcomes. In addition to improving knowledge, this study also found that a large proportion of participants were able to independently perform acupressure techniques after receiving instruction. This finding suggests that acupressure is a relatively simple and accessible complementary therapy that can be learned and applied by pregnant women as part of their daily self-care routine. The ability to perform self-care practices independently is a key indicator of success in promotive and preventive healthcare approaches (Febrianti, 2020).

Acupressure itself originates from traditional Eastern medicine principles, which emphasize the balance of energy within the body. The technique involves applying

pressure to specific points believed to stimulate nerve function, improve blood circulation, and reduce muscle tension. In pregnancy, acupressure has been shown to help alleviate common discomforts such as back pain, fatigue, and muscle stiffness, as well as promote relaxation and psychological readiness for labor (Ermiati et al, 2024). From the perspective of the philosophy of science, the development of health interventions such as self-care acupressure education can be understood through three fundamental dimensions: ontology, epistemology, and axiology. Ontologically, acupressure is viewed as a complementary therapy grounded in physiological mechanisms (Maesaroh & Putri, 2019). Epistemologically, knowledge about acupressure is generated through scientific research aimed at evaluating its effectiveness. Axiologically, the application of acupressure education provides meaningful benefits by enhancing maternal independence and health outcomes (Haridawati, 2020).

The concept of self-care education is also consistent with modern healthcare paradigms that emphasize patient empowerment. In maternal health, empowering pregnant women is particularly important because they directly experience the processes of pregnancy and childbirth. With adequate knowledge and practical skills, women are better equipped to manage their health and reduce discomfort during pregnancy (Hidayatus Sholikhah et al, 2025). At the primary healthcare level, such as community health centers, self-care-based educational approaches hold great potential for development. These facilities serve as the closest point of contact between healthcare services and the community, making them ideal for delivering maternal health education. Integrating complementary therapies such as acupressure into antenatal care programs represents an innovative strategy to improve the quality of maternal healthcare services (Kartika & Setiawati, 2022).

Overall, the findings of this study indicate that self-care acupressure education has a significant impact on improving maternal knowledge and practical skills. The intervention not only enhances understanding but also promotes independence in applying self-care practices. This suggests that the development of self-care-based educational models can serve as an effective strategy for improving maternal healthcare quality. However, this study has several limitations, including a relatively small sample size and the restriction of the research setting to a single healthcare facility. Therefore, future research should involve larger sample sizes and multiple healthcare settings to

obtain more comprehensive and generalizable findings regarding the effectiveness of self-care acupressure education (Khoirullisa et al., 2019).

This study also offers novelty by integrating the philosophy of science approach—covering ontological, epistemological, and axiological aspects—into the development of maternal health education. This integration provides a more comprehensive understanding of the relationship between scientific knowledge, practical health applications, and their benefits for pregnant women (Maesaroh & Putri, 2019). Furthermore, this study emphasizes maternal empowerment through the enhancement of knowledge and skills in performing self-care acupressure independently. Unlike previous studies that primarily focused on acupressure in clinical settings, this research highlights its application within primary healthcare services. Through structured education combined with direct practice, this approach supports the development of maternal independence as part of promotive and preventive healthcare strategies (Mariza & Ayuningtias, 2019).

## **CONCLUSION**

This study demonstrates that self-care acupressure education is effective in enhancing both the knowledge and independence of pregnant women at risk of cesarean section in maintaining their health during pregnancy. Educational interventions delivered through a combination of explanation, demonstration, and hands-on practice significantly improve participants' understanding and their ability to independently perform acupressure techniques. The findings suggest that experiential learning approaches enable pregnant women to better understand the benefits and procedures of acupressure, thereby increasing their confidence and self-efficacy in applying this technique as part of their daily self-care practices. In addition, incorporating a philosophy of science perspective into health education provides a broader conceptual framework for understanding the relationship between scientific knowledge, complementary therapies, and their practical benefits. This approach reinforces the idea that health education should not only focus on knowledge transfer but also on empowering individuals to make informed decisions regarding their health. Therefore, self-care acupressure education can be considered a promising promotive and preventive strategy for improving maternal health, particularly at the primary healthcare level. Its implementation in community-based maternal health programs has the

potential to enhance maternal preparedness for childbirth, strengthen self-care capabilities, and ultimately contribute to improved maternal health outcomes.

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