



Enhancing Prenatal Mindfulness Through Self-Affirmation and Yoga: A Case Study Approach

Yustina Tyas Kurniawati

Department of Midwifery, Poltekkes Kemenkes Semarang, Indonesia

Corresponding Author: yustinatyas@lecturer.poltekkes-smg.ac.id

ABSTRACT

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Anchored in SDG 3's imperative to "ensure healthy lives," but roughly 20% of women experience anxiety worldwide, including pregnant women. To overcome it, they should deepen self-knowledge, bolster self-compassion, and enhance resilience against prenatal distress. This study uses a one-group post-test only design with purposive sampling to assess the impact of combined self-affirmation and prenatal yoga on mindfulness. Employing a pre-experimental, single-case design with healthy women at 20–36 weeks' gestation, the intervention was practiced by a midwife who is certified yoga facilitator. After each weekly private yoga session, including breathing exercises, verbal self-affirmation, yoga sequences, and praying, participants completed the FFMQ to assess mindfulness. Among 18 pregnant women, most were primiparous. Based on the FFMQ results, mean scores for Observing (30.3), Describing (24.1), and Acting with Awareness (19.2) were above the median values 29.5, 24, 19.5, while mean Non-Judging (19.0) closely approximated its median (19.5), and mean Non-Reactivity (20.6), while the median (20.0). The combined prenatal yoga and self-affirmation program improved key mindfulness facets: Observing, Describing, and Acting with Awareness, while preserving Non-Judging and Non-Reactivity, thereby enhancing attentional focus and emotional labeling to buffer prenatal stress. Good scores mean greater mindfulness. This approach effectively fosters emotional resilience and well-being in pregnancy.

INTRODUCTION

About 20% of women, including pregnant women, experience anxiety during pregnancy, which may negatively affect both maternal and fetal health¹. In order to support SDG Target 3 ensuring healthy lives and promoting well-being. It is essential to adopt strategies that address the mental health of expectant mothers². Maternal anxiety is a common psychological issue during pregnancy, with significant implications for both maternal and fetal health. Research shows that prenatal anxiety is associated with sleep disturbances, heightened stress, impaired maternal well-being, and an increased risk of preterm birth³. Despite these risks, prenatal anxiety often remains under-recognized and insufficiently addressed in antenatal care. Non-pharmacological interventions such as yoga and mindfulness-based practices have gained attention as safe and effective strategies for reducing maternal distress. Prenatal yoga, in particular, has been demonstrated to lower anxiety, depression, and perceived stress among pregnant women^{4,5}. And midwives, as the closest partners of pregnant women, have a role



in promoting these non-pharmacological mental health interventions. Similarly, self-affirmation and mindfulness programs strengthen maternal self-awareness, resilience, and emotional regulation, contributing positively to mental health during pregnancy⁶. Maternal mindfulness during pregnancy plays a crucial role in promoting psychological well-being and preparing for childbirth. However, approximately 20% of women worldwide experience anxiety during pregnancy, which may affect maternal–fetal attachment and birth outcomes⁷. Mindfulness-based interventions have emerged as promising strategies to reduce prenatal anxiety and enhance emotional regulation.

Among these, yoga and self-affirmation have shown consistent benefits, though their combined use in antenatal settings remains underexplored. Prenatal yoga is widely recognized as a holistic mind–body practice. That fosters relaxation, interoceptive awareness, and parasympathetic balance through controlled breathing, gentle movement, and meditative focus⁸. Neurobiologically, yoga will increasing activation in the prefrontal cortex and anterior cingulate cortex, regions involved in attention control and emotional regulation, thereby enhancing mindfulness and stress resilience^{9,10}. Self-affirmation, conversely, functions at a cognitive level. It encourages individuals to reflect on personal strengths and values, reinforcing a positive self-concept and reducing psychological defensiveness when faced with stress. Neuroimaging studies indicate that self-affirmation activates the ventromedial prefrontal cortex and reward-related networks, supporting adaptive coping and emotional stability^{11,12}.

The integration of these two methods that yoga and self-affirmation offers a synergistic framework that targets both the physiological and psychological dimensions of mindfulness. Yoga strengthens body awareness and relaxation, while self-affirmation nurtures cognitive flexibility and positive self-perception. Together, they may amplify the effects of mindfulness by promoting both embodied presence and mental resilience, creating a more comprehensive approach to supporting maternal well-being during pregnancy. Recent evidence also suggests that multi-component mind body interventions yield greater improvements in stress reduction and mindfulness compared to single-modality programs^{8,13}.

Therefore, combining yoga with self-affirmation is theoretically justified not only by their shared goal of reducing anxiety but also by their complementary neuropsychological mechanisms. This approach aligns with contemporary midwifery perspectives that emphasize holistic, preventive, and woman-centered care to enhance maternal mental health and childbirth readiness. However, studies integrating self-affirmation with prenatal yoga remain limited, especially in low and middle-income settings

Given this gap, it is essential to examine whether a combined intervention of self-affirmation and prenatal yoga can enhance mindfulness and psychological well-being in pregnant women. The findings may provide a foundation for midwives and healthcare providers to incorporate these strategies into antenatal services. Ultimately, this research aligns with the Sustainable Development Goals (SDGs), particularly Goal 3, which seeks to ensure healthy lives and promote well-being for all at all ages¹⁴. The aim of this study was to determine the effect of self-affirmation and prenatal yoga interventions on mindfulness levels in pregnant women.

METHOD

This study used a pre-experimental method with a one-group post-test only design. This design was used to measure the effect of self-affirmation and prenatal yoga interventions on the mindfulness and self-efficacy levels of pregnant women. In this design, one group of participants was measured only after the intervention, without a control group. The goal was to observe changes in the participants' condition after receiving a specific treatment (intervention).

The intervention was conducted on pregnant women aged 20–36 weeks (the second trimester to the beginning of the third trimester is a safe and ideal period for light physical activity such as prenatal yoga) in community; willing to participate in all intervention sessions in full and complete the





questionnaire (committed participation is important to ensure the validity of the intervention); not experiencing pregnancy complications requiring bed rest (prenatal yoga activities must be performed by pregnant women in stable condition); and aged 20–40 (this is the general reproductive age range and minimizes bias from extreme age factors). This study also excluded patients with a history of mental health problems or undergoing psychological/psychiatric therapy (this could be a confounding factor affecting mindfulness scores or the effectiveness of self-affirmations); experiencing severe pain, premature contractions, or medical conditions that limit movement (e.g., preeclampsia); undergoing psychological interventions or prenatal yoga from other providers simultaneously (this is to avoid duplicate interventions affecting the results). The intervention was delivered privately once a week by a certified midwife as a yoga facilitator. Each session included breathing exercises, self-affirmations, yoga movements, and prayer or reflective meditation.

Assessments were conducted using the Five Facet Mindfulness Questionnaire (FFMQ) to measure five aspects of mindfulness: observing, describing, acting with awareness, non-judging of inner experience, and non-reactivity to inner experience. Data were analyzed using descriptive statistics, including means and standard deviations for each FFMQ dimension. Given the single-group post-test design, the focus of analysis was on identifying general trends and patterns in mindfulness rather than hypothesis testing. The findings were compared with results from previous studies involving yoga or mindfulness based interventions among pregnant women to assess relative consistency and contextual significance. This study also received ethical approval from the Health Research Ethics Commission of the Semarang Ministry of Health Polytechnic, with the ethical approval number: No. 1092/EA/F.XXIII.38/2025.

RESULT AND DISCUSSION

Descriptive analysis was performed to summarize participants' characteristics and mindfulness dimensions. Mean, standard deviation, and median values of the Five Facet Mindfulness Questionnaire (FFMQ) subscales were calculated. Data were analyzed using Excel and SPSS version 23. Since the study employed a single-group post-test design, results were interpreted descriptively without inferential statistical tests.

Table 1.
Characteristics of respondents

Variable	N (%)
<i>Education level</i>	
University	18 (100)
<i>Gravida</i>	
Primigravida	15 (83.33)
Multigravida	3 (16.67)
<i>Gestational age in first meet</i>	
2 nd trimester	5 (27.78)
3 rd trimester	13 (72.22)
<i>Gestational age in labour</i>	
<37 weeks	1 (5.55)
>37 weeks	17 (94.44)

Table 1 shows eighteen pregnant women completed the study. All participants had a university-level education, indicating a homogeneously high educational background among respondents. Most



were primigravida (15; 83.3%). At first contact, the majority enrolled in the study in the third trimester (13; 72.2%), while the remainder entered in the second trimester (5; 27.8%). Pregnancy progressed to term for most participants: 17 (94.4%) delivered at ≥ 37 weeks and 1 (5.6%) delivered before 37 weeks. Respondents are homogeneously high educational level (100% university) likely influenced both recruitment and engagement: higher maternal education is commonly associated with greater uptake of antenatal education and non-pharmacological programs (e.g., prenatal classes, digital mindfulness tools), and with better comprehension of study procedures and adherence to home practice recommendations¹⁵. The predominance of primigravida (83%) is important because first-time pregnant women often show higher interest in childbirth preparation and in interventions that reduce anxiety and increase self-efficacy; several recent studies report that primigravidae disproportionately seek prenatal education or mindfulness/yoga programs to prepare for labor and to manage pregnancy-related stress. This composition should be considered when interpreting outcomes, since primigravida status may correlate with baseline anxiety and responsiveness to intervention (qualitative and quasi-experimental evidence)⁶.

Most participants were enrolled in the third trimester. Late enrolment is common in pragmatic prenatal intervention studies (many programs recruit in late second–early third trimester), but it limits exposure time to the intervention and therefore may attenuate effects on facets of mindfulness that require longer practice (e.g., acting with awareness, non-judgment). Randomized and longitudinal studies suggest earlier and longer exposure (beginning in mid-pregnancy) tends to produce larger and more durable psychological benefits. Hence, the timing of enrollment in this sample should be noted as a potential reason why some mindfulness dimensions changed more than others^{6,16}. Then, the high rate of term births (94.4%) provides a reassuring safety context: accumulated evidence indicates that prenatal yoga and mindfulness programs are generally safe when adapted for pregnancy and led by qualified facilitators, and they are not associated with increased risk of preterm birth in low-risk samples. Nonetheless, as with all small samples, safety and obstetric outcomes should continue to be monitored in larger trials⁴.

After that, we investigate mindfulness dimensions using the Five Facet Mindfulness Questionnaire (FFMQ) after a prenatal yoga and self-affirmation intervention among 18 pregnant women. The results are shown in table (2).

Table 2.
FFMQ results when prenatal yoga and self-affirmation intervention

Dimension	Mean	SD
Observing	30.3	4.38
Describing	24.1	2.24
Acting with Awareness	19.2	4.29
Nonjudging	19.0	5.09
Nonreactivity	20.6	3.73

Table (2) shows that these findings indicate that the highest score was observed in the Observing dimension, while the lowest score was in Nonjudging. The results suggest that prenatal yoga combined with self-affirmation practices can enhance mindfulness in pregnant women, particularly in the Observing and Describing dimensions. The high mean score in Observing indicates improved awareness of internal and external experiences, which is consistent with recent studies highlighting yoga's effectiveness in strengthening attentional control and body awareness during pregnancy¹⁷.

The relatively lower score in Nonjudging suggests that pregnant women may still experience challenges in reducing self-critical attitudes and judgmental thinking. This finding aligns with previous





evidence that mindfulness-based interventions often improve awareness and observation more readily than emotional regulation dimensions such as nonjudgment¹⁸. Nonetheless, the moderate score in Nonreactivity indicates a positive trend toward better emotion regulation, an important aspect of maternal mental health¹⁹.

Comparisons with previous studies demonstrate similar patterns. A recent feasibility trial of prenatal yoga in ethnic minority women showed improvements in mindfulness and self-regulation, although variations across dimensions were also observed²⁰. Furthermore, a systematic review reported that mindfulness-based interventions in pregnancy tend to improve psychological flexibility and stress management, with mixed effects on judgment-related facets²¹. Taken together, the results reinforce the potential of yoga and self-affirmation as low-cost, non-pharmacological strategies to promote mindfulness and emotional resilience in pregnant women. The findings highlight the potential application of prenatal yoga as part of antenatal care to promote maternal mental health. Integrating yoga with reflective practices such as self-affirmation may help pregnant women manage stress, enhance self-awareness, and foster healthier maternal and fetal bonding. Health professionals, especially midwives could incorporate structured mindfulness-based movement practices into prenatal education programs^{17,19}.

From these findings, it also implies to clinical midwifery perspective. Midwives have the opportunity to incorporate self-affirmation techniques within prenatal counseling to enhance maternal self-efficacy and emotional resilience. During antenatal visits, they can encourage expectant mothers to articulate positive affirmations reflecting confidence in their abilities and trust in their bodies. This approach aligns with recent evidence recommending the inclusion of mindfulness-based affirmations as part of standard antenatal education. It could be alleviate anxiety and foster positive perceptions of childbirth^{22,23}.

Furthermore, incorporating yoga interventions into antenatal care requires that midwives receive specialized training to ensure both safety and effectiveness. Midwives should possess a clear understanding of pregnancy-adapted yoga postures, breathing methods, and potential contraindications to minimize risk and optimize maternal well-being. Structured training opportunities such as workshops or professional development modules jointly designed by midwifery programs and certified prenatal yoga instructors can help midwives build these competencies²⁴. Through such preparation, yoga sessions can be delivered appropriately according to gestational age, maternal comfort, and individual health conditions. The findings of this study reinforce the value of integrating mindfulness-based practices, particularly yoga combined with self-affirmation, within routine midwifery care to enhance maternal psychological health and childbirth readiness. Further investigations with larger and more diverse populations, as well as control comparisons, are necessary to validate these results and to assess the long-term impact on maternal and neonatal outcomes.

CONCLUSION

This study demonstrates that prenatal yoga combined with self-affirmation is associated with higher mindfulness levels in pregnant women, particularly in Observing and Describing. However, improvements in Nonjudging and Acting with Awareness appear less pronounced, suggesting the need for tailored intervention components to address these areas. Midwives can integrate self-affirmation and yoga in antenatal classes to reduce anxiety. The combination of prenatal yoga and self-affirmations shows potential in increasing mindfulness in pregnant women; studies with more robust experimental designs are needed to confirm causal effects. Future research should use larger and more diverse samples to improve generalizability. Longitudinal designs are recommended to assess the sustainability of mindfulness outcomes across pregnancy and postpartum. It can be combined with qualitative studies may provide insights into participants' lived experiences and barriers to practice.



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