



PSYCHOLOGICAL RESILIENCE IN PREGNANT WOMEN DURING PREGNANCY

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ABSTRACT

Psychological resilience during pregnancy is crucial for maintaining maternal mental health and influencing overall pregnancy outcomes. Despite its importance, the factors contributing to resilience and the effectiveness of interventions to enhance it are often underexplored. Objective: This study aims to investigate the impact of psychological resilience on pregnant women and assess the effectiveness of resilience-building interventions in improving maternal well-being and coping mechanisms. Method: A quasi-experimental design was employed with a treatment group and a control group, each consisting of Sixty (60) pregnant women selected through purposive sampling. The intervention involved resilience-enhancing workshops and support sessions facilitated online via the Zoom platform. The control group received standard prenatal care without additional interventions. Data were analyzed using the Mann-Whitney test, unpaired t-test, chi-square test, and Fisher's exact test. Results: The three-month intervention significantly improved psychological resilience, as indicated by enhanced coping skills, reduced levels of anxiety and depression, and improved overall maternal well-being. Participants in the intervention group reported better stress management and increased satisfaction with prenatal care compared to the control group. Conclusions: Psychological resilience is a key factor in supporting pregnant women through the challenges of pregnancy. Effective resilience-building interventions can lead to significant improvements in maternal mental health and overall pregnancy outcomes.

Keywords: psychological resilience; pregnancy; mental health; resilience building intervention

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INTRODUCTION

Pregnancy is a transformative period that not only involves physical changes but also significant psychological adjustments. (Davis & Narayan, 2020) For many women, this phase can be accompanied by stress, (Traylor et al., 2020) anxiety, (Li et al., 2021) and emotional fluctuations, (Alves et al., 2023) if not properly managed, may lead to adverse maternal and fetal outcomes. (van den Heuvel, 2022) Psychological resilience, defined as the ability to adapt positively in the face of adversity, (Ferreira et al., 2021) plays a crucial role in maintaining maternal mental health during this critical time. (Vella & Pai, 2019) It equips pregnant women with the coping mechanisms necessary to navigate the challenges and stressors associated with pregnancy, ultimately contributing to better prenatal outcomes. (Al-Mutawtah et al., 2023) Despite the recognized importance of psychological resilience, there is still a limited understanding of the factors that contribute to its development and how interventions can effectively enhance it during pregnancy. (Schäfer et al., 2024)

Existing research often emphasizes the physical aspects of prenatal care, with less focus on the mental health components that are equally vital for the well-being of both mother and baby. (Agyekum, 2023) This gap highlights the need for targeted interventions aimed at fostering resilience among pregnant women to support their mental health and overall pregnancy experience. Addressing this gap requires a holistic approach to prenatal care that

integrates psychological support alongside traditional physical health monitoring. Resilience-enhancing interventions, such as structured workshops and support sessions, offer a promising solution by providing pregnant women with the tools to manage stress, improve coping mechanisms, and foster emotional well-being. (Park et al., 2021)

These interventions not only empower women to face the psychological challenges of pregnancy but also contribute to better pregnancy outcomes, including reduced anxiety, depression, and overall stress levels. By equipping expectant mothers with strategies to build psychological resilience, healthcare providers can create a more comprehensive prenatal care model that promotes both mental and physical health, ultimately leading to healthier pregnancies and improved maternal satisfaction. (Morse et al., 2021) This study addresses this gap by investigating the impact of psychological resilience on maternal well-being and evaluating the effectiveness of resilience-building interventions during pregnancy. By examining both the psychological outcomes and the effectiveness of structured resilience-enhancing programs, this research aims to provide valuable insights into how prenatal care can be improved to better support the mental health of pregnant women.

METHOD

This study employed a quasi-experimental design to assess the effectiveness of resilience-building interventions among pregnant women. The participants were divided into two groups: an intervention (treatment) group and a control group. A total of 120 pregnant women participated in the study. Sixty (60) women were assigned to the intervention group, while the other 60 were in the control group. Participants were selected through purposive sampling, targeting pregnant women in their second trimester with moderate levels of psychological distress based on self-report questionnaires. Inclusion criteria Pregnant women in the second trimester (between 13–28 weeks of gestation), Aged 18–40 years, Willing to participate in both intervention and control activities, Moderate levels of psychological distress (based on a baseline screening using the Depression, Anxiety, and Stress Scale, DASS-21) and exclusion criteria Pre-existing severe mental health conditions (e.g., major depressive disorder, generalized anxiety disorder), High-risk pregnancies requiring specialized medical attention.

The intervention group received resilience-enhancing workshops and support sessions for three months. These sessions were conducted weekly and included techniques such as mindfulness exercises, cognitive-behavioral strategies, stress management, and peer support facilitated online via the Zoom platform. The workshops were led by trained mental health professionals, with each session lasting 90 minutes. Topics covered: Emotional regulation techniques, Building coping skills for stress, Enhancing social support networks, Strategies for managing anxiety and depression during pregnancy. The control group received standard prenatal care without additional psychological resilience-building interventions. Data were collected at three time points: Baseline (pre-intervention), Post-intervention (immediately after the three-month intervention), Follow-up (one month post-intervention).

The following tools were used to measure outcomes: Psychological Resilience: The Connor-Davidson Resilience Scale (CD-RISC) was used to assess resilience levels, Anxiety and Depression: Anxiety and depression levels were measured using the DASS-21, Coping Skills: The Brief COPE Inventory assessed participants' coping mechanisms, Maternal Well-being: A modified version of the WHO-5 Well-Being Index was used to assess overall maternal well-being. Data were analyzed using: Mann-Whitney U test and unpaired t-test for continuous variables to compare the differences between the intervention and control groups. Chi-square test and Fisher's exact test for categorical variables to analyze group differences in demographic and baseline characteristics. A significance level of $p < 0.05$ was set for all

statistical tests. This research has undergone an ethical review and has been approved with the number 837/EC-KEPK-SB/XII/2024

RESULT

A total of 120 pregnant women participated in the study, with 60 assigned to the intervention group and 60 to the control group. The baseline characteristics between the two groups were not significantly different, ensuring comparability. The demographic data are summarized in Table 1, showing no significant differences in age, gestational week, or baseline levels of psychological resilience, anxiety, and depression between the two groups.

Table 1.
Demographic Data (n=120)

Characteristic	Intervention Group (n = 60)	Control Group (n = 60)	p-value
Age (years)	29.5 ± 5.2	30.1 ± 5.6	0.65
Gestational Week /weeks)	22.3 ± 3.7	21.9 ± 4.0	0.72
Psychological Resilience (CD-RISC)	58.3 ± 9.1	57.9 ± 8.7	0.84
Anxiety (DASS-21)	14.7 ± 4.2	14.5 ± 4.1	0.80
Depression (DASS-21)	13.9 ± 4.4	13.8 ± 4.5	0.90

Note: Data are presented as mean ± standard deviation. CD-RISC: Connor-Davidson Resilience Scale; DASS-21: Depression, Anxiety, and Stress Scale (21-item version).

This table shows that the demographic characteristics between the intervention and control groups were well-matched, with no significant differences in age, gestational week, or baseline psychological measures ($p > 0.05$ for all variables).

Table 2.
Psychological resilience, anxiety, depression, coping skills, maternal well-being, and satisfaction with prenatal care among participants

Outcome Measure	Baseline (Mean ± SD)	Post-intervention (Mean ± SD)	p-value
Psychological Resilience (CD-RISC)			0.84
Intervention Group (n = 60)	58.3 ± 9.1	72.5 ± 7.8	
Control Group (n = 60)	57.9 ± 8.7	59.1 ± 8.9	
Anxiety (DASS-21)			0.80
Intervention Group (n = 60)	14.7 ± 4.2	8.6 ± 3.9	
Control Group (n = 60)	14.5 ± 4.1	13.9 ± 4.0	
Depression (DASS-21)			0.90
Intervention Group (n = 60)	13.9 ± 4.4	7.5 ± 3.2	
Control Group (n = 60)	13.8 ± 4.5	12.9 ± 4.3	
Coping Skills (Active Coping - Brief COPE)			0.76
Intervention Group (n = 60)	6.4 ± 1.9	9.1 ± 2.3	
Control Group (n = 60)	6.5 ± 2.0	6.8 ± 2.1	
Maternal Well-being (WHO-5 Index)			0.88
Intervention Group (n = 60)	15.3 ± 4.6	21.7 ± 4.2	
Control Group (n = 60)	15.1 ± 4.5	16.2 ± 4.3	
Satisfaction with Prenatal Care			0.79
Intervention Group (n = 60)	7.2 ± 1.5	8.9 ± 1.2	
Control Group (n = 60)	7.3 ± 1.6	7.4 ± 1.5	

Note: CD-RISC: Connor-Davidson Resilience Scale; DASS-21: Depression, Anxiety, and Stress Scale (21-item version); WHO-5: World Health Organization Well-Being Index; Brief COPE: Brief Coping Orientation to Problems Experienced Inventory.

This table highlights the significant improvements in psychological resilience, anxiety, depression, coping skills, maternal well-being, and satisfaction with prenatal care among participants in the intervention group compared to the control group.

Psychological Resilience

At the baseline, there were no significant differences in psychological resilience scores between the intervention and control groups ($p > 0.05$). However, after the three-month intervention, the intervention group showed a statistically significant increase in resilience, as measured by the Connor-Davidson Resilience Scale (CD-RISC), compared to the control group ($p < 0.01$). The mean resilience score of the intervention group increased from 58.3 ± 9.1 at baseline to 72.5 ± 7.8 post-intervention, while the control group showed no significant change (from 57.9 ± 8.7 to 59.1 ± 8.9).

Anxiety and Depression

The levels of anxiety and depression were assessed using the Depression, Anxiety, and Stress Scale (DASS-21). At baseline, both groups had moderate levels of anxiety and depression with no significant differences ($p > 0.05$). Post-intervention, the intervention group demonstrated a significant reduction in anxiety and depression scores compared to the control group ($p < 0.01$). The mean anxiety score in the intervention group decreased from 14.7 ± 4.2 to 8.6 ± 3.9 , while the control group showed a slight, non-significant decrease (from 14.5 ± 4.1 to 13.9 ± 4.0). Similarly, the depression scores in the intervention group decreased from 13.9 ± 4.4 to 7.5 ± 3.2 , whereas the control group showed minimal improvement (from 13.8 ± 4.5 to 12.9 ± 4.3).

Coping Skills

Coping mechanisms were measured using the Brief COPE Inventory. At baseline, no significant differences in coping skills were found between the groups ($p > 0.05$). After the intervention, the intervention group exhibited significantly improved adaptive coping skills, such as active coping and positive reframing, compared to the control group ($p < 0.01$). The mean active coping score in the intervention group increased from 6.4 ± 1.9 to 9.1 ± 2.3 , while the control group showed minimal change (from 6.5 ± 2.0 to 6.8 ± 2.1).

Maternal Well-being

Maternal well-being was assessed using the modified WHO-5 Well-Being Index. At baseline, there were no significant differences in well-being scores between the groups ($p > 0.05$). After the three-month intervention, the well-being scores in the intervention group increased significantly compared to the control group ($p < 0.01$). The intervention group's mean well-being score improved from 15.3 ± 4.6 at baseline to 21.7 ± 4.2 post-intervention, while the control group showed a small, non-significant improvement (from 15.1 ± 4.5 to 16.2 ± 4.3).

Satisfaction with Prenatal Care

Participants in the intervention group reported significantly higher satisfaction with prenatal care compared to the control group. The satisfaction scores, assessed through a self-reported questionnaire, showed a significant increase in the intervention group post-intervention ($p < 0.01$). The intervention group's mean satisfaction score increased from 7.2 ± 1.5 to 8.9 ± 1.2 , while the control group's score remained stable (7.3 ± 1.6 to 7.4 ± 1.5).

DISCUSSION

The results of this study demonstrate the significant impact of resilience-building interventions on the psychological well-being of pregnant women. Specifically, the intervention group showed improvements in psychological resilience, reduced levels of

anxiety and depression, enhanced coping skills, and overall better maternal well-being compared to the control group, which only received standard prenatal care. Psychological Resilience The increase in psychological resilience observed in the intervention group highlights the effectiveness of targeted interventions in enhancing pregnant women's ability to cope with the stressors associated with pregnancy. Previous research has identified resilience as a key factor in buffering against stress and improving mental health outcomes during pregnancy.(Van Haeken et al., 2023) (Hajure et al., 2024) The significant increase in the Connor-Davidson Resilience Scale (CD-RISC) scores in the intervention group aligns with similar studies that emphasize the value of resilience-building programs in improving psychological outcomes in vulnerable populations .

Anxiety and Depression, Pregnancy is a period often associated with heightened emotional challenges, and pregnant women are at increased risk for anxiety and depression.(Kajdy et al., 2020) In this study, the resilience-enhancing workshops led to a significant reduction in anxiety and depression levels, as measured by the DASS-21. This finding is consistent with prior studies that have shown the potential of psychological interventions to alleviate symptoms of anxiety and depression during pregnancy. The substantial reduction in both anxiety and depression scores in the intervention group underscores the importance of addressing mental health early in pregnancy to prevent adverse outcomes for both the mother and the baby.(Yu et al., 2020) Coping Skills, The improvement in adaptive coping skills, such as active coping and positive reframing, suggests that the resilience-building intervention helped participants develop more effective strategies for managing stress.(Doyle et al., 2017) These coping skills are crucial during pregnancy, as they can improve emotional regulation and enhance the ability to deal with unexpected challenges The Brief COPE Inventory results suggest that the workshops not only increased participants' psychological resilience but also provided them with practical tools to handle daily stressors, contributing to better overall mental health outcomes.(Martín-Romo et al., 2023)

Maternal Well-being, The significant improvement in maternal well-being in the intervention group, as indicated by the WHO-5 Well-Being Index, reflects the broad positive effects of resilience-building interventions. Improved well-being is an important outcome, as maternal mental health directly influences pregnancy outcomes, including birth complications, maternal-infant bonding, and postpartum recovery.(Muglia et al., 2022) The study's findings suggest that improving psychological resilience can lead to overall improvements in well-being, potentially reducing the risk of adverse pregnancy outcomes such as preterm birth or low birth weight. Satisfaction with Prenatal care, Participants in the intervention group also reported higher satisfaction with their prenatal care experience compared to the control group. This increased satisfaction may be attributed to the additional emotional and social support provided during the workshops, which helped participants feel more empowered and engaged in their prenatal care. Enhancing patient satisfaction is crucial in healthcare settings, as it can lead to better health outcomes, higher adherence to medical advice, and an overall positive healthcare experience.(Bombard et al., 2018)

CONCLUSION

In conclusion, this study highlights the critical role of psychological resilience in supporting pregnant women through the challenges of pregnancy. The resilience-building intervention significantly improved psychological outcomes, including reduced anxiety and depression, enhanced coping skills, and overall well-being. Given the positive effects observed, integrating such interventions into standard prenatal care could be a valuable strategy for promoting healthier pregnancies and improving maternal mental health. Continued research and program development are essential to ensure that pregnant women receive the

psychological support they need for a positive pregnancy experience.

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