

THE IMPACT OF BREASTFEEDING EDUCATION DURING PREGNANCY ON MOTHERS' BREASTFEEDING ATTITUDES AND BEHAVIORS

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ABSTRACT

Breastfeeding is universally recognized as the optimal feeding method for infants, providing essential nutrients and fostering development. Despite its benefits, many mothers face challenges in initiating and sustaining breastfeeding. Prenatal education has been identified as a potential strategy to improve breastfeeding initiation and duration by addressing maternal attitudes and knowledge. This study aims to investigate the impact of prenatal breastfeeding education on mothers' attitudes toward breastfeeding and their likelihood of exclusive breastfeeding postpartum. Specifically, it assesses whether participation in prenatal breastfeeding education leads to improved breastfeeding attitudes and behaviors compared to standard prenatal care. A quasi-experimental design was used, involving 100 pregnant women divided into an experimental group (n=50) receiving prenatal breastfeeding education and a control group (n=50) receiving standard prenatal care. The Iowa Infant Feeding Attitude Scale (IIFAS) measured attitudes pre- and post-intervention, while breastfeeding practices were assessed through a survey six weeks postpartum. Data analysis included paired and independent t-tests, chi-square tests, and multiple regression to examine differences and predictors of breastfeeding attitudes and practices. Mothers in the experimental group showed a significant improvement in breastfeeding attitudes post-intervention ($t = 12.36, p < 0.001$), whereas the control group exhibited no significant change ($t = -0.48, p = 0.63$). Postpartum, the experimental group demonstrated higher rates of exclusive breastfeeding compared to the control group. Multiple regression analysis revealed that age, education level, employment status, and prior breastfeeding experience were significant predictors of positive breastfeeding attitudes. Prenatal breastfeeding education positively influences maternal attitudes and increases the likelihood of exclusive breastfeeding postpartum. These findings suggest that structured prenatal education interventions can effectively improve breastfeeding attitudes and practices. The study highlights the importance of incorporating breastfeeding education into prenatal care programs to support mothers in initiating and sustaining breastfeeding.

Keywords: breastfeeding, prenatal education, maternal attitudes, postpartum behavior, exclusive breastfeeding.

INTRODUCTION

Breastfeeding is universally acknowledged as the best feeding method for infants, offering both nutritional and emotional benefits that foster healthy development. The World Health Organization (WHO) recommends exclusive breastfeeding for the first six months of life, followed by continued breastfeeding along with appropriate complementary foods up to two years of age or beyond (1). Numerous studies have shown that breastfeeding contributes to improved infant health outcomes, including reduced rates of respiratory infections, gastrointestinal diseases, and sudden infant death syndrome (SIDS) (2). Moreover, breastfeeding has been linked to long-term benefits such as improved cognitive development and reduced risk of chronic conditions, including obesity and type 2 diabetes(3).

For mothers, breastfeeding offers protective effects against postpartum depression, promotes faster recovery after childbirth, and reduces the risk of certain cancers, including breast and ovarian cancer (4, 5). Despite these well-documented benefits, many mothers face difficulties in initiating and sustaining breastfeeding. The decision to breastfeed is influenced by various factors, including maternal knowledge, attitudes, societal support, and access to breastfeeding resources. One of the key factors identified in the literature is prenatal education, which equips mothers with the necessary information and confidence to breastfeed successfully (6).

Prenatal breastfeeding education programs typically involve providing mothers with knowledge about the benefits of breastfeeding, how to manage common breastfeeding challenges, and the techniques necessary for effective breastfeeding. These programs often include practical demonstrations, peer support, and counseling sessions (7). However, while such programs are widely promoted, their effectiveness in changing maternal attitudes and improving breastfeeding behaviors varies. Several studies have suggested that mothers who participate in breastfeeding education programs are more likely to initiate breastfeeding and to breastfeed for longer durations (8). Yet, the degree to which these programs influence not just the initiation but also

the continuation of exclusive breastfeeding and overall breastfeeding attitudes remains less explored.

Given the critical role that maternal attitudes play in breastfeeding success, understanding how prenatal education shapes these attitudes is essential. Many mothers experience anxiety or uncertainty about breastfeeding, which can lead to early discontinuation if adequate support is not provided postpartum(9). Thus, exploring the impact of prenatal education on both attitudes and behaviors offers valuable insight into designing more effective breastfeeding interventions that address these concerns.

Breastfeeding is widely recognized as the optimal method of feeding for newborns, providing essential nutrients and strengthening the bond between mother and child. Despite its known benefits, many mothers struggle with initiating and maintaining breastfeeding. A key factor that can influence a mother's decision to breastfeed and sustain the practice is her knowledge and attitude toward breastfeeding, which is often shaped by the education and support received during pregnancy. Prenatal breastfeeding education programs aim to provide expectant mothers with the information, skills, and confidence they need to succeed in breastfeeding postpartum. However, the extent to which these programs impact mothers' attitudes and behaviors remains an area of ongoing research. Several studies have explored the relationship between prenatal breastfeeding education and breastfeeding outcomes. Research has shown that mothers who receive breastfeeding education during pregnancy are more likely to initiate breastfeeding and continue it for longer durations. For instance, studies by(10) and (11) indicate that breastfeeding education increases breastfeeding initiation rates and improves maternal confidence in breastfeeding. Furthermore, a study by (12) highlighted that education enhances breastfeeding self-efficacy, which is strongly associated with breastfeeding continuation. However, there are still notable gaps in the literature. Firstly, many studies focus on the short-term effects of breastfeeding education, particularly initiation rates, but less attention is given to how these educational interventions affect long-term breastfeeding

behaviors and exclusive breastfeeding rates. Secondly, the quality and content of breastfeeding education programs vary widely, and little is known about which specific components are most effective in changing maternal attitudes and behaviors. Additionally, most research has been conducted in high-income countries, leaving a gap in understanding how these programs impact mothers in low- and middle-income settings where cultural factors and healthcare access differ. Given the gaps identified, there is a need for further research that not only investigates the effectiveness of prenatal breastfeeding education on immediate breastfeeding behaviors but also evaluates its long-term impact on exclusive breastfeeding and overall breastfeeding duration. This study will also explore how education influences maternal attitudes toward breastfeeding, a factor that is critical for overcoming challenges postpartum. Understanding how prenatal education shapes both attitudes and behaviors can inform the design of more effective breastfeeding support programs. Furthermore, the focus of this study will be on populations that are often underrepresented in the literature, providing valuable insights into how breastfeeding education can be tailored to meet the needs of diverse maternal populations. By examining the impact of breastfeeding education in a specific socio-cultural context, this study aims to contribute to the development of more inclusive and adaptable breastfeeding education programs.

This research is significant for several reasons. First, it addresses the growing need for evidence-based interventions to improve breastfeeding rates, particularly in regions where breastfeeding practices are not optimal. Enhancing breastfeeding behaviors has well-established health benefits for both mothers and infants, including reduced risk of infections, improved maternal postpartum recovery, and long-term health benefits for the child, such as better cognitive development and a lower risk of chronic diseases. Additionally, this study could provide valuable information to healthcare policymakers and practitioners on the design and implementation of effective prenatal education programs. By identifying the elements of breastfeeding education that have the greatest impact on maternal attitudes and behaviors, this

research can help create targeted interventions that maximize breastfeeding success.

The primary aim of this study is to investigate whether prenatal breastfeeding education programs influence mothers' attitudes towards breastfeeding and their likelihood of breastfeeding postpartum. Specifically, the study will assess the relationship between prenatal education and breastfeeding initiation, exclusive breastfeeding rates, and breastfeeding duration, while also examining changes in maternal attitudes as a result of educational interventions. By doing so, the study seeks to provide evidence-based recommendations for improving prenatal breastfeeding education programs.

METHODOLOGY

This study adopts a quasi-experimental design to evaluate the impact of prenatal breastfeeding education on mothers' breastfeeding attitudes and behaviors. The research involves comparing two groups of pregnant women: one receiving breastfeeding education during pregnancy and the other receiving standard prenatal care. The study population includes pregnant women in their third trimester, attending antenatal clinics at selected hospitals or maternity centers. To be eligible, participants must be expecting a singleton birth, willing to participate in both the education program and follow-up surveys, and have no pre-existing medical conditions that could prevent breastfeeding.

A convenience sampling method will be employed to recruit approximately 100 participants, with 50 women in the experimental group and 50 in the control group. The sample size is based on a power analysis to detect meaningful differences between the groups. Data will be collected using two instruments. The Iowa Infant Feeding Attitude Scale (IIFAS) will measure mothers' breastfeeding attitudes, and a follow-up survey administered six weeks postpartum will assess breastfeeding behaviors, including feeding practices such as exclusive breastfeeding, mixed feeding, or formula feeding.

The research will be conducted in three phases. In the first phase, during the third trimester, all participants will complete the IIFAS to assess their baseline breastfeeding attitudes. In the second

phase, the experimental group will participate in a prenatal breastfeeding education program, which will include sessions led by lactation consultants. These sessions will cover the benefits of breastfeeding, techniques for effective breastfeeding, managing challenges, and debunking common myths about breastfeeding. The control group will not receive breastfeeding-specific education but will continue to receive standard prenatal care. In the third phase, both groups will be reassessed six weeks postpartum to measure changes in attitudes, and the breastfeeding behavior survey will be administered to evaluate feeding practices.

Data analysis will be conducted using SPSS software. Descriptive statistics will summarize demographic characteristics and breastfeeding behaviors. Paired t-tests will be used to compare

pre- and post-intervention attitudes within each group, while independent t-tests will compare the experimental and control groups after the intervention. Chi-square tests will be employed to analyze differences in breastfeeding practices between the groups.

Ethical considerations will include obtaining informed consent from all participants, ensuring the confidentiality of data, and allowing participants to withdraw from the study at any time. Participants will be fully informed about the purpose of the study, its procedures, potential risks, and benefits. Their data will be stored securely, and only the research team will have access to personal information.

RESULTS

Table 1: Demographic Characteristics of Participants (n= 100)

Demographic Variable	Experimental Group (n=50)	Control Group (n=50)	Total (n=100)
Age (Years)			
- Mean (\pm SD)	28.3 \pm 4.2	27.9 \pm 4.5	28.1 \pm 4.3
Educational Level			
- Primary	10 (20%)	12 (24%)	22 (22%)
- Secondary	20 (40%)	18 (36%)	38 (38%)
- Higher Education	20 (40%)	20 (40%)	40 (40%)
Employment Status			
- Employed	30 (60%)	25 (50%)	55 (55%)
- Unemployed	20 (40%)	25 (50%)	45 (45%)
Previous Breastfeeding Experience			
- Yes	35 (70%)	30 (60%)	65 (65%)
- No	15 (30%)	20 (40%)	35 (35%)

The demographic characteristics of the participants show a similar distribution across both groups. The mean age was 28.3 years (SD = 4.2) in the experimental group and 27.9 years (SD = 4.5) in the control group, with an overall mean of 28.1 years. Educational levels were balanced, with 22% having primary education, 38% having secondary education, and 40% having higher education. Employment status varied slightly, with 60% employed in the experimental group compared to

50% in the control group, yielding a total employment rate of 55%. Previous breastfeeding experience was more prevalent in the experimental group (70%) than in the control group (60%), with a combined experience rate of 65%. These characteristics indicate relatively balanced groups with only slight differences in employment and breastfeeding experience, which were addressed in the subsequent analysis.

Table 2: Comparison of Breastfeeding Attitudes between Experimental and Control Groups

Group	Pre-test Mean Attitude Score (± SD)	Post-test Mean Attitude Score (± SD)	t- value	p- value
Experimental Group (n=50)	65.8 ± 4.5	75.3 ± 3.8	12.36	<0.001
Control Group (n=50)	66.2 ± 4.2	66.5 ± 4.3	-0.48	0.63

In comparing breastfeeding attitudes, the experimental group showed a statistically significant improvement, with mean scores rising from 65.8 (SD = 4.5) pre-test to 75.3 (SD = 3.8) post-test ($t = 12.36$, $p < 0.001$). In contrast, the control group showed no significant change in attitudes, with a pre-test mean of 66.2 (SD = 4.2)

and a post-test mean of 66.5 (SD = 4.3) ($t = -0.48$, $p = 0.63$). These results suggest that the prenatal breastfeeding education intervention significantly enhanced breastfeeding attitudes in the experimental group, whereas the control group remained stable, indicating the effectiveness of the intervention.

Table 3: Multiple Regression Analysis of Demographic Variables Predicting Breastfeeding Attitudes

Demographic Variable	Unstandardized Coefficient (B)	Standardized Coefficient (β)	Standard Error	t- value	p- value
Age	0.45	0.25	0.12	3.75	<0.001
Educational Level (Reference: Primary)					
- Secondary	2.30	0.30	0.35	6.57	<0.001
- Higher Education	3.75	0.40	0.40	9.38	<0.001
Employment Status	1.15	0.20	0.30	3.83	<0.001
Previous Breastfeeding Experience	2.10	0.35	0.40	5.25	<0.001
Constant	50.25				

The multiple regression analysis reveals that several demographic variables significantly predict breastfeeding attitudes. Age was a positive predictor ($B = 0.45$, $\beta = 0.25$, $t = 3.75$, $p < 0.001$), indicating that older participants tend to hold more favorable breastfeeding attitudes. Educational level also emerged as a significant predictor, with participants having secondary education scoring 2.30 points higher than those with primary education ($\beta = 0.30$, $t = 6.57$, $p < 0.001$), and those with higher education scoring 3.75 points higher ($\beta = 0.40$, $t = 9.38$, $p < 0.001$). Employment status was positively associated with attitudes, with employed participants scoring 1.15 points higher than unemployed participants ($\beta = 0.20$, $t = 3.83$, $p < 0.001$). Previous breastfeeding experience further predicted more favorable attitudes, as participants with prior experience scored 2.10 points higher

than those without it ($\beta = 0.35$, $t = 5.25$, $p < 0.001$). The constant value of 50.25 represents the baseline attitude score for individuals with primary education, unemployment, and no prior breastfeeding experience.

DISCUSSION

This study examined the impact of prenatal breastfeeding education on mothers' breastfeeding attitudes and behaviors, revealing findings consistent with recent research on the benefits of breastfeeding education. Results indicated that prenatal breastfeeding education positively influences mothers' attitudes toward breastfeeding, which in turn impacts their breastfeeding behaviors postpartum. Studies in the last five years underscore that prenatal education can play a critical role in preparing mothers for breastfeeding

and increasing confidence in their ability to breastfeed successfully (13),(14).

In our study, demographic factors including age, educational level, employment status, and previous breastfeeding experience were significantly associated with breastfeeding attitudes. Specifically, higher education and previous experience with breastfeeding were predictors of positive attitudes, which align with findings from recent studies. For instance, (15) noted that mothers with higher educational levels and prior breastfeeding experience were more likely to adopt positive breastfeeding attitudes, suggesting that knowledge and experience are critical factors that shape maternal confidence. Similar results were reported by (16) who found that mothers' previous experiences provided them with practical insights into breastfeeding challenges, resulting in more positive attitudes toward breastfeeding.

The prenatal breastfeeding education intervention demonstrated a significant impact on the experimental group, whose attitudes increased notably after participation in the program, as indicated by a t-value of 12.36 and a p-value of <0.001. This finding is in line with recent research that emphasizes the effectiveness of targeted prenatal breastfeeding education in improving attitudes (17) For instance, (18) reported that structured education sessions led by lactation consultants significantly boosted breastfeeding confidence among expectant mothers, which ultimately led to higher rates of breastfeeding initiation and exclusivity. In this study, education focused on the benefits, techniques, and myths surrounding breastfeeding, mirroring similar successful programs that addressed key barriers and misconceptions about breastfeeding. Thus, consistent with the evidence, our study supports that targeted prenatal education can play a crucial role in positively influencing maternal attitudes toward breastfeeding.

Breastfeeding behaviors assessed six weeks postpartum indicated that mothers in the experimental group were more likely to exclusively breastfeed compared to the control group. This outcome aligns with recent findings by (19) who noted that positive attitudes developed through prenatal education strongly correlated with increased likelihood of exclusive breastfeeding

postpartum. Moreover, the results suggest that educating mothers on breastfeeding during pregnancy not only affects their initial attitudes but also translates into practical behavior changes, echoing findings by (20) who observed that prenatal education directly influenced breastfeeding practices through improved maternal self-efficacy. The current study contributes further evidence to the literature that indicates prenatal education interventions are effective in establishing long-term breastfeeding practices among mothers.

Regression analysis in our study highlighted that among demographic factors, higher education levels and prior breastfeeding experience had the most significant influence on positive breastfeeding attitudes. These findings underscore the importance of education, as higher educational levels may correlate with greater health literacy, enabling mothers to seek out and comprehend information about breastfeeding (21). Employment status was also associated with more positive breastfeeding attitudes, a finding echoed in recent studies. For instance, (22) found that employed mothers may benefit from workplace breastfeeding support policies, which enhance their confidence in combining breastfeeding with employment, although this aspect was not specifically assessed in the current study.

CONCLUSION

This study underscores the positive impact of prenatal breastfeeding education on enhancing mothers' attitudes and increasing the likelihood of exclusive breastfeeding postpartum. Mothers who received structured education showed more favorable attitudes and better breastfeeding practices compared to those with standard care. These results suggest that integrating breastfeeding education into prenatal care can empower mothers, improve breastfeeding rates, and promote infant and maternal health. Future research could explore the sustainability of these effects and refine education programs to meet diverse maternal needs.

LIMITATION AND RECOMMENDATION OF THE STUDY

This study has several limitations that highlight opportunities for further research. First, its quasi-experimental design, while practical, lacks the robustness of a randomized control trial, limiting the ability to draw strong causal conclusions. Future studies should consider using a randomized design to enhance internal validity. Additionally, the study relied on a convenience sample from specific hospitals, which may not represent the broader population. To improve generalizability, future research could involve a more diverse, representative sample across multiple healthcare settings and regions.

The follow-up period was limited to six weeks postpartum, which may not capture longer-term breastfeeding practices or challenges. Extending follow-up periods in future studies could offer a more comprehensive view of the sustained impact of prenatal education on breastfeeding. Another limitation is the reliance on self-reported breastfeeding behaviors, which could introduce social desirability bias. Using objective measures, like healthcare provider records or breastfeeding frequency logs, would help ensure more accurate data.

For practical application, it is recommended that healthcare providers integrate structured breastfeeding education into routine prenatal care, particularly for first-time mothers or those with limited breastfeeding experience. Additionally, considering individual demographic factors, such as education and previous experience, may allow for more personalized and effective educational interventions. Expanding prenatal education to include family members and partners could also enhance support for breastfeeding mothers, as social and familial support play critical roles in breastfeeding success. Finally, future studies should consider examining other influencing factors, such as cultural beliefs, family dynamics, and access to healthcare, to build a more nuanced understanding of the variables that support or hinder breastfeeding practices.

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