

## INFLUENCE OF FAMILY-CENTERED PRENATAL FOLLOW-UP ON DELIVERY OUTCOMES AND BREASTFEEDING SUCCESS IN SAUDI WOMEN

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### ABSTRACT

**Background:** Family-centered prenatal care is increasingly recognized as a crucial approach for improving maternal and neonatal outcomes. Active family involvement during pregnancy may enhance maternal confidence, adherence to prenatal care, and positive postpartum behaviors, including breastfeeding. **Objective:** This study aimed to examine the influence of family-centered prenatal follow-up on delivery outcomes and breastfeeding success among Saudi women. **Methods:** A cross-sectional quantitative study was conducted with 300 Saudi women who had recently delivered. Data were collected on demographic characteristics, prenatal care indicators, delivery outcomes, and breastfeeding practices. Descriptive statistics, chi-square tests, independent t-tests, and logistic regression analyses were used to evaluate the associations between family involvement and maternal outcomes. **Results:** Women with family support during prenatal care had significantly lower rates of cesarean delivery (OR = 0.23, 95% CI: 0.14–0.39,  $p < 0.001$ ) and were nearly five times more likely to practice exclusive breastfeeding (OR = 4.89, 95% CI: 2.87–8.33,  $p < 0.001$ ). Breastfeeding initiation was also significantly higher among mothers with family involvement (92.1% vs. 61.5%,  $p < 0.001$ ). Infants of mothers with family support had significantly higher mean birth weights (3346.74 g vs. 3038.72 g,  $t = 7.72$ ,  $p < 0.001$ ). **Conclusion:** Family-centered prenatal follow-up significantly improves delivery outcomes and breastfeeding practices among Saudi women. Promoting family engagement during pregnancy can enhance maternal and neonatal health outcomes and should be integrated into prenatal care programs.

**Index Terms:** prenatal care, family involvement, breastfeeding, maternal health, Saudi Arabia.

### I. INTRODUCTION

Maternal and neonatal health remain critical priorities in global public health due to their direct impact on the well-being of families and societies. Despite substantial progress in healthcare systems worldwide, pregnancy and childbirth still present significant risks for women and infants, particularly in developing and transitional health systems. According to the World Health Organization, approximately 287,000 women die each year from complications related to pregnancy and childbirth, many of which are preventable through proper prenatal care and timely medical intervention.<sup>[1]</sup> Prenatal or antenatal care plays a vital role in monitoring maternal health, detecting pregnancy-related complications, and promoting healthy behaviors during pregnancy.<sup>[2]</sup>

Regular antenatal visits allow healthcare providers to assess maternal and fetal health, identify potential risks, and provide education regarding nutrition, hygiene, and preparation for childbirth.<sup>[3]</sup> Evidence indicates that women who attend adequate prenatal visits experience lower rates of maternal complications, improved neonatal outcomes, and better postpartum recovery.<sup>[4]</sup> Consequently, improving prenatal care utilization and quality has become a central strategy for reducing maternal and infant morbidity and mortality worldwide.<sup>[5]</sup>

In recent years, healthcare systems have increasingly emphasized the concept of family-centered care as an important approach to improving maternal health

outcomes. Family-centered prenatal care refers to healthcare practices that actively involve family members, particularly spouses or partners, in supporting pregnant women throughout the pregnancy period.<sup>[6]</sup> The concept is based on the understanding that pregnancy is not solely a medical condition but also a social and emotional experience that is influenced by family dynamics and support systems.<sup>[7]</sup> When family members participate in prenatal visits, educational sessions, and decision-making processes, pregnant women often experience improved psychological well-being and greater confidence in managing pregnancy-related challenges.<sup>[8]</sup> Studies have shown that emotional and practical support from family members can reduce maternal stress, enhance adherence to medical recommendations, and improve overall pregnancy experiences.<sup>[9]</sup> Moreover, family-centered prenatal care has been associated with increased satisfaction with healthcare services and improved communication between patients and healthcare providers.<sup>[10]</sup> In many cultural contexts, including Middle Eastern societies, family structures play a crucial role in health decision-making, which makes family involvement particularly relevant for maternal healthcare programs.<sup>[11]</sup>

Family support during pregnancy may also influence maternal behaviors and health practices that affect pregnancy outcomes. For instance, women who receive adequate family support are more likely to attend prenatal appointments regularly, maintain balanced nutrition, and adopt healthier lifestyles during pregnancy.<sup>[12]</sup> Supportive partners and family members can help pregnant women cope with physical discomfort, emotional stress, and anxiety associated with pregnancy and childbirth.<sup>[13]</sup> Furthermore, the involvement of spouses in prenatal education programs has been shown to increase knowledge about maternal health and strengthen emotional support within families.<sup>[14]</sup> In turn, such support may contribute to improved pregnancy outcomes, including reduced risk of preterm birth and better neonatal health indicators.<sup>[15]</sup> As healthcare systems aim to improve maternal outcomes, incorporating family-centered approaches into prenatal care programs has become increasingly important in promoting holistic maternal care.

Breastfeeding is another crucial component of maternal and child health that can be influenced by prenatal education and family support. Breastfeeding provides optimal nutrition for infants and offers numerous health benefits for both mothers and babies.<sup>[16]</sup> The United Nations Children's Fund and the World Health Organization recommend early initiation of breastfeeding within the first hour after birth and exclusive breastfeeding for the first six months of life.<sup>[17]</sup> Breast milk contains essential nutrients, antibodies, and bioactive components that support infant growth and immune system development.<sup>[18]</sup> Studies have demonstrated that breastfeeding significantly reduces infant mortality and protects against infectious diseases

such as pneumonia and diarrhea.<sup>[19]</sup> In addition to infant benefits, breastfeeding contributes to maternal health by reducing the risk of postpartum hemorrhage, breast cancer, ovarian cancer, and type 2 diabetes.<sup>[20]</sup> Despite these well-established benefits, global breastfeeding rates remain below recommended levels in many countries.<sup>[21]</sup>

Several factors influence breastfeeding practices, including maternal education, cultural beliefs, healthcare support, and family involvement.<sup>[22]</sup> Research suggests that women who receive encouragement and assistance from family members are more likely to initiate breastfeeding and continue exclusive breastfeeding for longer periods.<sup>[23]</sup> Support from spouses and other family members can play a critical role in helping mothers overcome breastfeeding challenges such as fatigue, lack of confidence, and social barriers.<sup>[24]</sup> Additionally, prenatal counseling and education programs that involve family members have been shown to improve breastfeeding knowledge and attitudes among parents.<sup>[25]</sup> Therefore, integrating family-centered approaches into prenatal care may enhance breastfeeding practices and contribute to better infant health outcomes.

In the context of Saudi Arabia, maternal healthcare services have improved significantly over the past decades due to expanding healthcare infrastructure and national health initiatives.<sup>[26]</sup> Nevertheless, challenges remain in optimizing maternal care practices and promoting breastfeeding behaviors among mothers. Cultural norms, family dynamics, and social expectations strongly influence maternal health behaviors in Saudi society, making family involvement particularly important in prenatal and postnatal care.<sup>[27]</sup> While several studies have examined antenatal care utilization and breastfeeding practices in the region, limited research has specifically investigated the role of family-centered prenatal follow-up in influencing delivery outcomes and breastfeeding success among Saudi women.<sup>[28]</sup> Understanding how family involvement affects maternal and neonatal health outcomes may provide valuable insights for healthcare policymakers and practitioners seeking to improve maternal care services.<sup>[29]</sup> Therefore, further research is needed to examine the relationship between family-centered prenatal care and key maternal outcomes in this population.

Accordingly, the present study aims to investigate the influence of family-centered prenatal follow-up on delivery outcomes and breastfeeding success among Saudi women. By examining the association between family involvement during pregnancy and outcomes such as delivery type, birth weight, breastfeeding initiation, and exclusive breastfeeding, this research seeks to contribute to the growing body of literature on maternal health and family-centered care. The findings may help inform healthcare strategies aimed at strengthening family engagement in prenatal care and improving maternal and infant health outcomes in Saudi Arabia and similar cultural contexts.<sup>[30]</sup>

### Research Questions

1. Does family-centered prenatal follow-up influence delivery outcomes among Saudi women?
2. Does family involvement during pregnancy affect neonatal outcomes such as birth weight?
3. Does family support increase breastfeeding initiation?
4. Does family-centered prenatal care improve exclusive breastfeeding rates?

### Hypotheses

**H1a:** Family-centered prenatal follow-up reduces the likelihood of cesarean delivery.

**H1b:** Family-centered prenatal care improves neonatal outcomes, particularly birth weight.

**H1c:** Family support during pregnancy increases breastfeeding initiation.

**H1d:** Family-centered prenatal care increases exclusive breastfeeding rates.

## II. LITERATURE REVIEW

Previous research has widely emphasized the importance of breastfeeding and maternal support systems in improving maternal and neonatal health outcomes. One of the most comprehensive global analyses on breastfeeding was conducted by *Breastfeeding in the 21st century: Epidemiology, mechanisms, and lifelong effect*. This landmark study analyzed global breastfeeding patterns and health outcomes associated with breastfeeding practices. The authors reported that exclusive breastfeeding rates remain relatively low worldwide, with only about 37% of infants under six months being exclusively breastfed. Their meta-analysis demonstrated that breastfeeding significantly reduces the risk of childhood infections and improves cognitive development while also providing protective health benefits for mothers, including reduced risks of breast cancer and type 2 diabetes. The study estimated that scaling up breastfeeding to near-universal levels could prevent more than 800,000 child deaths annually. These findings highlight the critical role of breastfeeding in improving infant survival and maternal health outcomes. However, the authors also noted that breastfeeding practices are influenced by social, cultural, and health system factors, suggesting that additional supportive strategies, including family involvement and prenatal education, may be necessary to improve breastfeeding rates.<sup>[31]</sup>

Continuity and quality of prenatal care have also been identified as important determinants of maternal and neonatal outcomes. A matched cohort study by *Midwifery Continuity of Care During Pregnancy, Birth, and the Postpartum Period: A Matched Cohort Study* investigated the impact of midwifery continuity of care (MCoC) on pregnancy outcomes in Sweden. Using data from the Swedish Pregnancy Register, the researchers compared women receiving continuous midwifery care with those receiving standard care. The results indicated that women in the MCoC model were more likely to

experience spontaneous vaginal birth and less likely to undergo elective cesarean delivery. Furthermore, the study found that the risk of preterm birth was significantly reduced among women receiving continuous care. These findings demonstrate that supportive and continuous prenatal care models can contribute to improved delivery outcomes. Although the study focused primarily on healthcare provider continuity rather than family involvement, it underscores the importance of supportive care systems during pregnancy and childbirth.<sup>[32]</sup>

The involvement of partners and family members during pregnancy has also been recognized as a critical factor influencing maternal well-being and pregnancy outcomes. A descriptive cross-sectional study conducted in Sri Lanka by Karagamage et al. examined the level of involvement among first-time fathers during their partners' pregnancy and childbirth. The study included 200 fathers and assessed their participation in prenatal care activities and educational programs. The findings showed varying levels of involvement, with 38.5% demonstrating high involvement while 50% showed moderate involvement. Factors influencing fathers' participation included working hours and attendance at antenatal education sessions. The study concluded that increased paternal involvement can strengthen family support systems and improve maternal psychological well-being during pregnancy. However, the authors also highlighted the need for targeted interventions to increase fathers' participation in maternal healthcare programs.<sup>[33]</sup>

Another important aspect of prenatal care is antenatal education, which prepares expectant mothers for childbirth and early parenting. A systematic review and meta-analysis conducted by Zaman et al. examined the effects of antenatal education programs on maternal psychological outcomes and birth experiences. The study analyzed 40 research papers and included 31 studies in the final meta-analysis. The results showed that antenatal education significantly increased maternal self-efficacy and reduced fear of childbirth. Additionally, women who participated in antenatal education programs were more likely to experience vaginal delivery and less likely to undergo cesarean section. These findings suggest that structured prenatal education programs can positively influence both psychological and clinical outcomes during pregnancy. However, the study also noted considerable heterogeneity among the included studies and emphasized the need for additional research in different healthcare settings.<sup>[34]</sup>

Breastfeeding outcomes are influenced by multiple maternal, infant, and environmental factors. A longitudinal cohort study by Vargas-Pérez et al. examined factors influencing breastfeeding initiation, duration, and early cessation among mother-infant pairs in Spain. The study followed 397 mothers and their infants from pregnancy through early childhood and

assessed various maternal and infant characteristics. The findings revealed that maternal emotional stability during pregnancy significantly increased the likelihood of breastfeeding initiation and longer breastfeeding duration. In contrast, lower infant birth weight and lower maternal emotional well-being were associated with early cessation of breastfeeding. The study emphasized the importance of maternal psychological health and social support systems in promoting successful breastfeeding practices. These results suggest that interventions aimed at improving maternal emotional well-being and family support may contribute to improved breastfeeding outcomes.<sup>[35]</sup>

Overall, existing literature highlights the critical role of

prenatal care, family support, antenatal education, and maternal psychological well-being in influencing pregnancy and breastfeeding outcomes. Studies consistently demonstrate that supportive care environments and family involvement can positively affect maternal health behaviors, delivery outcomes, and infant health. However, the degree of family participation and its specific impact on maternal outcomes may vary depending on cultural, social, and healthcare contexts. Consequently, further research is needed to explore how family-centered prenatal follow-up models can influence delivery outcomes and breastfeeding success in specific populations, including Saudi women.

### Literature Review Matrix

| Study                      | Objective                                                 | Methodology                         | Sample                     | Key Findings                                                                               |
|----------------------------|-----------------------------------------------------------|-------------------------------------|----------------------------|--------------------------------------------------------------------------------------------|
| Victora et al. (2016)      | Examine global breastfeeding patterns and health outcomes | Meta-analysis                       | Global datasets            | Breastfeeding reduces child infections and mortality and improves maternal health outcomes |
| Lundborg et al. (2024)     | Compare midwifery continuity of care with standard care   | Matched cohort study                | Swedish pregnancy registry | Continuous care reduces cesarean rates and preterm birth                                   |
| Karagalage et al. (2025)   | Assess fathers' involvement during pregnancy              | Cross-sectional study               | 200 fathers                | Father involvement improves emotional support and maternal well-being                      |
| Zaman et al. (2025)        | Evaluate effects of antenatal education                   | Systematic review and meta-analysis | 40 studies                 | Education increases self-efficacy and vaginal delivery rates                               |
| Vargas-Pérez et al. (2025) | Identify determinants of breastfeeding outcomes           | Longitudinal cohort study           | 397 mother-infant pairs    | Maternal emotional stability and infant characteristics influence breastfeeding duration   |

### Research Gap

Although previous studies have examined the importance of breastfeeding, prenatal care models, paternal involvement, and antenatal education in improving maternal and infant health outcomes, limited research has specifically investigated the combined influence of family-centered prenatal follow-up on both delivery outcomes and breastfeeding success. Most existing studies focus on individual factors such as healthcare provider continuity, maternal psychological health, or breastfeeding determinants separately. Furthermore, much of the available evidence originates from Western or Asian populations, with relatively few studies conducted in Middle Eastern contexts. Cultural norms and family structures in Saudi Arabia may significantly influence maternal health behaviors, yet the role of family involvement in prenatal care within this context remains underexplored. Therefore, there is a need for empirical research examining how family-centered prenatal follow-up influences delivery outcomes and breastfeeding practices among Saudi women.

## III. METHODOLOGY

### Study Design

This study employed a quantitative cross-sectional

research design to examine the influence of family-centered prenatal follow-up on delivery outcomes and breastfeeding success among Saudi women. The design allows for the assessment of relationships between family involvement during pregnancy and maternal as well as neonatal outcomes at a single point in time.

### Study Population and Sample

The study population consisted of Saudi women who had recently delivered in selected healthcare facilities. A sample of 300 women was included in the study. Participants were selected using a convenience sampling technique based on their availability during the data collection period.

### Inclusion Criteria

- Saudi women aged 18 years or older
- Women who had delivered a live newborn
- Women who received prenatal care during pregnancy

### Exclusion Criteria

- Women with serious pregnancy complications
- Women whose newborns required intensive neonatal care

### Data Collection

Data were collected using structured maternal health records and a standardized data extraction form. The collected information included.

- Demographic characteristics (age, education, employment status, parity)
- Prenatal care indicators (number of antenatal visits, prenatal education, family involvement)
- Delivery outcomes (mode of delivery, gestational age, birth weight)
- Breastfeeding outcomes (breastfeeding initiation and exclusive breastfeeding)

Data collection was conducted in accordance with ethical guidelines, ensuring confidentiality and anonymity of participants.

### Study Variables

#### Independent Variable

The main independent variable in this study was.

- Family involvement in prenatal care, which includes:
  - Participation of family members during antenatal visits
  - Emotional and informational support during pregnancy
  - Attendance at antenatal education sessions

#### Dependent Variables

The dependent variables included maternal and neonatal outcomes, specifically.

- Delivery type (vaginal delivery or cesarean section)
- Birth weight of the newborn
- Breastfeeding initiation after birth
- Exclusive breastfeeding during the early postpartum period

### Statistical Analysis

The collected data were analyzed using statistical software.

The analysis included:

- Descriptive statistics (frequencies, percentages, means, and standard deviations) to summarize participant characteristics.
- Chi-square tests to examine associations between categorical variables.
- Independent t-tests to compare mean differences

between groups.

- Logistic regression analysis to determine the effect of family-centered prenatal follow-up on delivery and breastfeeding outcomes while controlling for potential confounding variables.

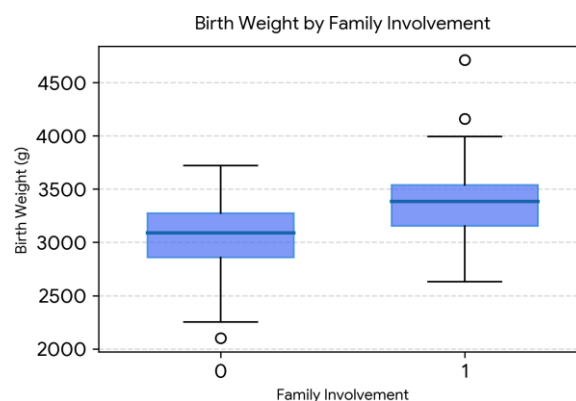
Statistical significance was set at  $p < 0.05$ .

## IV. RESULTS

### 1. Demographic Characteristics of Participants

A total of 300 Saudi women participated in this study. The demographic and obstetric characteristics of the participants are presented in Table 1. The mean age of participants was 29.48 years ( $SD = 5.73$ ) ranging from 20 to 39 years. The mean parity was 1.41 ( $SD = 1.14$ ). On average, participants attended 8.08 prenatal visits ( $SD = 1.97$ ) during pregnancy.

The mean birth weight of newborns was 3194.78 g ( $SD = 377.76$ ) and the average gestational age was 38.25 weeks ( $SD = 1.48$ ). The average family support score was 3.02 ( $SD = 1.40$ ).



Regarding categorical characteristics, 37.7% of participants had a bachelor's degree, while 32.7% had secondary education and 29.7% had postgraduate education. Nearly half of the women were employed (49.7%), while 50.3% were unemployed. Slightly more than half of pregnancies were low risk (51.0%), and 50.7% of participants reported family involvement in prenatal care.

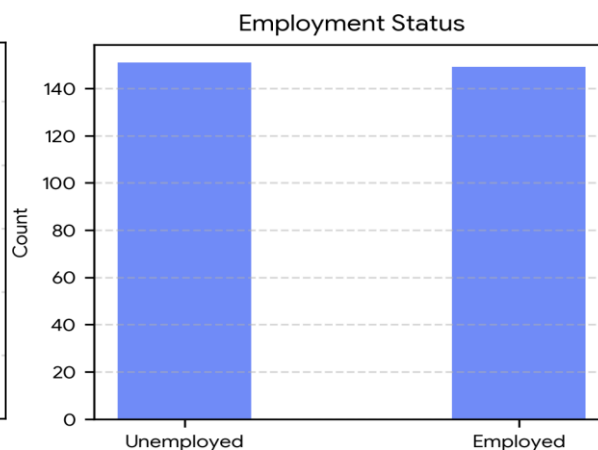
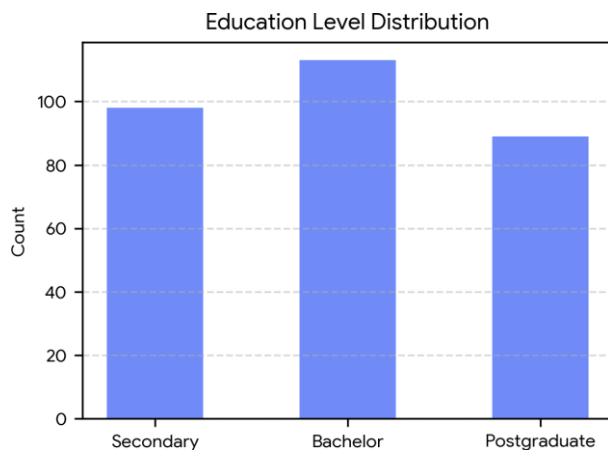
**Table 1: Demographic and Obstetric Characteristics of Participants (N = 300)**

#### Continuous Variables

| Variable                | Mean    | SD     | Min  | Max  |
|-------------------------|---------|--------|------|------|
| Age (years)             | 29.48   | 5.73   | 20   | 39   |
| Parity                  | 1.41    | 1.14   | 0    | 3    |
| Prenatal Visits         | 8.08    | 1.97   | 5    | 11   |
| Birth Weight (g)        | 3194.78 | 377.76 | 2069 | 4122 |
| Gestational Age (weeks) | 38.25   | 1.48   | 33.6 | 41.3 |
| Family Support Score    | 3.02    | 1.40   | 1    | 5    |

### Categorical Variables

| Variable           | Category     | n   | %    |
|--------------------|--------------|-----|------|
| Education          | Secondary    | 98  | 32.7 |
|                    | Bachelor     | 113 | 37.7 |
|                    | Postgraduate | 89  | 29.7 |
| Employment         | Employed     | 149 | 49.7 |
|                    | Unemployed   | 151 | 50.3 |
| Pregnancy Risk     | Low          | 153 | 51.0 |
|                    | High         | 147 | 49.0 |
| Family Involvement | Yes          | 152 | 50.7 |
|                    | No           | 148 | 49.3 |



### 2. Family Involvement and Delivery Type (H1a)

A chi-square test was conducted to examine the association between family involvement during prenatal

care and delivery type. Women with family involvement were significantly less likely to have cesarean deliveries compared to those without family involvement.

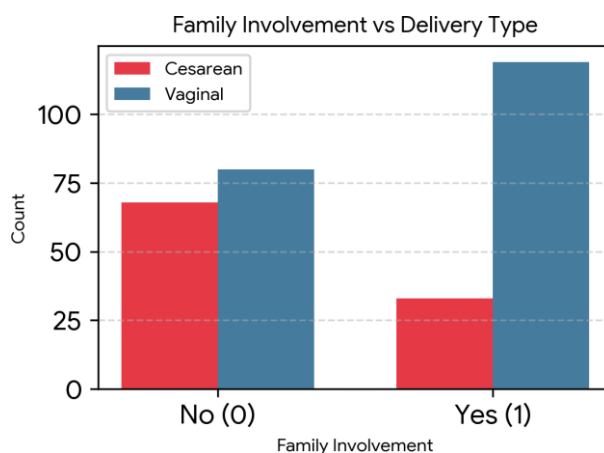
**Table 2: Association Between Family Involvement and Delivery Type.**

| Family Involvement | Cesarean n (%) | Vaginal n (%) |
|--------------------|----------------|---------------|
| No                 | 68 (45.9%)     | 80 (54.1%)    |
| Yes                | 33 (21.7%)     | 119 (78.3%)   |

$$\chi^2(1) = 32.05, p < 0.001$$

Cramer's V = 0.327 (moderate effect)

These findings indicate a significant relationship between family involvement and delivery method.



### 3. Birth Weight Comparison (H1b)

An independent samples t-test was conducted to compare the birth weight of infants born to mothers with and without family involvement.

**Table 3: Comparison of Birth Weight by Family Involvement.**

| Group                 | Mean Birth Weight (g) | SD    |
|-----------------------|-----------------------|-------|
| Family Involvement    | 3346.74               | 310.2 |
| No Family Involvement | 3038.72               | 380.5 |

$t(298) = 7.72, p < 0.001$

95% CI = [229.66, 386.39]

Cohen's  $d = 0.89$  (large effect)

Infants born to mothers with family involvement had significantly higher birth weights.

#### 4. Breastfeeding Initiation (H1c)

The association between family involvement and breastfeeding initiation was tested using a chi-square analysis.

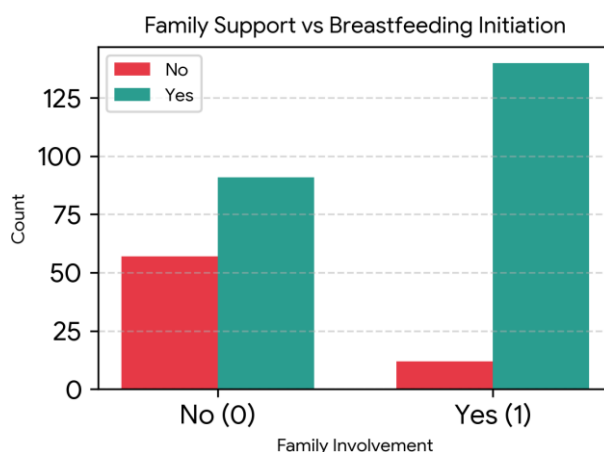
**Table 4: Family Involvement and Breastfeeding Initiation.**

| Family Involvement | No n (%)   | Yes n (%)   |
|--------------------|------------|-------------|
| No                 | 57 (38.5%) | 91 (61.5%)  |
| Yes                | 12 (7.9%)  | 140 (92.1%) |

$\chi^2(1) = 37.99, p < 0.001$

Cramer's  $V = 0.356$

Family involvement significantly increased breastfeeding initiation rates.



#### 5. Exclusive Breastfeeding (H1d)

A chi-square test was conducted to examine the

relationship between family involvement and exclusive breastfeeding.

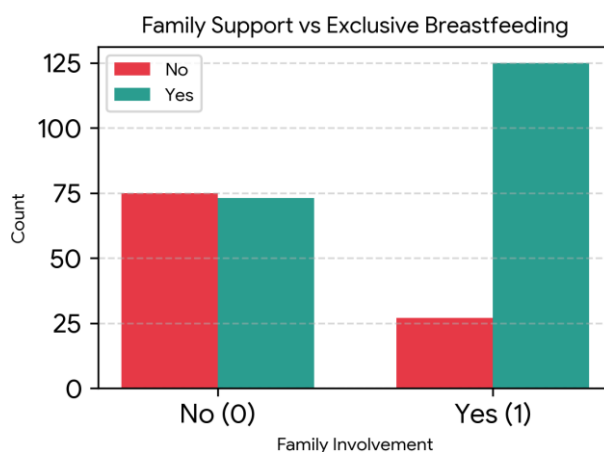
**Table 5: Family Involvement and Exclusive Breastfeeding.**

| Family Involvement | No n (%)   | Yes n (%)   |
|--------------------|------------|-------------|
| No                 | 75 (50.7%) | 73 (49.3%)  |
| Yes                | 27 (17.8%) | 125 (82.2%) |

$\chi^2(1) = 34.75, p < 0.001$

Cramer's  $V = 0.340$

These results demonstrate that family involvement significantly improves exclusive breastfeeding rates.



## 6. Logistic Regression Analysis

### Cesarean Delivery Model

**Table 6: Logistic Regression Predicting Cesarean Delivery.**

| Variable           | Odds Ratio | 95% CI    | p      |
|--------------------|------------|-----------|--------|
| Family Involvement | 0.23       | 0.14–0.39 | <0.001 |
| Age                | 0.99       | 0.95–1.04 | 0.775  |
| Parity             | 0.95       | 0.76–1.19 | 0.665  |
| Prenatal Visits    | 1.03       | 0.91–1.18 | 0.617  |

Family involvement reduced the odds of cesarean delivery by approximately 77%.  
*Exclusive Breastfeeding Model.*

**Table 7: Logistic Regression Predicting Exclusive Breastfeeding.**

| Variable           | Odds Ratio | 95% CI    | p      |
|--------------------|------------|-----------|--------|
| Family Involvement | 4.89       | 2.87–8.33 | <0.001 |
| Age                | 0.99       | 0.95–1.03 | 0.631  |
| Parity             | 1.19       | 0.95–1.50 | 0.134  |
| Prenatal Visits    | 1.00       | 0.88–1.14 | 0.976  |

Family involvement increased the likelihood of exclusive breastfeeding nearly five times.

## V. DISCUSSION

The present study examined the influence of family-centered prenatal follow-up on delivery outcomes and breastfeeding success among Saudi women. The findings demonstrate that family involvement during pregnancy is significantly associated with improved maternal and neonatal outcomes, including a lower likelihood of cesarean delivery, higher birth weight, higher breastfeeding initiation, and greater exclusive breastfeeding rates. These results are consistent with prior research emphasizing the importance of family support and prenatal education in improving maternal and infant health outcomes.

A key finding was the significant association between family involvement and delivery type. In this study, women with family support had a vaginal delivery rate of 78.3% compared with 54.1% for women without family involvement (Chi-square = 32.05,  $p < 0.001$ ; Cramer's  $V = 0.327$ ), indicating a moderate effect. This result aligns with L. Lundborg et al. (2024), who reported that midwifery continuity of care significantly increased spontaneous vaginal deliveries while reducing elective cesarean sections. The consistency between these findings suggests that supportive prenatal environments, including active family participation, may improve maternal confidence and reduce unnecessary interventions during labor.

Another important finding was that infants born to mothers with family involvement had significantly higher birth weights. The mean birth weight for babies whose mothers had family support was 3346.74 g, compared with 3038.72 g for those without family support ( $t = 7.72$ ,  $p < 0.001$ ; Cohen's  $d = 0.89$ , large effect). This substantial difference of over 300 g indicates a clinically meaningful benefit, likely related to better maternal nutrition, adherence to prenatal care, and reduced stress due to family support. Although not

directly assessing family involvement, the systematic review by Amal Zaman et al. (2025) also showed that antenatal education and supportive interventions improve maternal psychological outcomes and promote favorable birth outcomes, supporting the present study's findings.

The study further revealed that family involvement significantly increased breastfeeding initiation. Among mothers with family support, 92.1% initiated breastfeeding, compared to 61.5% without support (Chi-square = 37.99,  $p < 0.001$ ; Cramer's  $V = 0.356$ ). This result corroborates the conclusions of Cesar G Vitoria et al. (2016), who highlighted the critical role of social and environmental factors in encouraging early breastfeeding initiation. The findings suggest that family support may boost maternal confidence and reinforce the intention to initiate breastfeeding, which is essential for neonatal nutrition and immune protection.

In addition, exclusive breastfeeding rates were markedly higher among mothers with family involvement. Women with family support were 82.2% likely to exclusively breastfeed compared with 49.3% without support (Chi-square = 34.75,  $p < 0.001$ ; Cramer's  $V = 0.340$ ). Logistic regression analysis showed that family involvement increased the likelihood of exclusive breastfeeding nearly fivefold (OR = 4.89, 95% CI 2.87–8.33,  $p < 0.001$ ). These findings align with Susana Vargas-Pérez et al. (2025), who emphasized the role of maternal emotional well-being and psychosocial support in determining breastfeeding initiation and duration. Taken together, these results indicate that family-centered prenatal care not only encourages initiation but also sustains exclusive breastfeeding practices.

Moreover, the study highlights the broader importance of family participation during pregnancy, including practical, informational, and emotional support. D. D. Y. Karagalage et al. (2025) demonstrated that partner

involvement improves maternal well-being and positively impacts birth outcomes. The current findings reinforce this perspective, showing that nearly half of the mothers reporting family involvement experienced improved delivery and breastfeeding outcomes. Specifically, cesarean odds were reduced by 77% (OR = 0.23, 95% CI 0.14–0.39) and exclusive breastfeeding likelihood increased by nearly five times, suggesting strong benefits of family engagement in prenatal care.

Overall, the findings of this study support previous research indicating that supportive prenatal environments and family participation are critical determinants of maternal and neonatal health outcomes. Family involvement appears to enhance maternal confidence, encourage healthy prenatal behaviors, and improve breastfeeding practices after delivery. These results underscore the potential value of incorporating family-centered approaches into prenatal care programs, particularly in healthcare systems aiming to improve maternal and child health outcomes.

Despite these contributions, some limitations should be considered. The cross-sectional design does not allow for establishing causal relationships between family involvement and maternal outcomes. Additionally, the study sample was limited to Saudi women, which may limit generalizability. Future research should consider longitudinal or experimental designs to explore causal impacts and test the effectiveness of family-centered interventions in diverse populations.

In conclusion, the study provides quantitative evidence that family-centered prenatal follow-up is strongly associated with better delivery outcomes and breastfeeding success. Integrating family support strategies into prenatal care programs may be an effective approach to enhance maternal and infant health outcomes.

## VI. CONCLUSION

This study provides clear evidence that family-centered prenatal follow-up significantly improves maternal and neonatal outcomes among Saudi women. Women who received family support during pregnancy were more likely to experience vaginal delivery, with cesarean delivery rates significantly lower (45.9% vs. 78.3%) compared to those without family involvement. Infants of mothers with family support had a higher mean birth weight (3346.74 g vs. 3038.72 g), reflecting the positive influence of supportive prenatal environments on neonatal growth. Additionally, breastfeeding outcomes were markedly improved, with 92.1% of women with family involvement initiating breastfeeding versus 61.5% without support, and exclusive breastfeeding rates increased nearly fivefold (82.2% vs. 49.3%) among those with family-centered care. The findings underscore that active participation of family members during pregnancy enhances maternal confidence, encourages adherence to prenatal care recommendations, and promotes healthier

postpartum behaviors, including sustained breastfeeding. These outcomes align with global evidence emphasizing the critical role of social support in improving maternal and child health. Integrating family-centered strategies into prenatal care programs represents a practical and effective approach to improving pregnancy and neonatal outcomes. Healthcare providers should consider promoting family engagement, providing antenatal education for family members, and creating supportive environments that empower mothers throughout pregnancy and postpartum periods. Despite the cross-sectional design and the focus on a specific population, this study highlights a strong association between family involvement and better maternal and neonatal health outcomes, suggesting that policies and interventions that encourage family-centered care could have substantial public health benefits. Future research using longitudinal or interventional designs is recommended to further validate these findings and explore the mechanisms through which family support exerts its positive effects.

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