

Vaginal Birth After Cesarean (VBAC) in Morocco: Women's Experiences and Obstetric Outcomes – A Community-Based Cross-Sectional Study

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Abstract

Objective: To explore the experiences of Moroccan women with a scarred uterus who delivered vaginally, and to describe self-reported maternal and neonatal outcomes as well as associated factors.

Methods: A community-based cross-sectional study was conducted among 150 women in the Rabat–Salé–Kénitra region. Data were collected at the women's homes using a self-administered questionnaire covering sociodemographic characteristics, obstetric history, complications, neonatal outcomes, and subjective experience. Descriptive statistics (means, frequencies, 95% CI), bivariate comparisons (χ^2 , Mann–Whitney), and logistic regression were performed.

Results: The mean age was 28.6 ± 4.7 years (median 29; IQR 26–31). The VBAC success rate was 82.7% [95% CI: 76.1–88.0]. Reported maternal complications included postpartum hemorrhage (6.0%), uterine rupture (1.3%), postpartum infection (2.0%), and uterine revision (4.7%). Fetal heart rate anomalies occurred in 9.3%. Neonatal outcomes included Apgar <7 at 5 minutes (7.3%) and neonatal transfer (8.7%). Maternal satisfaction was high (74.0%), although 38.7% reported fear or anxiety. Multiparity, interpregnancy interval ≥ 24 months, and spontaneous labor were significantly associated with VBAC success ($p < 0.05$).

Conclusion: VBAC is feasible and relatively safe in the Moroccan context, as reported by women in the community. Maternal experience emphasizes the need for clear information and psychological support.

Keywords

Vaginal birth after cesarean, Morocco, maternal experience, obstetric outcomes, community-based study

1. Introduction

The global increase in cesarean section (CS) rates has become a major concern for health systems and maternal care worldwide. According to the World Health Organization (WHO), the optimal cesarean rate should not exceed 10–15% of deliveries; however, in many countries, including Morocco, rates are considerably higher, especially in urban and private settings. Repeated cesarean deliveries are associated with long-term risks such as abnormal placentation, surgical complications, and increased maternal morbidity and mortality.

Vaginal birth after cesarean (VBAC) represents a safe and effective alternative for carefully selected women. International guidelines, such as those from the American College of Obstetricians and Gynecologists (ACOG) and the Royal College of Obstetricians and Gynecologists (RCOG), recommend offering VBAC to women with a history of one prior low-transverse cesarean section, provided no contraindications exist and appropriate monitoring is available. Success rates for VBAC generally range between 60–85%, depending on maternal characteristics, obstetric history, and institutional protocols.

In Morocco, few studies have documented VBAC outcomes, and most available data are hospital-based, focusing primarily on clinical results. However, little is known about the women's perspective, particularly regarding their experiences, satisfaction, and perceived fears during the process of attempting a VBAC.

Exploring these perceptions is essential, as maternal experience plays a crucial role in shaping attitudes towards future deliveries and in strengthening women's trust in obstetric care.

Therefore, this study aimed to evaluate the outcomes of VBAC in the Rabat–Salé–Kénitra region of Morocco, using a community-based, self-administered questionnaire completed at the women's homes. The objectives were twofold: (i) to describe maternal and neonatal outcomes as reported by women, and (ii) to assess their subjective experiences, including satisfaction and anxiety, in order to provide evidence that can guide both clinical practice and maternal health policies in Morocco.

2. Methods

Study design and setting: A cross-sectional, community-based study conducted in the Rabat–Salé–Kénitra region, Morocco.

Population: Women with a history of one cesarean section who subsequently attempted and achieved a vaginal delivery.

Data collection: A self-administered questionnaire distributed at the women's homes, including sociodemographic data, obstetric history, labor course, complications, neonatal outcomes, and maternal perceptions.

Variables: Maternal outcomes (VBAC success, postpartum hemorrhage, uterine rupture, postpartum infection, uterine revision, fetal heart rate anomalies). Neonatal outcomes (Apgar score at 5 min, neonatal transfer). Maternal perceptions (satisfaction, fear/anxiety).

Statistical analysis: Descriptive statistics (means \pm SD, frequencies), χ^2 or Fisher's exact test, Mann–Whitney test, logistic regression. Significance level $p < 0.05$.

Ethics: Written/oral informed consent obtained, anonymity guaranteed.

3. Results

Table 1. Profile of participants (n = 150)

Variable	Value	n
Mean age (years)	28.6 \pm 4.7	150
Median age (IQR)	29 (26–31)	150
≤ 19 years	5 (3.3%)	150
20–24 years	26 (17.3%)	150
25–29 years	56 (37.3%)	150
30–34 years	48 (32.0%)	150
35–39 years	13 (8.7%)	150
≥ 40 years	2 (1.3%)	150
Parity ≥ 3	61 (40.7%)	150
Interpregnancy interval ≥ 24 months	103 (68.7%)	150

Table 2. Maternal and neonatal outcomes

Outcome	Rate (95% CI)	n
VBAC success	82.7% [76.1–88.0]	150
Postpartum hemorrhage	6.0% [3.0–10.9]	150
Uterine rupture	1.3% [0.3–4.8]	150
Postpartum infection	2.0% [0.6–6.0]	150
Uterine revision	4.7% [2.2–9.7]	150
Fetal heart rate anomalies	9.3% [5.5–15.2]	150
Apgar <7 at 5 min	7.3% [4.0–12.9]	150
Neonatal transfer	8.7% [5.0–14.6]	150
Maternal satisfaction	74.0% [66.3–80.5]	150
Fear / Anxiety	38.7% [31.1–46.9]	150

Table 3. Significant bivariate associations ($p < 0.05$)

Outcome	Predictor	Test	n	p-value
VBAC success	Parity ≥ 3	χ^2	150	0.021
VBAC success	Interpregnancy interval ≥ 24 months	χ^2	150	0.034
VBAC success	Spontaneous labor (no induction)	χ^2	150	0.012
Postpartum hemorrhage	Labor ≥ 12 h	χ^2	150	0.041
Apgar <7	Prolonged labor	Mann–Whitney	150	0.027

4. Discussion

This community-based study provides novel insights into VBAC in Morocco. The success rate (82.7%) is consistent with international reports. Multiparity and longer interpregnancy intervals were significant predictors of success, supporting established guidelines.

Reported complications such as postpartum hemorrhage (6%) and uterine rupture (1.3%) highlight the importance of careful monitoring. Neonatal outcomes (7.3% low Apgar, 8.7% transfers) remain acceptable but warrant improved perinatal care.

Importantly, women's perceptions revealed high satisfaction (74%) but frequent fear/anxiety (38.7%). This underscores the psychological dimension of childbirth and the need for enhanced communication and support.

Strengths: first Moroccan community-based VBAC study integrating women's subjective experiences. Limitations: self-reported data may introduce recall bias; absence of medical record validation; regional focus limits generalizability.

5. Conclusion

VBAC is a safe and feasible strategy in Morocco, with high success rates and low complication rates when appropriate criteria are met. Women's experiences highlight the dual importance of clinical safety and emotional support. Future multicenter prospective studies should validate these findings and guide national recommendations.

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