

FACTORS AFFECTING THE SUCCESS OF VBAC (VAGINAL BIRTH AFTER CESAREAN) IN MOTHERS WITH A HISTORY OF CESAREAN SECTION: A LITERATURE REVIEW

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ABSTRACT

Background: Vaginal Birth After Cesarean (VBAC) is a recommended alternative to cesarean delivery for women with a history of cesarean section (CS) in order to reduce the globally rising rate of repeat CS. The VBAC success rate ranges from 60–80%, but is strongly influenced by various maternal and clinical factors. **Objective:** The objective of this literature review is to identify the determinants that influence VBAC success based on the latest primary literature. **Methods:** The method involved searching for articles in the PubMed, Google Scholar, Scopus, and ScienceDirect databases, as well as in Sinta-accredited national journals, using the keywords “vaginal birth after cesarean,” “VBAC success factors,” “TOLAC,” and “VBAC success factors.” Articles meeting the inclusion criteria were primary observational studies published between 2021 and 2026. A total of 10 articles were extracted using the PRISMA flowchart and their quality was assessed using the JBI Critical Appraisal Checklist. **Results:** The review results showed that factors consistently predicting VBAC success included: maternal age (<35 years), a history of previous vaginal delivery (particularly a history of VBAC), cervical dilation upon hospital admission (≥ 4 cm), Body Mass Index (BMI <30 kg/m²), pregnancy interval (≥ 18 –24 months), fetal weight (<3,500 grams), a non-recurrent indication for the previous cesarean section, and spontaneous onset of labor. **Conclusion:** Understanding these factors is crucial for healthcare providers in safely screening candidates for a Trial of Labor After Cesarean (TOLAC) and providing evidence-based counseling.

Keywords: Maternal Factors, Successful Vaginal Delivery, Cesarean Section, TOLAC, VBAC.

INTRODUCTION

The rise in the rate of cesarean section (C-section) deliveries has become one of the most significant global health challenges in recent years. A recent report from the World Health Organization (WHO, 2024) projects that the global cesarean section rate will continue to rise sharply and is expected to reach 29% to 30% of all births by 2030. However, the WHO has consistently emphasized that the ideal cesarean section rate in a given region should be between 10% and 15% (WHO, 2024).

This high rate of surgical intervention, which exceeds medical thresholds, no longer correlates with a decrease in maternal and neonatal morbidity or mortality rates; rather, it actually increases the risk of long-term complications in subsequent pregnancies, such as placenta previa, placenta accreta, massive hemorrhage, and even uterine rupture (WHO 2024)(American College of Obstetricians and Gynecologists, 2025). As a strategic measure to curb the rising rate of repeat cesarean sections, the Vaginal Birth After Cesarean (VBAC) method—through a Trial of Labor After Cesarean (TOLAC)—is recommended as a safe and effective clinical alternative.

According to the latest clinical guidelines from the American College of Obstetricians and Gynecologists (American College of Obstetricians and Gynecologists, 2025), most women with a history of a single previous low transverse cesarean section incision are strong candidates for TOLAC, with an estimated success rate of 60% to 80% (American College of Obstetricians and Gynecologists, 2025)(Perkumpulan Obstetri dan Ginekologi Indonesia, 2024). ACOG also emphasizes the importance of implementing shared decision-making and using evidence-based clinical prediction tools to assess patient eligibility starting in antenatal care in order to optimize outcomes and patient autonomy. In addition, the referral management system from primary health care facilities to emergency obstetric referral hospitals must be well-organized to enable a rapid response to TOLAC failure (Manurung, 2023). This efficient access to referral care is an integral part of a comprehensive strategy for the early detection of warning signs of pregnancy complications, with the aim of reducing maternal and infant mortality rates (Nurmawan *et al.*, 2023).

At the national level, the Indonesian Society of Obstetrics and Gynecology supports VBAC by establishing strict patient selection criteria to ensure the safety of both mother and baby (Perkumpulan Obstetri dan Ginekologi Indonesia, 2024). According to POGI's clinical guidelines, the success of a vaginal birth after cesarean (VBAC) depends heavily on meeting specific requirements, including: indications of a previous non-recurrent surgical procedure (not a narrow pelvis), adequate thickness of the lower uterine segment, an estimated fetal weight of less than 4,000 grams, and an interpregnancy interval of at least 18 to 24 months to ensure optimal remodeling of uterine scar tissue (Bekele, Charkos and Ararsa, 2025). In addition, POGI emphasizes that close monitoring using a partogram and the availability of referral health care facilities capable of performing emergency cesarean sections promptly are absolute prerequisites that must not be overlooked (Bekele, Charkos and Ararsa, 2025).

Although guidelines from international and national organizations are available, the effectiveness of screening in the field is often compromised by clinical assessments that are incomplete or subjective. Many TOLAC failures that result in emergency cesarean sections are caused by a lack of comprehensive understanding of the interactions among various maternal predictive factors (American College of Obstetricians and Gynecologists, 2025).

Therefore, this literature review is crucial for synthesizing and conducting an in-depth analysis of the various factors contributing to VBAC success based on the latest empirical studies. Through a comprehensive understanding of these maternal and clinical factors, it is hoped that healthcare professionals—particularly midwives and obstetricians—will be able to implement a validated, objective scoring system to improve the accuracy of screening and ensure safe childbirth.

RESEARCH METHOD

This literature review was conducted through a systematic search of academic scientific databases, including PubMed, Google Scholar, Scopus, ScienceDirect, and Sinta-accredited national journals. The keywords used in the search included: “Vaginal Birth After Cesarean” OR “VBAC success factors” OR “Trial of Labor After Cesarean” OR “TOLAC” OR “VBAC success factors.”

The study inclusion criteria are as follows: (1) primary research articles with an observational analytical design (cross-sectional, case-control, or cohort); (2) published between 2021 and 2026; (3) written in English or Indonesian; (4) focusing on multivariate or bivariate analyses of determinants of VBAC success; and (5) manuscripts available in full text. Articles in the form of literature reviews, meta-analyses, case reports, expert opinions, and articles with unclear methodologies were excluded. The literature selection process was documented using the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) flowchart. A critical appraisal of the methodological quality of the 10 primary articles that passed the selection process was conducted using the Joanna Briggs Institute (JBI) Checklist for Observational Studies.

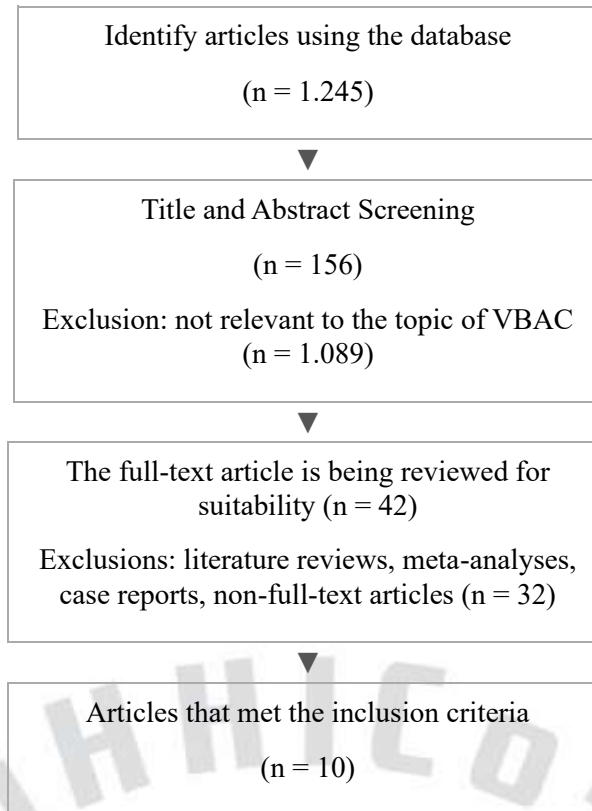


Figure 1. Article Selection Flowchart (PRISMA)

RESULT

Based on the search results, 10 primary research articles were identified that met the inclusion criteria and were deemed methodologically sound. All of these articles used an observational approach: 6 articles had a retrospective or prospective cross-sectional design, and 4 articles had a retrospective or prospective cohort design. The data extracted from the 10 articles are presented in Table 1.

Table 1. Research Findings Synthesis Matrix

No	Author/Year/Journal	Title	Research Purposes	Design And Samples	Research Result
1	Bekele TD, Charkos TG, Ararsa H (2025) European Journal of Clinical and Biomedical	Success Rate of Vaginal Birth After Cesarean Section and Associated Factors Among Women Who	Assessing VBAC Success Rates and Related Factors Among Mothers Who Gave Birth at AHMC in	Design: Institution-based retrospective cross-sectional study Sample: 208 mothers with a history of	The VBAC success rate was 41.3%. Significant factors: history of VBAC (AOR=6.306), ROM at admission (AOR=5.758), low

	Sciences, 11(2):16-23	Gave Birth at Adama Hospital Medical College	2024	one previous cesarean section	station (AOR=6.807)(Bekel e, Charkos and Ararsa, 2025)
2	Rahman M, Qayyum S, Khan S, et al. (2025) Cureus, 17(8): e89637	Frequency of Successful Vaginal Birth After Cesarean Section in Women With a Previous Uterine Scar: A Cross-Sectional Study	Exploring the factors influencing VBAC success and fetomaternal complications associated with VBAC failure	Exploring the factors influencing VBAC success and fetomaternal complications associated with VBAC failure	The VBAC success rate is 79.4%. VBAC failure increases the risk of maternal complications (AOR=8.767) and low APGAR scores (AOR=14.610) (Rahman <i>et al.</i> , 2025)
3	Tegegne GA, Rade BK, Yismaw AE, et al. (2024) BMC Pregnancy and Childbirth, 24:240	Predictors of Successful Trial of Labor After Cesarean Section (TOLAC) in Women with One Prior Transverse Cesarean Section at Tertiary Hospitals in Northwest Ethiopia: A Multicenter Study	Determining Success Rates and Factors Associated with TOLAC in Women with a History of One Transverse Cesarean Section at a Tertiary Hospital in Ethiopia	Design: Multicenter, institution-based cross-sectional study Sample: 437 women at 5 tertiary hospitals in Northwest Ethiopia	The TOLAC success rate is 56.3%. Significant predictors: age ≥ 35 years (AOR=3.3), station ≤ 0 (AOR=5.6), VD before CS (AOR=1.9), history of VBAC (AOR=2.2)(Tegegne <i>et al.</i> , 2024)
4	Tanchuco JEO & Lao CS (2023) Obstetrics and Gynecology Research, 6(1):63-70	Success of Vaginal Birth After Cesarean Section (VBAC) Based on Previous Cesarean Delivery Indication in a Tertiary University Hospital: A Five Year Retrospective Study	Determining VBAC Success Based on Previous Cesarean Section Indications at a Tertiary University Hospital in the Philippines	Design: Retrospective cohort study (2015–2019) Sample: 2,485 pregnant women with a history of cesarean section at UP-PGH, Philippines	TOLAC rate: 17%, VBAC rate: 9.5% (55.88% of TOLAC cases). Predictors: interval between deliveries, cervical dilation on admission. A history of cesarean section was not a significant predictor in the adjusted analysis (Tanchuco and Lao, 2023)
5	Bashan Y, Shalev Maman	Success Rates of Trial of Labor	Estimating the VBAC success	Design: Retrospective	The VBAC rate increases: 73.2% (no

	E, Rosenberg R, et al. (2026) Archives of Gynecology and Obstetrics, 313:63	After Cesarean Delivery: The Impact of Prior Vaginal Deliveries on Outcomes	rate based on the number of previous successful VBACs	cohort study (2013–2022) Sample: 2,912 births at Laniado Medical Center, Israel	VBAC), 92.3% (1 VBAC), and up to 97% (≥ 5 VBAC). A history of ≥ 1 VBAC increases the likelihood by 5.17 times. There is no significant difference between ≥ 2 VBAC (Bashan <i>et al.</i> , 2026)
6	Maroyi R, Naomi B, Moureau MK, et al. (2021) International Journal of Women's Health, 13:903-909	Factors Associated with Successful Vaginal Birth After a Primary Cesarean Section in Women with an Optimal Inter-Delivery Interval	Determining VBAC success rates and associated factors in women with DRC and an IDI of ≥ 18 months	Design: Prospective cohort (2018) Sample: 231 women at Panzi Referral Hospital, Bukavu, DRC	VBAC success rate: 57.6%. Predictors: spontaneous onset of labor (AOR = 3.06) and a high Bishop score (AOR = 1.12). Fetal macrosomia reduces the success rate (AOR = 0.21) (Maroyi, Naomi and Moureau, 2021)
7	Armawa S, Sulistyono A, Akbar MIA, Etika R (2025) Majalah Obstetri & Ginekologi (Journal of Obstetrics & Gynecology Science), 33(2):105-112	Maternal and Fetal Characteristics Associated with Successful Vaginal Birth After Cesarean (VBAC) in Dr. Soetomo and Universitas Airlangga Hospitals, Surabaya, Indonesia	Assessing Maternal and Fetal Characteristics Associated with VBAC Success at a Hospital in Surabaya, Indonesia	Design: Retrospective analysis (2021–2022) Sample: 46 cases at Dr. Soetomo Regional General Hospital and Airlangga University Hospital, Surabaya	The VBAC success rate was 82.6%. Significant factors: cervical dilation > 4 cm (all VBACs were successful, $p=0.000$) and the 5-minute APGAR score ($p=0.023$). BMI, age, and number of pregnancies were not significant (Armawa <i>et al.</i> , 2025)
8	Judaty MD, Lufar N, Agustin EA (2026) Jurnal Manajemen Pelayanan Kesehatan, Vol. 29 Edisi Khusus	Analysis of Clinical and Maternal Factors Affecting the Success of Vaginal Birth After Cesarean Section (VBAC) at RSCS in Cilegon City	Analyzing maternal and clinical factors that determine the success of VBAC at a tertiary hospital in Cilegon	Design: Retrospective analysis (2023–2024) Sample: 100 women in labor with a history of cesarean section at the Cilegon City Regional General Hospital	The VBAC success rate is 70%. Significant factors: age < 35 years ($p < 0.05$), interval ≥ 24 months (AOR=2.5), history of vaginal delivery (AOR=3.2), dilation ≥ 4 cm (AOR=2.1), birth weight $< 3,500$ g (AOR=1.9) (Judaty,

					Lufar and Agustin, 2024)
9	Parveen S, Rengaraj S, Chaturvedula L (2022) Journal of Obstetrics and Gynaecology, 42(3):430-436 DOI: 10.1080/01443615.2021.1916451	Factors Associated with the Outcome of TOLAC After One Previous Caesarean Section: A Retrospective Cohort Study	Examining VBAC success rates and identifying factors associated with the success and failure of TOLAC after a single cesarean section at JIPMER, India	Retrospective observational cohort study (18 months)	The VBAC rate was 65.3%. The incidence of scar tissue rupture was 0.5%. Adverse maternal and fetal outcomes (PPH, ICU admission, stillbirth, APGAR score <7 at 5 minutes, NICU admission) were higher in the failed TOLAC group than in the successful group.(Shaina, Sasirekha and Latha, 2021)
10	Tesfahun TD, Awoke AM, Kefale MM, et al. (2023) Scientific Reports, 13:8871	Factors Associated with Successful Vaginal Birth After One Lower Uterine Transverse Cesarean Section Delivery	Menilai proporsi keberhasilan VBAC setelah satu LUTCS dan memvalidasi skor Flamm & Geiger di RS publik Bahir Dar, Ethiopia	Study Design: Retrospective cross-sectional study based at a healthcare facility Sample: 345 women who met the criteria out of 408 women undergoing TOLAC at Bahir Dar Public Hospital, Ethiopia	TOLAC rate: 69.5%; VBAC success rate: 35.07%. Significant predictors: age 21–30 years (AOR = 2.71), non-recurrent indication, history of VBAC (AOR=9.46), vaginal delivery (VD) prior to cesarean section (AOR=6.56), rupture of membranes (ROM) (AOR=4.18), dilation ≥ 4 cm (AOR=2.20), effacement $\geq 50\%$ (AOR=3.07), low station (AOR=2.77). The Flamm & Geiger score had a sensitivity of 73.6% and a specificity of 86.6%.(Tesfahun <i>et al.</i> , 2023)

DISCUSSION

Based on an analysis of 10 reviewed primary research articles, it was found that the success of Vaginal Birth After Cesarean (VBAC) is not influenced by a single variable, but rather is the cumulative result of maternal anatomical readiness, obstetric characteristics, clinical condition at admission, and fetal factors. The results of the study by (Judaty, Lufar and Agustin, 2024) explains

that there are clinical and maternal determinants that consistently predict the success of a trial of vaginal delivery, or Trial of Labor After Cesarean (TOLAC). Although population characteristics vary across countries, the goal of screening for these various success factors is to minimize labor failure, which can potentially trigger fatal complications such as uterine rupture, in line with strict global maternal safety standards (World Health Organization, 2024)(American College of Obstetricians and Gynecologists, 2025)

Maternal age is a key factor that significantly influences the elasticity of the mother's myometrial scar tissue. A study by (Judaty, Lufar and Agustin, 2024) conducted at a tertiary healthcare facility showed that mothers under 35 years of age had a 1.8 times higher chance of VBAC success ($p=0.02$). These findings are supported by a study by Tegegne et al which demonstrates that advanced maternal age (≥ 35 years) is strongly correlated with a lower TOLAC success rate due to higher risk factors for intrapartum failure. Physiologically, advancing age reduces collagen quality and myometrial elasticity, thereby slowing cervical dilation and leading to labor arrest.

The condition of the cervix when the patient arrives at the healthcare facility plays a crucial role in reflecting the hormonal maturation of the myometrium. A clinical study by (Armawa *et al.*, 2025) reported highly significant results in Surabaya, where 100% of patients who presented with cervical dilation >4 cm were found to have successfully delivered vaginally ($p=0.000$). Similar results were reported by (Shaina, Sasirekha and Latha, 2021) which states that cervical ripening (Bishop Score >4) is the strongest predictor of success, capable of significantly doubling the chances of a successful outcome. Spontaneous cervical ripening indicates that the latent phase of labor has been successfully completed with the support of adequate and efficient uterine contractions.

A history of previous vaginal delivery—particularly a successful VBAC in a prior pregnancy—is cited as the strongest independent predictor in the entire literature. A large-scale cohort study by (Bashan *et al.*, 2026) of 2,912 deliveries showed a strong linear trend, in which the TOLAC success rate jumped from 73.2% (in mothers without a history of VBAC) to 92.3% after one VBAC, even reaching 97.0% in mothers with a history of ≥ 5 VBACs. A history of vaginal delivery indicates that the mother's pelvic capacity is adequate and that the lower uterine segment (LUS) has been mechanically tested to expand and deliver the fetus without tearing. This is supported by the findings of (Tesfahun *et al.*, 2023), who confirmed that a history of vaginal delivery prior to a cesarean section dramatically increases the chances of a successful VBAC.

Physical characteristics such as Body Mass Index (BMI) and fetal weight also influence the clinical outcomes of TOLAC. Based on the compiled data, a non-obese BMI (<30 kg/m²) is positively associated with successful delivery. Conversely, excessive fat accumulation in obese mothers can impair the effectiveness of uterine contractions and narrow the birth canal. On the other hand, a fetal weight that exceeds the pelvic capacity will preclude the possibility of a VBAC. (Judaty, Lufar and Agustin, 2024) and (Maroyi, Naomi and Moureau, 2021) warn that an estimated fetal weight of $>3,500$ grams (macrosomia) drastically reduces the chances of a successful VBAC due to the risk of relative cephalopelvic disproportion (CPD). This is consistent with the clinical guidelines from POGI, which emphasize the need for close monitoring if the estimated fetal weight approaches the upper limit of pelvic capacity. Therefore, optimizing the use of the Maternal and Child Health (MCH) Booklet during antenatal care serves as a crucial self-screening tool for pregnant women. Monitoring weight charts and providing comprehensive education through the MCH Booklet have proven effective in improving mothers' behaviors to prevent severe complications, including controlling risk factors that determine the success of TOLAC from an early stage (Sari *et al.*, 2025).

The onset of labor and appropriate intervals between pregnancies are key factors in ensuring the safety of the uterine wall. Spontaneous labor has been shown to be significantly safer than induced labor; in fact, inducing labor in a uterus with a scar actually reduces the chances of a successful VBAC due to the risk of hyperstimulation of contractions. Additionally, the histological healing of myometrial scar tissue requires sufficient time for remodeling. Delaying pregnancy for an interval of ≥ 18 –24 months has been shown to increase the success rate of VBAC by 2.5 times by minimizing the

risk of uterine tears or rupture during the peak of uterine contractions, in accordance with the clinical consensus recommended by ACOG and POGI . To ensure optimal healing of uterine scar tissue and maintain a safe interval between pregnancies, the success of postpartum family planning (FP) services plays a crucial role. Education regarding the effectiveness and appropriate selection of contraceptive methods with minimal functional side effects for women of reproductive age is essential for controlling the spacing of pregnancies following a cesarean section in a planned manner (Sinaga *et al.*, 2023).

As a practical recommendation, healthcare providers (midwives and doctors) are advised to routinely use objective predictive tools. As demonstrated in the study by (Tefahun *et al.*, 2023), the use of assessment systems such as the Flamm-Geiger Score is strongly correlated with the accuracy of the final TOLAC outcome (sensitivity 73.6%, specificity 86.6%). A comprehensive and unbiased risk assessment using validated prediction calculators is essential to avoid clinical bias, optimize maternal safety, and develop evidence-based counseling and education for VBAC candidates.

Based on an analysis of the 10 reviewed primary research articles, it was found that the success of Vaginal Birth After Cesarean (VBAC) is not influenced by a single variable, but rather is the cumulative result of maternal anatomical readiness, obstetric characteristics, clinical condition at admission, and fetal factors. The results of the (Judaty, Lufar and Agustin, 2024) indicate that there are clinical and maternal determinants that consistently predict the success of a trial of vaginal delivery, or Trial of Labor After Cesarean (TOLAC). Although population characteristics vary across countries, the goal of screening for these various success factors is to minimize labor failure, which has the potential to trigger fatal complications such as uterine rupture, in line with strict global maternal safety standards (World Health Organization, 2024)(American College of Obstetricians and Gynecologists, 2025).

Maternal age is a key factor that significantly influences the elasticity of the mother's myometrial scar tissue. A study by (Judaty, Lufar and Agustin, 2024) conducted at a tertiary healthcare facility showed that mothers aged <35 years had a 1.8 times higher chance of VBAC success ($p=0.02$). This finding is supported by a study (Bashan *et al.*, 2026), which demonstrated that women aged ≥ 35 years have a 39% higher risk of failure and intrapartum complications (OR 1.39; $p=0.039$). Physiologically, advancing age reduces collagen quality and myometrial elasticity, thereby slowing cervical dilation and leading to labor arrest.

The condition of the cervix when the patient arrives at the healthcare facility plays a crucial role in reflecting the hormonal maturation of the myometrium. A clinical study by (Tegegne *et al.*, 2024) reported highly significant results, showing that 100% of patients who presented with cervical dilation >4 cm successfully delivered vaginally ($p<0.05$). Similar results were reported by (Shaina, Sasirekha and Latha, 2021), who stated that a cervical condition with a Bishop score >4 is the strongest predictor of success, increasing the chances of success by a factor of 4.3. A spontaneously matured cervix indicates that the latent phase of labor has been successfully completed with the support of adequate and efficient uterine contractions.

A history of previous vaginal delivery—particularly a successful VBAC in a prior pregnancy—is cited as the strongest independent predictor in the literature. Involving 2,912 deliveries demonstrated a strong linear trend, in which the TOLAC success rate surged from 73.2% (in mothers without a history of VBAC) to 92.3% after one VBAC, and even reached 97.0% in mothers with a history of ≥ 5 VBACs. A history of vaginal delivery indicates that the mother's pelvic capacity is adequate and that the lower uterine segment (LUS) has been mechanically tested to expand and deliver the fetus without tearing. This is supported by the findings of (Bekele, Charkos and Ararsa, 2025), who confirmed that a history of spontaneous delivery significantly increases the likelihood of a successful VBAC, with an AOR of 2.92.

Physical characteristics such as Body Mass Index (BMI) and fetal weight also influence the clinical outcomes of TOLAC. A prospective study by Priya & Bamaniya (2023) demonstrated that a non-obese BMI (≤ 30 kg/m²) is positively associated with successful delivery ($p=0.004$). Conversely,

excessive fat accumulation in obese mothers can impair the effectiveness of uterine contractions and narrow the birth canal. On the other hand, a fetal weight exceeding pelvic capacity will negate the possibility of a VBAC. (Shaina, Sasirekha and Latha, 2021) warn that an estimated fetal weight >3,500 grams drastically reduces the chances of a successful VBAC by up to 70% due to the risk of relative cephalopelvic disproportion (CPD). This aligns with the clinical guidelines from (Perkumpulan Obstetri dan Ginekologi Indonesia, 2024) which emphasize the need for close monitoring if the estimated fetal weight approaches the upper limit of pelvic capacity.

The onset of labor and appropriate intervals between pregnancies are key factors in ensuring the safety of the uterine wall. Spontaneous labor has been shown to be significantly safer than induced labor; in fact, inducing labor in a uterus with a scar reduces the chances of a successful VBAC by up to 60% due to the risk of hyperstimulation of contractions. Additionally, the histological healing of myometrial scar tissue requires sufficient time for remodeling. Delaying pregnancy for an interval of ≥ 18 –24 months has been shown to increase the success rate of VBAC by a factor of 2.5 by minimizing the risk of uterine tears or rupture during the peak of uterine contractions, in accordance with the clinical consensus recommended by ACOG and POGI. As a practical recommendation, healthcare providers (midwives and physicians) are advised to routinely use objective predictive tools. As demonstrated in the study by Mekonnen & Asfaw (2023), the use of assessment systems such as the Flamm-Geiger Score is strongly correlated with the accuracy of final TOLAC outcomes. A comprehensive and unbiased assessment using a validated prediction calculator is essential to avoid clinical bias, optimize maternal safety, and develop evidence-based counseling and education for VBAC candidates.

CONCLUSION

Based on an in-depth review of 10 recent primary research articles, the success of Vaginal Birth After Cesarean (VBAC) in mothers with a history of cesarean section is not determined by a single variable, but rather by a combination of several interrelated factors. These determining factors can be specifically classified as follows:

- **Maternal Factors:** Women of childbearing age (<35 years) have a 1.8 times higher chance of success due to better myometrial elasticity. In addition, a non-obese Body Mass Index (BMI) (<30 kg/m²) and low to moderate parity (≤ 3) have been shown to support a smooth labor process.
- **Obstetric History:** A history of previous vaginal delivery—particularly a successful VBAC—is the strongest independent predictor, increasing the chances of success to over 90%. An ideal interval between pregnancies (≥ 18 –24 months) allows time for the uterine scar tissue to undergo complete remodeling. The chances of success are also significantly higher if the indication for the previous cesarean section was non-recurrent (not due to a narrow pelvis).
- **Clinical Factors at Admission:** Intrapartum readiness, characterized by mature cervical dilation (≥ 4 cm or a Bishop score >4), normal fetal weight (<3,500 grams) to avoid cephalopelvic disproportion, and spontaneous onset of labor without induction are key factors for the success of a safe TOLAC.

SUGGESTION

- **For Healthcare Professionals (Midwives and Obstetricians):** It is expected that they will not conduct a partial assessment of a VBAC candidate's eligibility. Healthcare professionals are advised to use a validated objective scoring system (such as the Flamm-Geiger Score or the MFMU VBAC Calculator) from the time of the patient's initial registration. This is important to minimize clinical bias, ensure precise screening, and develop a transparent, risk-based informed consent process in collaboration with patients and their families.

- **For Healthcare Facilities:** Both primary-care and referral healthcare facilities are required to provide and implement standardized clinical protocols for the management of Trial of Labor After Cesarean (TOLAC) in order to reduce the risk of fatal complications such as uterine rupture.
- **For Future Researchers:** Given the limitations in data heterogeneity due to variations in protocols across hospitals in the current literature, future researchers are advised to conduct primary studies with stricter controls regarding operational definitions and intervention parameters (such as oxytocin dosage), or to perform meta-analyses with a larger sample size.

APPRECIATE

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