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Date: 30 September

Sources Searched: Embase, Medline, CINAHL.

VBAC Success Rates

[See full search strategy](#)

1. Correlates of Trial of Labor and Vaginal Birth after Cesarean in the United States

Author(s): Attanasio L.B.; Paterno M.T.

Source: Journal of Women's Health; Sep 2019; vol. 28 (no. 9); p. 1302-1312

Publication Date: Sep 2019

Publication Type(s): Article

PubMedID: 30864889

Abstract:Background: Little is known about trial of labor after cesarean (TOLAC) uptake and vaginal birth after cesarean (VBAC) success on the national level, which is important as national-level data may help shape future clinical guidelines. This study examined correlates of trial of labor and successful VBAC among women with one prior cesarean in the United States in 2016. Material(s) and Method(s): We used publically available birth certificate data for 2016. Outcomes were TOLAC among women with one prior cesarean (N = 338,311) and VBAC among women with a TOLAC (N = 76,688). We used logistic regression to assess the association between the outcomes and the following categories of independent variables: social determinants of health, demographic and medical factors impacting birth, behavioral factors, and geographic access. Result(s): About 23% of women had a TOLAC, and 74% of women with a TOLAC gave birth vaginally. Black women had higher odds of TOLAC relative to White women, but lower odds of successful VBAC. Women without a high school degree had higher odds of TOLAC and of successful VBAC compared to women who completed high school or beyond, as did women with inadequate prenatal care utilization. Conclusion(s): Understanding correlates of TOLAC and successful VBAC at the population level is important for developing national guidelines that can be considered and individualized at the patient/provider level. © Copyright 2019, Mary Ann Liebert, Inc., publishers 2019.

Database: EMBASE

2. Vaginal birth after a cesarean delivery for arrest of descent.

Author(s): Fox, Nathan S; Namath, Amalia G; Ali, Munira; Naqvi, Mariam; Gupta, Simi; Rebarber, Andrei

Source: The journal of maternal-fetal & neonatal medicine : the official journal of the European Association of Perinatal Medicine, the Federation of Asia and Oceania Perinatal Societies, the International Society of Perinatal Obstetricians; Aug 2019; vol. 32 (no. 16); p. 2638-2642

Publication Date: Aug 2019

Publication Type(s): Journal Article

PubMedID: 29455594

Abstract:OBJECTIVEThe objective of this study is to determine vaginal birth after cesarean (VBAC) success rates for patients with a prior cesarean delivery (CD) for arrest of descent, as well as determine any predictors for success.STUDY DESIGNThis was a retrospective cohort study of all patients delivered by a single MFM practice from 2005 to 2017 with a singleton pregnancy and one prior CD for arrest of descent. We estimated the rate and associated risk factors for successful VBAC.RESULTSWe included 208 patients with one prior CD for arrest of descent, 100 (48.1%) of whom attempted a trial of labor after cesarean (TOLAC) with a VBAC success rate was 84/100 (84%, 95% CI 76-90%). Among the women who attempted TOLAC, women with a prior vaginal delivery >24 weeks' had a significantly higher VBAC success rate (91.8% versus 71.8%, $p = .01$). Maternal age, body mass index, estimated fetal weight, induction of labor, and cervical dilation were not associated with a higher VBAC success rate.CONCLUSIONSFor women with a prior CD for arrest of descent, VBAC success rates are high. This suggests that arrest of descent is mostly dependent on factors unique to each pregnancy and not due to an inadequate pelvis or recurring conditions. Women with a prior CD for arrest of descent should not be discouraged from attempting TOLAC in a subsequent pregnancy due to concerns about the likelihood of success.

Database: Medline

3. Health economic analysis of a cluster-randomised trial (OptiBIRTH) designed to increase rates of vaginal birth after caesarean section.

Author(s): Fobelets, M; Beeckman, K; Healy, P; Grylka-Baeschlin, S; Nicoletti, J; Devane, D; Gross, M M; Morano, S; Daly, D; Begley, C; Putman, K

Source: BJOG : an international journal of obstetrics and gynaecology; Jul 2019; vol. 126 (no. 8); p. 1043-1051

Publication Date: Jul 2019

Publication Type(s): Multicenter Study Journal Article

PubMedID: 30957402

Available at [BJOG : an international journal of obstetrics and gynaecology](#) - from Wiley Online Library

Abstract:OBJECTIVETo perform a health economic analysis of an intervention designed to increase rates of vaginal birth after caesarean, compared with usual care.DESIGNEconomic analysis alongside the cluster-randomised OptiBIRTH trial (Optimising childbirth by increasing vaginal birth after caesarean section (VBAC) through enhanced women-centred care).SETTINGFifteen maternity units in three European countries - Germany (five), Ireland (five), and Italy (five) - with relatively low VBAC rates.POPULATIONPregnant women with a history of one previous lower-segment caesarean section; sites were randomised (3:2) to intervention or control.METHODSA cost-utility analysis from both societal and health-services perspectives, using a decision tree.MAIN OUTCOME MEASURES Costs and resource use per woman and infant were compared between the control and

intervention group by country, from pregnancy recognition until 3 months postpartum. Based on the caesarean section rates, and maternal and neonatal morbidities and mortality, the incremental cost-utility ratios were calculated per country. **RESULT** The mean difference in costs per quality-adjusted life years (QALYs) gained from a societal perspective between the intervention and the control group, using a probabilistic sensitivity analysis, was: €263 (95% CI €258-268) and 0.008 QALYs (95% CI 0.008-0.009 QALYs) for Germany, €456 (95% CI €448-464) and 0.052 QALYs (95% CI 0.051-0.053 QALYs) for Ireland, and €1174 (95% CI €1170-1178) and 0.006 QALYs (95% CI 0.005-0.007 QALYs) for Italy. The incremental cost-utility ratios were €33,741/QALY for Germany, €8785/QALY for Ireland, and €214,318/QALY for Italy, with a 51% probability of being cost-effective for Germany, 92% for Ireland, and 15% for Italy. **CONCLUSION** The OptiBIRTH intervention was likely to be cost-effective in Ireland and Germany. **TWEETABLE ABSTRACT** The OptiBIRTH intervention (to increase VBAC rates) is likely to be cost-effective in Germany and Ireland.

Database: Medline

4. Rates of vaginal birth after caesarean section: What chance do obese women have?

Author(s): Wilson, Erin; Sivanesan, Kanapathippillai; Veerasingham, Mayooran

Source: The Australian & New Zealand journal of obstetrics & gynaecology; Jun 2019

Publication Date: Jun 2019

Publication Type(s): Journal Article

PubMedID: 31211408

Available at [The Australian & New Zealand journal of obstetrics & gynaecology](#) - from Wiley Online Library

Abstract: **BACKGROUND** For women considering vaginal birth after caesarean section (VBAC), obesity has been associated with a lower rate of vaginal birth and a higher rate of uterine rupture. To enhance antenatal counselling, this study aimed to evaluate the success rates of morbidly obese women undergoing a trial of labour (TOL). **METHOD** A retrospective analysis was performed of women who birthed at our hospital who had previously had one caesarean section. Routinely collected data were reviewed for mode of birth for women who underwent a TOL. A number of maternal and neonatal outcomes were also gathered. The data were analysed according to those women with a body mass index (BMI) equal to or above 40, compared to those women with a BMI below 40. **RESULTS** From 2011 to 2018, 2097 women gave birth at our hospital and had a caesarean section for a prior pregnancy. Of these women, 1234 (58.9%) had an elective caesarean section and 863 (41.1%) underwent a TOL. Of the women undertaking a TOL, 73.1% gave birth vaginally. Women with a BMI equal to or greater than 40 were less likely to have a successful VBAC compared to women with a BMI less than 40 (58.9% vs 74.1%, $P = 0.013$). Only 50% of women with a BMI equal to or greater than 40 had a successful VBAC if they had not previously had a vaginal birth. **CONCLUSION** Women with a BMI over 40 had lower rates of successful VBAC. Rates were even lower for those who had not had a prior vaginal birth.

Database: Medline

5. Trial of labor versus elective repeat cesarean delivery in twin pregnancies after a previous cesarean delivery-A systematic review and meta-analysis.

Author(s): Shinar, Shiri; Agrawal, Swati; Hasan, Haroon; Berger, Howard

Source: Birth (Berkeley, Calif.); May 2019

Publication Date: May 2019

Publication Type(s): Journal Article Review

PubMedID: 31124186

Available at [Birth \(Berkeley, Calif.\)](#) - from Wiley Online Library

Abstract:OBJECTIVETo perform a systematic review of success rates of trial of labor after cesarean (TOLAC) and maternal and neonatal outcomes in twin pregnancy versus elective repeat cesarean delivery (ERCD).METHODSWe searched MEDLINE, EMBASE, and Web of Science from data inception to May 2018 with no language or regional restrictions, to identify all studies that compared twin TOLAC and ERCD for maternal and/or neonatal outcomes. The Newcastle-Ottawa Scale was used to assess the methodological quality of the included studies. We assessed the pooled relative risk and mean difference using a random-effects model. The pooled event rates for successful VBAC, cesarean delivery for twin B after vaginal delivery of twin A, and uterine rupture were determined.RESULTSO f the 841 citations identified, 10 were eligible for analysis (2336 TOLAC cases and 5763 ERCD cases). The pooled event rates for successful VBAC and uterine rupture during TOLAC were 72.2% (95% CI 59.7%-83.2%) and 0.87% (95% CI 0.51%-1.31%), respectively. TOLAC was associated with a significantly higher risk of neonatal death (RR 3.02 [95% CI 1.07-8.54]) with no significant differences in mean gestational age at birth, NICU admission rates, or 5-minute Apgar <7. Although the risk for maternal infectious morbidity was significantly lower with TOLAC (RR 0.48 [95% CI 0.25-0.90]), risks of uterine dehiscence, blood transfusions, and hysterectomy were comparable.CONCLUSIONSTwin TOLAC is associated with a relatively high rate of successful vaginal delivery and a low risk of uterine rupture. The finding of higher neonatal mortality rates may be influenced by prematurity, but requires further investigation.

Database: Medline

6. Impact of Audits and Multifaceted Intervention on Vaginal Birth After Caesarean: Secondary Analysis of the QUARISMA Trial.

Author(s): Roberge, Stéphanie; Boutin, Amélie; Bujold, Emmanuel; Dubé, Eric; Blouin, Simon; Chaillet, Nils

Source: Journal of obstetrics and gynaecology Canada : JOGC = Journal d'obstetrique et gynecologie du Canada : JOGC; May 2019; vol. 41 (no. 5); p. 608-615

Publication Date: May 2019

Publication Type(s): Journal Article

PubMedID: 30642816

Abstract:OBJECTIVE This study estimated the effect that a multifaceted intervention aiming to improve the quality of obstetrical care and reduce Caesarean section (CS) had on the rate of vaginal birth after Caesarean (VBAC).METHOD This is a secondary analysis of the cluster randomized controlled trial Quality of Care, Obstetrics Risk Management, and Mode of Delivery involving (1) audits regarding the indications for CS, (2) provision of feedback to health professionals, and (3) implementation of best practices to reduce CS rates in Quebec. The impact of intervention on VBAC, trial of labour (TOL), and maternal and neonatal morbidity was reported using adjusted odds ratios (ORs) with 95% confidence intervals (CIs).RESULTS Out of 105 351 women who delivered during the pre- and postintervention period, 12 493 (11.9%) had a previous CS. We observed no significant impact of the multifaceted intervention on the rates of TOL (adjusted OR 1.22; 95% CI 0.96-1.56, P = 0.11) and VBAC (adjusted OR 1.20; 95% CI 0.97-1.48, P = 0.10) in women with one previous CS. However, the rate of TOL was reduced (adjusted OR 0.38; 95% CI 0.14-0.99) in women with more than one previous CS. The intervention has no influence on maternal and neonatal morbidity.CONCLUSION A multifaceted intervention including audits, feedback to health professionals, and implementation of best practices did not affect VBAC rates or maternal and neonatal morbidity. Our results pointed out the need for decision-making process and risk management tools specific to women with previous CS.

Database: Medline

7. VBAC: Changes over Last 10 Years

Author(s): Gupta N.; De A.; Batra S.

Source: Journal of Obstetrics and Gynecology of India; Apr 2019; vol. 69 (no. 2); p. 110-114

Publication Date: Apr 2019

Publication Type(s): Article

Available at [Journal of Obstetrics and Gynecology of India](#) - from SpringerLink - Medicine

Abstract:Introduction: Vaginal birth after caesarean section (VBAC) has been historically studied to be a standard and a safe procedure with good successful results. Aim(s): This study was conducted to determine changes in pattern of VBAC by the same author over a period of 10 years. Result(s): Data for 1 year between 2005-2006 and 2014-2015 were compared, and successful VBAC was found to be 74.46% in 2005-2006 period compared to only 34.42% in 2014-2015. Neonatal mortality and maternal morbidity were, however, much higher 10 years ago. Conclusion(s): It was concluded that better diagnostic techniques, awareness of patients and medico legal fear have led to safer health of mother and child and lesser incidence of VBAC over the last 10 years. Copyright © 2018, Federation of Obstetric & Gynecological Societies of India.

Database: EMBASE

8. Vaginal birth after caesarean section - the Lothian experience

Author(s): Hughes K.; John J.

Source: European Journal of Obstetrics Gynecology and Reproductive Biology; Mar 2019; vol. 234

Publication Date: Mar 2019

Publication Type(s): Conference Abstract

Abstract:Introduction: The RCOG's GTG45 states that a successful VBAC has fewest complications but the greatest risk is an emergency CS(EmCS). The GTG quotes success rates as 72-75% but with a previous vaginal delivery 85-90%. Objective(s): Our objective was to determine how many women wanted a VBAC, our success rate, whether induction was required and complication rates. Method(s): Retrospective review of patients with at least one caesarean section who delivered in NHS Lothian between March and mid-April 2017. 156 patients were identified. Discussion and conclusions: 65(42%) women planned VBAC and 57% requested an Elective Caesarean section (ElCS). The outcome of those aiming for VBAC(n = 65) was 28% SVD, 5% HFFD, 5% KRF, 41.5% EmCS and 21.5% ElCS. Reasons for ElCS(n = 14) were malpresentation(7%), unable to ARM(50%) and 35.7% did not go into spontaneous labour and declined induction and not recorded(7%). EmCS(n = 27) was performed for fetal distress 25.9%, failure to progress 40.7%, maternal request in labour 25.9%, scar pain(3.7%) and reduced fetal movements(3.7%). 26 spontaneously laboured, of these 46.2% had an SVD, 3.8% KRF, 7.7% HFFD and 42.3% EmCS. 13 women were induced (ARM/Cooks-balloon); 30.8% had an SVD and 69.2% an EmCS. 9 women had pre-labour SRM, 22.2% had a SVD, 22.2% KRF and 55.6% EmCS. 14 women required syntocinon infusions: 50% after induction, 42.9% for SRM augmentation. 21.4% had an SVD, 7.1% KRF and 71.4% EmCS. 14 women had previous vaginal deliveries; of whom 78.6% had an SVD, 14.3% ElCS and 7.1% EmCS. 66.1% had no complications, 12.3% had a PPH, 6.2% sepsis, failed TWOC 4.6%, wound infection 4.6%, baby admission to SCBU (3.1%) and other complications (1.5%). Our rates of successful VBAC are much lower than quoted in the GTG. The best predictor of a successful VBAC is a previous vaginal delivery. Spontaneous labour increases the success rate of vaginal delivery. Copyright © 2018

Database: EMBASE

9. An audit examining success rates of vaginal birth after caesarean section (VBAC) in a tertiary unit

Author(s): Edge H.; Timmons P.; Nirmal D.

Source: BJOG: An International Journal of Obstetrics and Gynaecology; Mar 2019; vol. 126 ; p. 115

Publication Date: Mar 2019

Publication Type(s): Conference Abstract

Available at [BJOG: An International Journal of Obstetrics and Gynaecology](#) - from Wiley Online Library

Abstract: Objectives Vaginal birth after caesarean (VBAC) is endorsed by the RCOG as a safe option for delivery in women with one previous caesarean section. It is empirical, however, that women considering such a mode of delivery are adequately counselled regarding the risks and likelihood of success of VBAC. We examined outcomes in women attempting VBAC in our unit against national averages in order to enhance the standard of counselling provided to such women. Design Retrospective cohort study spanning one year, using data extracted from electronic database (Euroking). Method Outcomes in 484 patients with one previous caesarean section were examined with reference to: planned mode of delivery, eventual mode of delivery, onset of labour, and rupture rates. A subgroup analysis was performed comparing women with history of one or more vaginal deliveries and those with none. Results were then compared with national averages quoted by the RCOG. Results 37% of women opted for VBAC at booking (with those with a history of previous vaginal birth twice as likely to opt for VBAC), of whom 68.8% achieved vaginal birth. Rates of vaginal birth were higher (85.7% versus 59.1%) in those who laboured spontaneously compared with those who underwent induction of labour. Of 323 patients planning elective repeat caesarean section, 2 (0.61%) ultimately delivered vaginally. There was one case of scar rupture documented in the VBAC group. Conclusions These positive local results in terms of success and safety should be used to guide decision making for women considering VBAC within our unit.

Database: EMBASE

10. ACOG Practice Bulletin No. 205: Vaginal Birth After Cesarean Delivery

Author(s): anonymous

Source: Obstetrics and gynecology; Feb 2019; vol. 133 (no. 2)

Publication Date: Feb 2019

Publication Type(s): Article

PubMedID: 30681543

Available at [Obstetrics and gynecology](#) - from Ovid (LWW Total Access Collection 2019 - with Neurology)

Available at [Obstetrics and gynecology](#) - from Patricia Bowen Library & Knowledge Service West Middlesex University Hospital NHS Trust (lib302631) Local Print Collection [location] : Patricia Bowen Library and Knowledge Service West Middlesex university Hospital.

Abstract: Trial of labor after cesarean delivery (TOLAC) refers to a planned attempt to deliver vaginally by a woman who has had a previous cesarean delivery, regardless of the outcome. This method provides women who desire a vaginal delivery the possibility of achieving that goal-a vaginal birth after cesarean delivery (VBAC). In addition to fulfilling a patient's preference for vaginal delivery, at an individual level, VBAC is associated with decreased maternal morbidity and a decreased risk of complications in future pregnancies as well as a decrease in the overall cesarean delivery rate at the population level (). However, although TOLAC is appropriate for many women, several factors increase the likelihood of a failed trial of labor, which in turn is associated with

increased maternal and perinatal morbidity when compared with a successful trial of labor (ie, VBAC) and elective repeat cesarean delivery (). Therefore, assessing the likelihood of VBAC as well as the individual risks is important when determining who is an appropriate candidate for TOLAC. Thus, the purpose of this document is to review the risks and benefits of TOLAC in various clinical situations and to provide practical guidelines for counseling and management of patients who will attempt to give birth vaginally after a previous cesarean delivery.

Database: EMBASE

11. Mode of birth after caesarean section: individual prediction scores using Scottish population data.

Author(s): Denham, Sara Helen; Humphrey, Tracy; deLabrusse, Claire; Dougall, Nadine

Source: BMC Pregnancy & Childbirth; Feb 2019; vol. 19 (no. 1)

Publication Date: Feb 2019

Publication Type(s): Academic Journal

PubMedID: 30819140

Available at [BMC Pregnancy & Childbirth](#) - from BioMed Central

Available at [BMC Pregnancy & Childbirth](#) - from SpringerLink - Medicine

Available at [BMC Pregnancy & Childbirth](#) - from ProQuest (Health Research Premium) - NHS Version

Abstract:Background: Rising caesarean section (CS) rates are a global health concern. Contemporary data indicates that almost 50% of CS are electively performed, with a high proportion of these being a repeat procedure. Vaginal birth after caesarean (VBAC) is recognised as a safe way to give birth in developed countries. UK national maternity policy and worldwide professional guidance supports shared decision-making about mode of birth with women following CS. Evidence suggests that women want individualised information, particularly about their likelihood of successful VBAC, to enable them to participate in the decision making process. This study aimed to identify characteristics that could inform a predictive model which would allow women to receive personalised and clinically specific information about their likelihood of achieving a successful VBAC in subsequent pregnancies.Methods: An observational study using anonymised clinical data extracted from a detailed, comprehensive socio-demographic and clinical dataset. All women who attempted a singleton term VBAC between 2000 and 2012 were included. Data were analysed using both logistic regression and Bayesian statistical techniques to identify clinical and demographic variables predictive of successful VBAC.Results: Variables significantly associated with VBAC were: ethnicity ($p = 0.011$), maternal obstetric complications ($p < 0.001$), previous vaginal birth ($p = < 0.001$), antepartum haemorrhage ($p = 0.005$), pre-pregnancy BMI ($p < 0.001$) and a previous second stage CS ($p < 0.001$).Conclusions: By using current literature, expert clinical opinion and having access to clinically detailed variables, this study has identified a new significant characteristic. Women who had a previous CS in the second stage of labour are more likely to have a successful VBAC. This predictor may have international significance for women and clinicians in shared VBAC decision-making. Further research is planned to validate this model on a larger national sample leading to further development of the nomogram tool developed in this study for use in clinical practice to assist women and clinicians in the decision-making process about mode of birth after CS.

Database: CINAHL

12. Estimating success of vaginal birth after caesarean section in a regional Australian population: Validation of a prediction model.

Author(s): Mooney, Samantha S; Hiscock, Richard; Clarke, Inkeri D'Arcy; Craig, Simon

Source: Australian & New Zealand Journal of Obstetrics & Gynaecology; Feb 2019; vol. 59 (no. 1); p. 66-70

Publication Date: Feb 2019

Publication Type(s): Academic Journal

Available at [Australian & New Zealand Journal of Obstetrics & Gynaecology](#) - from Wiley Online Library

Abstract:Background: Following a primary caesarean section (CS), women must decide between attempted vaginal birth after caesarean (VBAC) and elective repeat caesarean section (ERCS) in subsequent pregnancies. Both options carry potential morbidity and mortality for mother and child, with the most feared being uterine rupture and its consequences. In attempts to reduce morbidity, several predictive nomograms have been developed to assist in delivery mode decisions. Aim: To assess the validity of the predictive nomogram developed by Grobman et al. in our regional Australian population. Materials and Methods: In our retrospective analysis, patients at term, with one previous CS who had a trial of labour were assigned a 'Grobman score' based on antenatal details. Outcomes were noted and patient groups analysed according to percentage deciles of estimated VBAC success, compared with actual VBAC success rates. Results: A total of 395 women underwent trial of labour after a single prior CS, with a VBAC success rate of 83%. The Grobman model displayed adequate calibration and the re-calibrated model good calibration with the slope coefficient of 0.87 (95% CI 0.54–1.19) and intercept 0.19 (95% CI –0.34–0.72). Discrimination was moderate with receiver operating characteristic area of 0.71 (95% CI 0.67–0.76). Conclusion: This analysis supports further validation studies in larger Australian settings, and suggests that use of the original Grobman predictive nomogram may be appropriate in Australia.

Database: CINAHL

13. Factors Associated with Successful Trial of Labor after Cesarean Section: A Retrospective Cohort Study.

Author(s): Thapsamuthdechakorn, Aram; Sekararathi, Ratanaporn; Tongsong, Theera

Source: Journal of pregnancy; 2018; vol. 2018 ; p. 6140982

Publication Date: 2018

Publication Type(s): Journal Article

PubMedID: 29967697

Available at [Journal of pregnancy](#) - from Europe PubMed Central - Open Access

Available at [Journal of pregnancy](#) - from Unpaywall

Abstract:ObjectiveTo determine the effectiveness of trial of labor after cesarean section (TOLAC) and the factors associated with a successful TOLAC.Materials and MethodsA retrospective cohort study was conducted on consecutive singleton pregnancies with a previous single low-transverse cesarean section planned for TOLAC at a tertiary teaching hospital. The potential risk factors of a successful TOLAC were compared with those associated with a failed TOLAC. A simple audit system used in the first two years was also taken into account in the analysis as a potential factor for success.ResultsDuring the study period, 2,493 women were eligible for TOLAC and 704 of them were scheduled for TOLAC, but finally 592 underwent TOLAC. Among them, 355 (60%) had a successful vaginal birth and 237 (40%) had a failed TOLAC. The independent factors associated with the success rate included the audit system, prior vaginal birth, low maternal BMI, and lower birth weight or

gestational age, whereas induction of labor and recurring indications in previous pregnancy significantly increased the risk of having a failed TOLAC. Strikingly, the strongest predictor of a successful TOLAC was the audit system with OR of 6.4 (95%CI: 3.9-10.44), followed by a history of vaginal birth in previous pregnancies (OR: 3.2; 95%CI: 1.87-5.36). Conclusion The simple audit system had the greatest impact on the success rate of TOLAC, instead of the less powerful obstetrical factors as reported in previous reports. The audit system is the only potential factor that could be strengthened to improve the success rate.

Database: Medline

14. Process evaluation for OptiBIRTH, a randomised controlled trial of a complex intervention designed to increase rates of vaginal birth after caesarean section

Author(s): Healy P.; Devane D.; Smith V.; Daly D.; Maguire R.; Carroll M.; Begley C.; Savage G.; Clarke M.; Gross M.M.; Grylka-Baeschlin S.; Morano S.; Nicoletti J.; Sinclair M.

Source: Trials; 2018; vol. 19 (no. 1)

Publication Date: 2018

Publication Type(s): Article

PubMedID: 29304837

Available at [Trials](#) - from BioMed Central

Available at [Trials](#) - from SpringerLink - Medicine

Abstract:Background: Complex interventions encompassing several interconnecting and interacting components can be challenging to evaluate. Examining the underlying trial processes while an intervention is being tested can assist in explaining why an intervention was effective (or not). This paper describes a process evaluation of a pan-European cluster randomised controlled trial, OptiBIRTH (undertaken in Ireland, Italy and Germany), that successfully used both quantitative and qualitative methods to enhance understanding of the underlying trial mechanisms and their effect on the trial outcome. Method(s): We carried out a mixed methods process evaluation. Quantitative and qualitative data were collected from observation of the implementation of the intervention in practice to determine whether it was delivered according to the original protocol. Data were examined to assess the delivery of the various components of the intervention and the receipt of the intervention by key stakeholders (pregnant women, midwives, obstetricians). Using ethnography, an exploration of perceived experiences from a range of recipients was conducted to understand the perspective of both those delivering and those receiving the intervention. Result(s): Engagement by stakeholders with the different components of the intervention varied from minimal intensity of women's engagement with antenatal classes, to moderate intensity of engagement with online resources, to high intensity of clinicians' exposure to the education sessions provided. The ethnography determined that, although the overall culture in the intervention site did not change, smaller, more individual cultural changes were observed. The fidelity of the delivery of the intervention scored average quality marks of 80% and above on repeat assessments. Conclusion(s): Nesting a process evaluation within the trial enabled the observation of the mode of action of the intervention in its practice context and ensured that the intervention was delivered with a good level of consistency. Implementation problems were identified as they arose and were addressed accordingly. When dealing with a complex intervention, collecting and analysing both quantitative and qualitative data, as we did, can greatly enhance the process evaluation. Copyright © 2018 The Author(s).

Database: EMBASE

15. Risk of repeat cesarean delivery in women undergoing trial of labor: A population-based cohort study

Author(s): Lindblad Wollmann C.; Ahlberg M.; Johansson K.; Elvander C.; Stephansson O.; Saltvedt S.

Source: Acta Obstetricia et Gynecologica Scandinavica; Dec 2018; vol. 97 (no. 12); p. 1524-1529

Publication Date: Dec 2018

Publication Type(s): Article

PubMedID: 30132803

Available at [Acta obstetricia et gynecologica Scandinavica](#) - from Wiley Online Library

Abstract:Introduction: The aim of this study was to consult women on best mode of delivery after a first cesarean section, more knowledge regarding risk for a repeat unplanned cesarean is needed. We investigated the association between indication of first cesarean and cervical dilation during labor preceding the first cesarean and risk of repeat cesarean in women undergoing trial of labor. Material(s) and Method(s): A population-based cohort study using electronic medical records of all women delivering in the Stockholm-Gotland region, Sweden, between 2008 and 2014. The population consisted of 3116 women with a first cesarean undergoing a trial of labor with a singleton infant in cephalic presentation at ≥ 37 weeks of gestation. Relative risks (RR) with 95% CI were estimated using Poisson regression analyses. Result(s): Women with a first unplanned cesarean had higher risk of repeat cesarean compared with women with elective first cesarean (35.7% vs 20.7%, adjusted RR 1.64, 95% CI 1.43-1.89). In women with a cesarean due to dystocia, increasing cervical dilation in first labor decreased the risk of repeat cesarean in second labor. The adjusted RR of repeat cesarean was 2.48 with dilation ≤ 5 cm, 1.98 with dilation 6-10 cm, and 1.46 if fully dilated. Conclusion(s): Almost 70% of all women eligible for trial of labor after cesarean had a vaginal birth, even women with a history of labor dystocia had a good chance of success. A greater cervical dilation in the first delivery ending with a cesarean was not in vain, since the chance of vaginal birth in the subsequent delivery increased with greater dilation. Copyright © 2018 Nordic Federation of Societies of Obstetrics and Gynecology

Database: EMBASE

16. Adjunct clinical interventions that influence vaginal birth after cesarean rates: systematic review.

Author(s): Wingert, Aireen; Johnson, Cydney; Featherstone, Robin; Sebastianski, Meghan; Hartling, Lisa; Douglas Wilson, R

Source: BMC pregnancy and childbirth; Nov 2018; vol. 18 (no. 1); p. 452

Publication Date: Nov 2018

Publication Type(s): Journal Article Systematic Review

PubMedID: 30463530

Available at [BMC pregnancy and childbirth](#) - from BioMed Central

Available at [BMC pregnancy and childbirth](#) - from SpringerLink - Medicine

Available at [BMC pregnancy and childbirth](#) - from ProQuest (Health Research Premium) - NHS Version

Available at [BMC pregnancy and childbirth](#) - from Unpaywall

Abstract:BACKGROUND Rates of cesarean deliveries have been increasing, and contributes to the rising number of elective cesarean deliveries in subsequent pregnancies with associated maternal and neonatal risks. Multiple guidelines recommend that women be offered a trial of labor after a cesarean (TOLAC). The objective of the study is to systematically review the literature on adjunct

clinical interventions that influence vaginal birth after cesarean (VBAC) rates. **METHODS** We searched Ovid Medline, Ovid Embase, Wiley Cochrane Library, CINAHL via EBSCOhost; and Ovid PsycINFO. Additional studies were identified by searching for clinical trial records, conference proceedings and dissertations. Limits were applied for language (English and French) and year of publication (1985 to present). Two reviewers independently screened comparative studies (randomized or non-randomized controlled trials, and observational designs) according to a priori eligibility criteria: women with prior cesarean sections; any adjunct clinical intervention or exposure intended to increase the VBAC rate; any comparator; and, outcomes reporting changes in TOLAC or VBAC rates. One reviewer extracted data and a second reviewer verified for accuracy. Two reviewers independently conducted methodological quality assessments using the Mixed Methods Appraisal Tool (MMAT). **RESULTS** Twenty-three studies of overall moderate to good methodological quality examined adjunct clinical interventions affecting TOLAC and/or VBAC rates: system-level interventions (three studies), provider-level interventions (three studies), guidelines or information for providers (seven studies), provider characteristics (four studies), and patient-level interventions (six studies). Provider-level interventions (opinion leader education, laborist, and obstetrician second opinion for cesarean sections) and provider characteristics (midwifery antenatal care, physicians on night float call schedules, and deliveries by family physicians) were associated with increased rates of VBAC. Few studies employing heterogeneous designs, sample sizes, interventions and comparators limited confidence in the effects. Studies of system-level and patient-level interventions, and guidelines/information for providers reported mixed findings. **CONCLUSIONS** Limited evidence indicates some provider-level interventions and provider characteristics may increase rates of attempted and successful TOLACs and/or VBACs, whereas other adjunct clinical interventions such as system-level interventions, patient-level interventions, and guidelines/information for healthcare providers show mixed findings.

Database: Medline

17. Non-clinical interventions for reducing unnecessary caesarean section.

Author(s): Chen, Innle; Opiyo, Newton; Tavender, Emma; Mortazhejri, Sameh; Rader, Tamara; Petkovic, Jennifer; Yogasingam, Sharlini; Taljaard, Monica; Agarwal, Sugandha; Laopaiboon, Malinee; Wasiak, Jason; Khunpradit, Suthit; Lumbiganon, Pisake; Gruen, Russell L; Betran, Ana Pilar

Source: The Cochrane database of systematic reviews; Sep 2018; vol. 9 ; p. CD005528

Publication Date: Sep 2018

Publication Type(s): Research Support, Non-u.s. Gov't Meta-analysis Journal Article Review Systematic Review

PubMedID: 30264405

Available at [The Cochrane database of systematic reviews](#) - from Cochrane Collaboration (Wiley)

Abstract:BACKGROUND Caesarean section rates are increasing globally. The factors contributing to this increase are complex, and identifying interventions to address them is challenging. Non-clinical interventions are applied independently of a clinical encounter between a health provider and a patient. Such interventions may target women, health professionals or organisations. They address the determinants of caesarean births and could have a role in reducing unnecessary caesarean sections. This review was first published in 2011. This review update will inform a new WHO guideline, and the scope of the update was informed by WHO's Guideline Development Group for this guideline. OBJECTIVE To evaluate the effectiveness and safety of non-clinical interventions intended to reduce unnecessary caesarean section. SEARCH METHODS We searched CENTRAL, MEDLINE, Embase, CINAHL and two trials registers in March 2018. We also searched websites of relevant organisations and reference lists of related reviews. SELECTION CRITERIA Randomised trials, non-randomised trials, controlled before-after studies, interrupted time series studies and repeated measures studies were eligible for inclusion. The primary outcome measures were: caesarean section, spontaneous vaginal birth and instrumental birth. DATA COLLECTION AND ANALYSIS We followed standard methodological procedures recommended by Cochrane. We narratively described results of individual studies (drawing summarised evidence from single studies assessing distinct interventions). MAIN RESULTS We included 29 studies in this review (19 randomised trials, 1 controlled before-after study and 9 interrupted time series studies). Most of the studies (20 studies) were conducted in high-income countries and none took place in low-income countries. The studies enrolled a mixed population of pregnant women, including nulliparous women, multiparous women, women with a fear of childbirth, women with high levels of anxiety and women having undergone a previous caesarean section. Overall, we found low-, moderate- or high-certainty evidence that the following interventions have a beneficial effect on at least one primary outcome measure and no moderate- or high-certainty evidence of adverse effects. Interventions targeted at women or families Childbirth training workshops for mothers alone may reduce caesarean section (risk ratio (RR) 0.55, 95% confidence interval (CI) 0.33 to 0.89) and may increase spontaneous vaginal birth (RR 2.25, 95% CI 1.16 to 4.36). Childbirth training workshops for couples may reduce caesarean section (RR 0.59, 95% CI 0.37 to 0.94) and may increase spontaneous vaginal birth (RR 2.13, 95% CI 1.09 to 4.16). We judged this one study with 60 participants to have low-certainty evidence for the outcomes above. Nurse-led applied relaxation training programmes (RR 0.22, 95% CI 0.11 to 0.43; 104 participants, low-certainty evidence) and psychosocial couple-based prevention programmes (RR 0.53, 95% CI 0.32 to 0.90; 147 participants, low-certainty evidence) may reduce caesarean section. Psychoeducation may increase spontaneous vaginal birth (RR 1.33, 95% CI 1.11 to 1.61; 371 participants, low-certainty evidence). The control group received routine maternity care in all studies. There were insufficient data on the effect of the four interventions on maternal and neonatal mortality or morbidity. Interventions targeted at healthcare professionals Implementation of clinical practice guidelines combined with mandatory second opinion for caesarean section indication slightly reduces the risk of overall caesarean section (mean difference in rate change - 1.9%, 95% CI -3.8 to -0.1; 149,223 participants). Implementation of clinical practice guidelines

combined with audit and feedback also slightly reduces the risk of caesarean section (risk difference (RD) -1.8%, 95% CI -3.8 to -0.2; 105,351 participants). Physician education by local opinion leader (obstetrician-gynaecologist) reduced the risk of elective caesarean section to 53.7% from 66.8% (opinion leader education: 53.7%, 95% CI 46.5 to 61.0%; control: 66.8%, 95% CI 61.7 to 72.0%; 2496 participants). Healthcare professionals in the control groups received routine care in the studies. There was little or no difference in maternal and neonatal mortality or morbidity between study groups. We judged the certainty of evidence to be high. Interventions targeted at healthcare organisations or facilities Collaborative midwifery-labourist care (in which the obstetrician provides in-house labour and delivery coverage, 24 hours a day, without competing clinical duties), versus a private practice model of care, may reduce the primary caesarean section rate. In one interrupted time series study, the caesarean section rate decreased by 7% in the year after the intervention, and by 1.7% per year thereafter (1722 participants); the vaginal birth rate after caesarean section increased from 13.3% before to 22.4% after the intervention (684 participants). Maternal and neonatal mortality were not reported. We judged the certainty of evidence to be low. We studied the following interventions, and they either made little or no difference to caesarean section rates or had uncertain effects. Moderate-certainty evidence suggests little or no difference in caesarean section rates between usual care and: antenatal education programmes for physiologic childbirth; antenatal education on natural childbirth preparation with training in breathing and relaxation techniques; computer-based decision aids; individualised prenatal education and support programmes (versus written information in pamphlet). Low-certainty evidence suggests little or no difference in caesarean section rates between usual care and: psychoeducation; pelvic floor muscle training exercises with telephone follow-up (versus pelvic floor muscle training without telephone follow-up); intensive group therapy (cognitive behavioural therapy and childbirth psychotherapy); education of public health nurses on childbirth classes; role play (versus standard education using lectures); interactive decision aids (versus educational brochures); labourist model of obstetric care (versus traditional model of obstetric care). We are very uncertain as to the effect of other interventions identified on caesarean section rates as the certainty of the evidence is very low.

AUTHORS' CONCLUSIONS We evaluated a wide range of non-clinical interventions to reduce unnecessary caesarean section, mostly in high-income settings. Few interventions with moderate- or high-certainty evidence, mainly targeting healthcare professionals (implementation of guidelines combined with mandatory second opinion, implementation of guidelines combined with audit and feedback, physician education by local opinion leader) have been shown to safely reduce caesarean section rates. There are uncertainties in existing evidence related to very-low or low-certainty evidence, applicability of interventions and lack of studies, particularly around interventions targeted at women or families and healthcare organisations or facilities.

Database: Medline

18. Vaginal birth after caesarean birth in Italy: variations among areas of residence and hospitals.

Author(s): Colais, Paola; Bontempi, Katia; Pinnarelli, Luigi; Piscicelli, Carlo; Mappa, Ilenia; Fusco, Danilo; Davoli, Marina

Source: BMC pregnancy and childbirth; Sep 2018; vol. 18 (no. 1); p. 383

Publication Date: Sep 2018

Publication Type(s): Journal Article

PubMedID: 30249198

Available at [BMC pregnancy and childbirth](#) - from BioMed Central

Available at [BMC pregnancy and childbirth](#) - from SpringerLink - Medicine

Available at [BMC pregnancy and childbirth](#) - from ProQuest (Health Research Premium) - NHS Version

Abstract:BACKGROUND The rates of caesarean section (CS) are increasing globally. CS rates are one of the most frequently used indicators of health care quality. Vaginal Birth After Caesarean (VBAC) could be considered a reasonable and safe option for most women with a previous CS. Despite this fact, in some European countries, many women who had a previous CS will have a routine CS subsequently and VBAC rates are extremely variable across countries. VBAC use is inversely related to caesarean use. The objective of the present study was to analyze VBAC rates with respect to caesarean rates and the variations among areas of residence, hospitals and hospital ownership types in Italy. METHODS This study was based on information from the Hospital Information System (HIS). We collected data from all deliveries in Italy from January 1, 2010 to December 31, 2014 and we considered only deliveries with a previous caesarean section. Applying multivariate logistic regression analysis, the adjusted proportions of VBAC for each Local Health Units (LHU), each hospital and by hospital ownership types were calculated. Cross-classified logistic multilevel models were performed to analyze within geographic, hospitals and hospital ownership types variations. RESULTS We studied a total of 77,850 deliveries with a previous caesarean section in Italy between January 1, 2010 and December 31, 2014. The proportion of VBAC in Italy slightly increased in the last few years, from 5.8% in 2010 to 7.5% in 2014. Proportions of VBAC ranged from 0.29 to 50.05% in Italian LHUs. The LHUs with lower proportions of VBAC deliveries were characterized by higher values for primary caesarean deliveries. Private hospitals showed the lowest mean of crude VBAC proportions but the highest variation among hospitals, ranging from 0 to 47.1%. CONCLUSIONS Hospital rates of caesarean section for women with at least one previous caesarean section vary widely, and only some of the variation can be explained by case-mix and hospital-level factors, suggesting that additional factors influence practices. Identifying disparities in VBAC may have important implications for health services planning and targeted efforts to reduce overall rates of caesarean deliveries.

Database: Medline

19. Prior caesarean section and likelihood of vaginal birth, 2012-2016, China.

Author(s): Yi Mu; Xiaohong Li; Jun Zhu; Zheng Liu; Mingrong Li; Kui Deng; Changfei Deng; Qi Li; Leni Kang; Yanping Wang; Juan Liang

Source: Bulletin of the World Health Organization; Aug 2018; vol. 96 (no. 8); p. 548-557

Publication Date: Aug 2018

Publication Type(s): Academic Journal

Available at [Bulletin of the World Health Organization](#) - from Europe PubMed Central - Open Access

Available at [Bulletin of the World Health Organization](#) - from ProQuest (Health Research Premium) - NHS Version

Available at [Bulletin of the World Health Organization](#) - from Unpaywall

Abstract:Objective To examine the trends and safety of vaginal birth after caesarean section around the period of the one-child policy relaxation in China. Methods We used data from China's National Maternal Near Miss Surveillance System between 2012 and 2016. To examine trends in vaginal birth after caesarean section, we used Poisson regression with a robust variance estimator. We also assessed the association between vaginal birth after caesarean section and maternal and perinatal outcomes. Findings We analysed 871 636 deliveries by women with a previous caesarean section. Both in 2012 and 2016, the rate of vaginal birth after caesarean section was 9.8%. After adjusting for institutional, sociodemographic and obstetric characteristics, the rate increased by 14% between 2012 and 2016 (adjusted relative risk, aRR: 1.14; 95% confidence interval, CI: 1.07-1.21). Compared to women with a repeat caesarean section, women with a vaginal birth after caesarean section experienced lower incidence of uterine rupture (aRR: 0.26, 95% CI: 0.16-0.42), blood transfusion (aRR: 0.68, 95% CI: 0.53-0.87) and admission to the intensive care unit (aRR: 0.36, 95% CI: 0.25-0.52), but higher incidence of intrapartum stillbirths, (aRR: 7.20, 95% CI: 6.09-8.51), newborns with a 5-minute Apgar score less than 7 (aRR: 1.75, 95% CI: 1.54-1.99) and neonatal death before discharge (aRR: 1.90, 95% CI: 1.61-2.24). Conclusion Promotion of vaginal birth after caesarean section could increase the rate even further in China. To ensure the safety of mothers and their newborns, national policies and guidelines on vaginal birth after caesarean section are needed.

Database: CINAHL

20. Vaginal birth after caesarean section: Current status and where to from here?

Author(s): Ryan, Gillian A; Nicholson, Sarah M; Morrison, John J

Source: European journal of obstetrics, gynecology, and reproductive biology; May 2018; vol. 224 ; p. 52-57

Publication Date: May 2018

Publication Type(s): Journal Article Review

PubMedID: 29547806

Abstract:Vaginal birth after caesarean (VBAC) delivery remains a controversial topic, and one for which there is a lack of robust data to guide clinicians and parturients regarding their best option for mode of delivery in a subsequent pregnancy. In many developed countries the trend observed in recent years is that of progressively reduced VBAC rates, and hence increased use of elective repeat caesarean section (ERCS). This factor has contributed, more than any other, to the disproportionately high caesarean section (CS) rates in many countries. With current CS rates varying between 30 and 50% in the developed world, a previous CS is the cited primary indication in approximately 30%. To compound matters, there are huge variations in the reported VBAC rates between different countries, regions and even institutions. This review has focused on the recent trends in VBAC attempt, success and overall rates internationally, with inclusion of figures for a period of 25 years from a single Irish institution. An analysis of the reported factors that influence VBAC success, or failure, is presented. The complex task of estimating risk, both perinatal and maternal, for women who pursue VBAC or ERCS, is included in this review. Finally, the current evidence base for clinical practice pertaining to VBAC is outlined, with inclusion of commentary regarding the future for this difficult area of obstetric practice.

Database: Medline

21. Mode of delivery after a previous cesarean birth, and associated maternal and neonatal morbidity.

Author(s): Young, Carmen B.; Liu, Shiliang; Muraca, Giulia M.; Sabr, Yasser; Pressey, Tracy; Liston, Robert M.; Joseph, K.S.

Source: CMAJ: Canadian Medical Association Journal; May 2018; vol. 190 (no. 18)

Publication Date: May 2018

Publication Type(s): Academic Journal

PubMedID: 29735533

Available at [CMAJ: Canadian Medical Association Journal](#) - from Europe PubMed Central - Open Access

Available at [CMAJ: Canadian Medical Association Journal](#) - from ProQuest (Health Research Premium) - NHS Version

Available at [CMAJ: Canadian Medical Association Journal](#) - from Unpaywall

Abstract:Background: The mode of delivery for women with a previous cesarean delivery remains contentious. We conducted a study comparing maternal and infant outcomes after attempted vaginal birth after cesarean delivery versus elective repeat cesarean delivery. Methods: We used data from the Discharge Abstract Database that includes all hospital deliveries in Canada (excluding Quebec). In our analysis, we included singleton deliveries to women between 37 and 43 weeks gestation who had a single prior cesarean delivery between April 2003 and March 2015. The primary outcomes were severe maternal morbidity and mortality, and serious neonatal morbidity and mortality. We used logistic regression to estimate adjusted rate ratios (RRs) and 95% confidence intervals (CIs). Results: Absolute rates of severe maternal morbidity and mortality were low but

significantly higher after attempted vaginal birth after cesarean delivery compared with elective repeat cesarean delivery (10.7 v. 5.65 per 1000 deliveries, respectively; adjusted RR 1.96, 95% CI 1.76 to 2.19). Adjusted rate differences in severe maternal morbidity and mortality, and serious neonatal morbidity and mortality were small (5.42 and 7.09 per 1000 deliveries, respectively; number needed to treat 184 and 141, respectively). The association between vaginal birth after cesarean delivery, and serious neonatal morbidity and mortality showed a temporal worsening (adjusted RR 0.94, 95% CI 0.77 to 1.15 in 2003-2005; adjusted RR 2.07, 95% CI 1.83 to 2.35 in 2012-2014). Interpretation: Although absolute rates of adverse outcomes are low, attempted vaginal birth after cesarean delivery continues to be associated with higher relative rates of severe morbidity and mortality in mothers and infants. Temporal worsening of infant outcomes after attempted vaginal birth after cesarean delivery highlights the need for greater care in selecting candidates, and more careful monitoring of labour and delivery.

Database: CINAHL

22. Vaginal birth after caesarean

Author(s): Devarajan S.; Talaulikar V.S.; Arulkumaran S.

Source: Obstetrics, Gynaecology and Reproductive Medicine; Apr 2018; vol. 28 (no. 4); p. 110-115

Publication Date: Apr 2018

Publication Type(s): Review

Abstract:Caesarean section (CS) rates continue to evoke worldwide concern because of their steady increase. The national caesarean section (CS) rate in the UK is almost 25%, having increased by 5.7% in the last 10 years. A rising primary CS rate is a significant contributor to this trend. The latest available data show that almost 1 in 5 women in the world now give birth by CS. The World Health Organisation states that, when medically justified, a caesarean section can effectively prevent maternal and perinatal mortality and morbidity. However, there is no evidence showing the benefits of caesarean delivery for women or infants who do not require the procedure. As with any surgery, caesarean sections are associated with short and long-term risk which can extend many years beyond the current delivery and affect the health of the woman, her child, and future pregnancies. These risks are higher in women with limited access to comprehensive obstetric care. There are two standard care pathways for women having childbirth following previous CS - Vaginal Birth After Caesarean (VBAC) or Elective Repeat CS (ERCS). Attempting a VBAC is a safe and appropriate choice that must be offered to most women who have had a prior caesarean delivery. Approximately 70-75% of women who attempt VBAC will have a successful vaginal delivery. Focused antenatal counselling sessions highlighting the risks and benefits of VBAC vs ERCS may impact upon the pathway a woman chooses. Continued counselling and discussion of relative risks versus benefits will also encourage patient choice and help support the woman throughout antenatal and intrapartum periods. Copyright © 2018 Elsevier Ltd

Database: EMBASE

23. Vaginal Birth After Cesarean Trends: Which Way Is the Pendulum Swinging?

Author(s): Sargent, James; Caughey, Aaron B

Source: Obstetrics and gynecology clinics of North America; Dec 2017; vol. 44 (no. 4); p. 655-666

Publication Date: Dec 2017

Publication Type(s): Journal Article Review

PubMedID: 29078947

Abstract:The cesarean delivery rate has plateaued at 32%; concurrently, after peaking in the mid-1990s, trial of labor after cesarean (TOLAC) rates have declined. Less than 25% of women with a prior cesarean delivery attempt a future TOLAC. This decreasing trend in TOLAC is caused by inadequate resource availability, malpractice concerns, and lack of knowledge in patients and providers regarding the perceived risks and benefits. This article outlines the factors influencing recent vaginal birth after cesarean trends in addition to reviewing the maternal and neonatal outcomes associated with TOLAC, specifically in high-risk populations.

Database: Medline

24. Vaginal birth after caesarean: Views of women from countries with low VBAC rates

Author(s): Nilsson C.; Lundgren I.; Lalor J.; Begley C.; Carroll M.; Gross M.M.; Grylka-Baeschlin S.; Manner A.; Morano S.; Nicoletti J.; Healy P.

Source: Women and Birth; Dec 2017; vol. 30 (no. 6); p. 481-490

Publication Date: Dec 2017

Publication Type(s): Article

PubMedID: 28545775

Abstract:Problem and background Vaginal birth after caesarean section is a safe option for the majority of women. Seeking women's views can be of help in understanding factors of importance for achieving vaginal birth in countries where the vaginal birth rates after caesarean is low. Aim To investigate women's views on important factors to improve the rate of vaginal birth after caesarean in countries where vaginal birth rates after previous caesarean are low. Methods A qualitative study using content analysis. Data were gathered through focus groups and individual interviews with 51 women, in their native languages, in Germany, Ireland and Italy. The women were asked five questions about vaginal birth after caesarean. Data were translated to English, analysed together and finally validated in each country. Findings Important factors for the women were that all involved in caring for them were of the same opinion about vaginal birth after caesarean, that they experience shared decision-making with clinicians supportive of vaginal birth, receive correct information, are sufficiently prepared for a vaginal birth, and experience a culture that supports vaginal birth after caesarean. Discussion and conclusion Women's decision-making about vaginal birth after caesarean in these countries involves a complex, multidimensional interplay of medical, psychosocial, cultural, personal and practical considerations. Further research is needed to explore if the information deficit women report negatively affects their ability to make informed choices, and to understand what matters most to women when making decisions about vaginal birth after a previous caesarean as a mode of birth. Copyright © 2017 Australian College of Midwives

Database: EMBASE

25. Effect of interpregnancy interval on the success rate of trial of labor after cesarean.

Author(s): Rietveld, A L; Teunissen, P W; Kazemier, B M; De Groot, C J M

Source: Journal of Perinatology; Nov 2017; vol. 37 (no. 11); p. 1192-1196

Publication Date: Nov 2017

Publication Type(s): Academic Journal

Available at [Journal of Perinatology](#) - from ProQuest (Health Research Premium) - NHS Version

Abstract:Objective:The objective of this study is to investigate the association between interpregnancy interval and success of vaginal birth after cesarean.Study Design:Retrospective 10-year cohort study of pregnant women with one prior cesarean, who opted for trial of labor (n=36 653). Interpregnancy interval is the time between cesarean and next conception. Vaginal birth success rates were compared between six interval groups. Analysis was performed pooled as well as stratified for induction of labor. Adjusted odds ratios were calculated.Results:Success rate in the reference group (12 to 24 months) was 72%. Success rates were similar among those with an interval of less than 24 months. Intervals of 24 months or more showed a decrease in success rate; 70% in 24- to 35-month intervals (adjusted odds ratio 0.92 (0.87 to 0.98)), 67% in 36- to 59-month intervals (adjusted odds ratio 0.87 (0.81 to 0.94)) and 62% in intervals of more than 60 months (adjusted odds ratio 0.77 (0.67 to 0.88)).Conclusion:An interpregnancy interval of <24 months is not associated with a decreased success of vaginal birth after cesarean. Success rates decrease when interval increases.

Database: CINAHL

26. Vaginal birth after cesarean: neonatal outcomes and United States birth setting

Author(s): Tilden E.L.; Emeis C.; Guise J.-M.; Biel F.M.; Snowden J.M.; Lapidus J.; Wiedrick J.; Cheyney M.

Source: American Journal of Obstetrics and Gynecology; Apr 2017; vol. 216 (no. 4); p. 403

Publication Date: Apr 2017

Publication Type(s): Article

PubMedID: 27956202

Available at [American journal of obstetrics and gynecology](#) - from Unpaywall

Abstract:Background Women who seek vaginal birth after cesarean delivery may find limited in-hospital options. Increasing numbers of women in the United States are delivering by vaginal birth after cesarean delivery out-of-hospital. Little is known about neonatal outcomes among those who deliver by vaginal birth after cesarean delivery in- vs out-of-hospital. Objective The purpose of this study was to compare neonatal outcomes between women who deliver via vaginal birth after cesarean delivery in-hospital vs out-of-hospital (home and freestanding birth center). Study Design We conducted a retrospective cohort study using 2007-2010 linked United States birth and death records to compare singleton, term, vertex, nonanomalous, and liveborn neonates who delivered by vaginal birth after cesarean delivery in- or out-of-hospital. Descriptive statistics and multivariate regression analyses were conducted to estimate unadjusted, absolute, and relative birth-setting risk differences. Analyses were stratified by parity and history of vaginal birth. Sensitivity analyses that involved 3 transfer status scenarios were conducted. Results Of women in the United States with a history of cesarean delivery (n=1,138,813), only a small proportion delivered by vaginal birth after cesarean delivery with the subsequent pregnancy (n=109,970; 9.65%). The proportion of home vaginal birth after cesarean delivery births increased from 1.78-2.45%. A pattern of increased neonatal morbidity was noted in unadjusted analysis (neonatal seizures, Apgar score <7 or <4, neonatal seizures), with higher morbidity noted in the out-of-hospital setting (neonatal seizures, 23

[0.02%] vs 6 [0.19%; $P<.001$]; Apgar score <7, 2859 [2.68%] vs 139 [4.42%; $P<.001$]; Apgar score <4, 431 [0.4%] vs 23 [0.73; $P=.01$]). A similar, but nonsignificant, pattern of increased risk was observed for neonatal death and ventilator support among those neonates who were born in the out-of-hospital setting. Multivariate regression estimated that neonates who were born in an out-of-hospital setting had higher odds of poor outcomes (neonatal seizures [adjusted odds ratio, 8.53; 95% confidence interval, 2.87-25.4]; Apgar score <7 [adjusted odds ratio, 1.62; 95% confidence interval, 1.35-1.96]; Apgar score <4 [adjusted odds ratio, 1.77; 95% confidence interval, 1.12-2.79]). Although the odds of neonatal death (adjusted odds ratio, 2.1; 95% confidence interval, 0.73-6.05; $P=.18$) and ventilator support (adjusted odds ratio, 1.36; 95% confidence interval, 0.75-2.46) appeared to be increased in out-of-hospital settings, findings did not reach statistical significance. Women birthing their second child by vaginal birth after cesarean delivery in out-of-hospital settings had higher odds of neonatal morbidity and death compared with women of higher parity. Women who had not birthed vaginally prior to out-of-hospital vaginal birth after cesarean delivery had higher odds of neonatal morbidity and mortality compared with women who had birthed vaginally prior to out-of-hospital vaginal birth after cesarean delivery. Sensitivity analyses generated distributions of plausible alternative estimates by outcome. Conclusion Fewer than 1 in 10 women in the United States with a previous cesarean delivery delivered by vaginal birth after cesarean delivery in any setting, and increasing proportions of these women delivered in an out-of-hospital setting. Adverse outcomes were more frequent for neonates who were born in an out-of-hospital setting, with risk concentrated among women birthing their second child and women without a history of vaginal birth. This information urgently signals the need to increase availability of in-hospital vaginal birth after cesarean delivery and suggests that there may be benefit associated with increasing options that support physiologic birth and may prevent primary cesarean delivery safely. Results may inform evidence-based recommendations for birthplace among women who seek vaginal birth after cesarean delivery. Copyright © 2016 Elsevier Inc.

Database: EMBASE

27. Vaginal Birth After Cesarean characteristics with maternal and perinatal out come in Sanglah hospital, Bali, 1st January 2015 to 31st December 2016 period: A descriptive study

Author(s): Sujana G.A.H.; Negara I.K.S.

Source: Journal of Global Pharma Technology; Mar 2017; vol. 9 (no. 3); p. 61-67

Publication Date: Mar 2017

Publication Type(s): Article

Abstract: Cesarean section delivery is a common choice for some women because it is often considered faster and safer. Over the past few decades, the cesarean section continues to be performed more frequently. As a result, there is also an increase in the number of women with a history of cesarean section and become a problem for pregnancy and subsequent types of labor. Method This is a retrospective descriptive study obtained using medical records in Sanglah Hospital Bali, 1st January 2015 to 31st December 2016 Period. Results Within 2 years since January 1, 2015 - December 31, 2016, the number of births in Single Depositor hospital as many as 2502 cases, consisting of 1753 (70.06%) vaginal delivery and 749 (29.94%) with cesarean section. Of all deliveries, the total number of deliveries with uterine scarring were 247 cases, consisting of 190 (76.92%) of direct cases of cesarean section, and 57 (23.08%) cases were decided by TOLAC. Of 57 TOLAC cases, 49 cases were successful VBAC (85.96%), while 8 cases were unsuccessful VBAC (14.04%). The incidence of VBAC was most frequently found in the age group of 20-35 years old (82.46%), body mass index (BMI) of ≤ 30 kg/m² (91.23%), and gestational age of ≤ 40 weeks (84.2%). Based on the number of previous vaginal deliveries after cesarean, women with a history of

vaginal delivery was most common with 29 cases. Based on previous cesarean section indications, fetal distress had the highest number of cases (35.09%). Women with cervix dilatation of ≥ 4 cm are more likely to have successful VBAC (85.96%). Almost all VBAC was spontaneous vaginal delivery (97.96%), except one. Almost all newborn have a birth weight of less than 4 kg (98.25%). Anemia and hysterectomy are among maternal morbidities found in our study. Based on perinatal morbidity, asphyxia, neonatal dengue, ARDS, and jaundice, were found in our study and only four newborns needed to be treated in the neonatal intensive care unit (NICU). Conclusion The success rate of VBAC in this study was high, the indications of previous cesarean section most due to fetal distress. Moderate asphyxia was the most common perinatal morbidity, followed by ARDS, severe asphyxia, neonatal dengue and jaundice. However, in most cases there is no perinatal morbidity. Copyright © 2009-2017, JGPT.

Database: EMBASE

28. Factors influencing successful vaginal birth after cesarean delivery

Author(s): Alani W.Y.; Dayoub N.

Source: Bahrain Medical Bulletin; Mar 2017; vol. 39 (no. 1); p. 24-28

Publication Date: Mar 2017

Publication Type(s): Article

Abstract:Background: Cesarean delivery is one of the most common procedures performed worldwide; women giving birth by cesarean delivery are increasing over the past several decades. The demand to decrease the rate of repeat cesarean is an international drive. This goal needs to be achieved through safe approach. Objective: To evaluate the factors of successful Vaginal Birth after Cesarean (VBAC) Delivery. Setting: Bahrain Defence Force Hospital, Bahrain. Design: A Retrospective Study. Method: Cesarean section patients who had an attempt at vaginal delivery between 1 January 2014 and 31 January 2015 were reviewed. Maternal age, gestation age, maternal weight, birth weight, fetus sex, pervious vaginal delivery, previous VBAC, cervical dilation and other patient's characteristics were documented. Data was analyzed using StatsDirect software and P-value of less than 0.05 was considered statistically significant. Result: Five hundred sixty-eight patients with history of one previous cesarean delivery attempted VBAC. Successful VBAC was documented in 236 (41.5%). We found significant successful VBAC in patients with previous vaginal birth, high parity, presented with cervical dilatation more than or equal to 4 cm, male fetus and patients with induced labor ($P < 0.0001$). Other factors negatively affected the success rate, such as recurrent cause for previous cesarean ($P < 0.0001$), short interval ($P < 0.0001$), ethnic background ($P = 0.0006$), and IVF pregnancies ($P = 0.0106$). Patient and fetus weights did not affect VBAC outcome. Conclusion: Previous vaginal birth, advance cervical dilatation, induction of labor and proper interval after Cesarean increase the success rate of VBAC. Factors which negatively affect the vaginal birth after Cesarean are the history of recurrent indication and maternal diabetes. Copyright © 2017, Bahrain Medical Bulletin. All rights reserved.

Database: EMBASE

29. Vaginal birth after cesarean section-The world trend and local experience in Taiwan.

Author(s): Tsai, Hsiu-Ting; Wu, Chia-Hsun

Source: Taiwanese journal of obstetrics & gynecology; Feb 2017; vol. 56 (no. 1); p. 41-45

Publication Date: Feb 2017

Publication Type(s): Journal Article

PubMedID: 28254224

Available at [Taiwanese journal of obstetrics & gynecology](#) - from Free Medical Journals . com

Available at [Taiwanese journal of obstetrics & gynecology](#) - from Unpaywall

Abstract:OBJECTIVEThe trend of increasing cesarean section rates had evoked worldwide attention. Many approaches were introduced to diminish cesarean section rates. Vaginal birth after cesarean section (VBAC) is a route of delivery with diverse agreements. In this study, we try to reveal the world trend in VBAC and our experience of a 10-year period in a medical center in northern Taiwan.MATERIALS AND METHODSThis is a retrospective study of all women who underwent elective repeat cesarean delivery or trial of labor after cesarean (TOLAC) following primary cesarean delivery by a general obstetrician-gynecologist in the Tamshui Branch of MacKay Memorial Hospital (Taipei, Taiwan) between 2006 and 2015. We excluded cases of preterm labor, two or more cesarean deliveries, and major maternal diseases. We compared the characteristics and outcomes between these groups.RESULTSWe included 400 women with subsequent pregnancies who underwent elective repeat cesarean delivery or TOLAC during the study period. Among the study population, 112 women were excluded and 11 underwent repeat VBAC. A total of 204 (73.65%) cases underwent elective repeat cesarean delivery and 73 (26.35%) chose TOLAC. The rate of successful VBAC among the women who chose TOLAC was 84.93%.CONCLUSIONWith respect to maternal and fetal safety, and success rates and adverse effects of VBAC, the results of this study are promising and compatible with the global data. It shows that a trial of VBAC can be offered to pregnant women without contraindications with high success rates.

Database: Medline

30. Practice variation of vaginal birth after cesarean and the influence of risk factors at patient level: a retrospective cohort study

Author(s): Vankan E.; Schoorel E.N.; Nijhuis J.G.; Alink M.; Melman S.; Scheepers H.C.; van Kuijk S.M.; Dirksen C.D.; Mol B.-W.J.; Aardenburg R.; de Boer K.; Delemarre F.M.C.; van Dooren I.M.; Franssen M.T.M.; Kaplan M.; Kleiverda G.; Kuppens S.M.I.; Kwee A.; Langenveld J.; Lim F.T.; Sikkema M.J.; Smits L.J.; Visser H.; woiski M.; Hermens R.P.

Source: Acta Obstetricia et Gynecologica Scandinavica; Feb 2017; vol. 96 (no. 2); p. 158-165

Publication Date: Feb 2017

Publication Type(s): Article

PubMedID: 27861697

Available at [Acta Obstetricia et Gynecologica Scandinavica](#) - from Wiley Online Library

Abstract:Introduction: Large practice variation exists in mode of delivery after cesarean section, suggesting variation in implementation of contemporary guidelines. We aim to evaluate this practice variation and to what extent this can be explained by risk factors at patient level. Material and methods: This retrospective cohort study was performed among 17 Dutch hospitals in 2010. Women with one prior cesarean section without a contraindication for a trial of labor were included. We used multivariate logistic regression analysis to develop models for risk factor adjustments. One model was derived to adjust the elective repeat cesarean section rates; a second model to adjust vaginal birth after cesarean rates. Standardized rates of elective repeat cesarean section and vaginal

birth after cesarean per hospital were compared. Pseudo-R² measures were calculated to estimate the percentage of practice variation explained by the models. Secondary outcomes were differences in practice variation between hospital types and the correlation between standardized elective repeat cesarean section and vaginal birth after cesarean rates. Results: In all, 1068 women had a history of cesarean section, of whom 71% were eligible for inclusion. A total of 515 women (67%) had a trial of labor, of whom 72% delivered vaginally. The elective repeat cesarean section rate at hospital level ranged from 6 to 54% (mean 29.8, standard deviation 11.8%). Vaginal birth after cesarean rates ranged from 50 to 90% (mean 71.8%, standard deviation 11.1%). More than 85% of this practice variation could not be explained by risk factors at patient level. Conclusion: A large practice variation exists in elective repeat cesarean section and vaginal birth after cesarean rates that can only partially be explained by risk factors at patient level. Copyright © 2016 Nordic Federation of Societies of Obstetrics and Gynecology

Database: EMBASE

31. Trends in trial of labor after cesarean and incidence of uterine rupture

Author(s): Triebwasser J.E.; Treadwell M.C.; Piehl K.; Van De Ven C.; Smith R.D.

Source: American Journal of Obstetrics and Gynecology; Jan 2017; vol. 216 (no. 1)

Publication Date: Jan 2017

Publication Type(s): Conference Abstract

Abstract:OBJECTIVE: Offering trial of labor after cesarean (TOLAC) can reduce individual morbidity and population-level cesarean delivery rates. Our objective was to assess trends in TOLAC and incidence of uterine rupture in a contemporary cohort. STUDY DESIGN: Retrospective observational study from April 2012- March 2016 at a single, academic medical center. Numbers of uterine rupture, vaginal birth after cesarean (VBAC), TOLAC, and total deliveries were obtained from a quality improvement database. TOLAC was defined by having a history of cesarean delivery with documentation of spontaneous, induced, or augmented labor. VBAC rate was calculated as the number of VBAC deliveries divided by the number of women admitted who had a history of cesarean delivery, multiplied by 100. VBAC success rate was calculated as the number of VBAC deliveries divided by the number of TOLAC, multiplied by 100. Uterine rupture rate was calculated as the number of uterine ruptures divided by women undergoing TOLAC, multiplied by 100. Control charts with 6 month time intervals were constructed using SPSS. RESULTS: The median total number of deliveries per time period was 2147 (range 1968-2326). The VBAC rate ranged from 21-36%, with a significant increase in rate at the last time point. There was also a significant decrease over time in the VBAC success rate to 55% (median 75%, range 55-80%). There were 20 cases of uterine rupture during the study period. All cases occurred in women with at least 1 prior cesarean delivery; 6 women had 2 cesarean scars. There was no significant increase in uterine rupture rate, however, the rate during the last 3 time periods was greater than 3% (median 1.4%, range 0-4.1%). CONCLUSION: We found evidence of special cause variation with increasing VBAC rate and decreasing VBAC success rate. The apparent increase in uterine rupture parallels these trends. Whether the source of variation is due to patient selection for TOLAC, referral patterns, or other factors remains an area of active investigation. (Figure Presented).

Database: EMBASE

32. Maternal and perinatal outcomes in women planning vaginal birth after caesarean (VBAC) at home in England: secondary analysis of the Birthplace national prospective cohort study

Author(s): Rowe R.; Li Y.; Knight M.; Brocklehurst P.; Hollowell J.

Source: BJOG: An International Journal of Obstetrics and Gynaecology; 2016; vol. 123 (no. 7); p. 1123-1132

Publication Date: 2016

Publication Type(s): Article

PubMedID: 26213223

Available at [BJOG: An International Journal of Obstetrics and Gynaecology](#) - from Wiley Online Library

Available at [BJOG: An International Journal of Obstetrics and Gynaecology](#) - from Unpaywall

Abstract:Objective: To compare vaginal birth rates in women planning vaginal birth after caesarean (VBAC) at home versus in an obstetric unit (OU) and explore transfer rates in women planning home VBAC. Design: Prospective cohort study. Setting: OUs and planned home births in England. Population: 1436 women planning VBAC in the Birthplace cohort, including 209 planning home VBAC. Methods: We used Poisson regression to calculate relative risks adjusted for maternal characteristics. Main outcome measures: Main outcomes: (i) vaginal birth and (ii) transfer from planned home birth to OU during labour or immediately after birth. Secondary outcomes: (i) composite of maternal blood transfusion or admission to higher level care, (ii) stillbirth or Apgar score <7 at 5 minutes, (iii) neonatal unit admission. Results: Planned VBAC at home was associated with a statistically significant increase in the chances of having a vaginal birth compared with planned VBAC in an OU (adjusted relative risk 1.15, 95% confidence interval 1.06-1.24). The risk of an adverse maternal outcome was around 2-3% in both settings, with a similar risk of an adverse neonatal outcome. Transfer rates were high (37%) and varied markedly by parity (para 1, 56.7% versus para 2+, 24.6%). Conclusion: Women in the cohort who planned VBAC at home had an increased chance of a vaginal birth compared with those planning VBAC in an OU, but transfer rates were high, particularly for women with only one previous birth, and the risk of an adverse maternal or perinatal outcome was around 2-3%. No change in guidance can be recommended. Tweetable abstract: Higher vaginal birth rates in planned VBAC at home versus in OU but 2-3% adverse outcomes and high transfer rate. Copyright © 2015 The Authors. BJOG An International Journal of Obstetrics and Gynaecology published by John Wiley & Sons Ltd on behalf of Royal College of Obstetricians and Gynaecologists.

Database: EMBASE

33. Recent Trends in Vaginal Birth After Caesarean Section.

Author(s): Brick, A; Layte, R; Farren, M; Mahony, R; Turner, M J

Source: Irish medical journal; Dec 2016; vol. 109 (no. 10); p. 482

Publication Date: Dec 2016

Publication Type(s): Comparative Study Multicenter Study Journal Article

PubMedID: 28644587

Abstract:In developed countries, caesarean section (CS) rates continue to escalate and in Ireland nearly one in three women are now delivered by CS. The purpose of this study was to compare the management of women after one previous CS in two large Dublin maternity hospitals with the management in two other well-resourced countries. Data were analysed for Dublin, Massachusetts in the United States, and Hesse in Germany. It was found that since 1990, the CS rate in Dublin has increased by much more than in the other areas. This increase may be explained by the precipitous fall in the vaginal birth after CS rate because the rates in Massachusetts and Hesse in 1990 were initially much lower. Changes in the clinical management of women with one previous CS are a major contributor to the rising CS rates and are likely to be an ongoing driver of CS rates unless clinical practices evolve.

Database: Medline

34. Back to "once a caesarean: always a caesarean"? A trend analysis in Switzerland.

Author(s): Christmann-Schmid, Corina; Raio, Luigi; Scheibner, Katrin; Müller, Martin; Surbek, Daniel; Müller, Martin

Source: Archives of Gynecology & Obstetrics; Nov 2016; vol. 294 (no. 5); p. 905-910

Publication Date: Nov 2016

Publication Type(s): Academic Journal

PubMedID: 26980229

Available at [Archives of Gynecology and Obstetrics](#) - from SpringerLink - Medicine

Abstract:**Purpose:** Caesarean sections (CS) have significantly increased worldwide and a previous CS is nowadays an important and increasingly reported indication to perform a repeat CS. There is a paucity of information in Switzerland on the incidence of repeat CS after previous CS and relationship between the rates of vaginal birth after CS (VBAC). The aim of this study was to analyse the actual trend in VBAC in Switzerland.**Methods:** We performed a retrospective cohort study to analyse the proportion of VBAC among all pregnant women with previous sections which give birth during two time periods (group 1:1998/1999 vs. group 2:2004/2005) in our tertiary care referral hospital and in the annual statistics of Swiss Women's Hospitals (ASF-Statistics). In addition, the proportion of induction of labour after a previous caesarean and its success was analysed.**Results:** In both cohorts studied, we found a significant decrease of vaginal births ($p < 0.05$) and a significant increase of primary elective repeat caesarean section ($p < 0.05$) from the first to the second time period, while there was a decrease of secondary repeat caesarean sections. The prevalence of labour induction did not decrease.**Conclusion:** Our study shows that vaginal birth after a prior caesarean section has decreased over time in Switzerland. There was no significant change in labour induction during the study period. While this trend might reflect an increasing demand for safety in pregnancy and childbirth, it concomitantly increases maternal risks of further pregnancies, and women need to be appropriately informed about long-term risks.

Database: CINAHL

35. Vaginal birth after cesarean section: 10 years of experience in a tertiary medical center in Taiwan

Author(s): Li W.-H.; Yang M.-J.; Wang P.-H.; Juang C.-M.; Chang Y.-W.; Chen C.-Y.; Yen M.-S.; Wang H.-I.

Source: Taiwanese Journal of Obstetrics and Gynecology; Jun 2016; vol. 55 (no. 3); p. 394-398

Publication Date: Jun 2016

Publication Type(s): Article

PubMedID: 27343322

Available at [Taiwanese Journal of Obstetrics and Gynecology](#) - from Free Medical Journals . com

Available at [Taiwanese Journal of Obstetrics and Gynecology](#) - from Unpaywall

Abstract:Objective: Because of the increased risk of uterine rupture and other morbidities, instances of trial of labor after cesarean (TOLAC) have decreased in number each year. Nevertheless, under careful assessment and advanced medical care, TOLAC is still a safe option for delivery. The objective of this study is to find the factors that impact the success rate for TOLAC and to compare the results with Taiwan national registry data. Materials and Methods: A longitudinal cohort study that includes a total of 254 cases of women receiving TOLAC in a tertiary medical center over a period of 10 years. Results: A total of 254 participants who underwent TOLAC, which accounts for 1.67% of total labor instances (254/15,166), were enrolled for analysis. The success rate of TOLAC was found to be 80.70% (205/254), including 146 (57.5%) normal deliveries, 45 (17.7%) vacuum-assisted deliveries, and 14 (5.5%) forceps-assisted deliveries. The conversion rate to cesarean section was 19.3%. There were no uterine rupture cases in our study, and there were only two suspected cases, which turned out to have no actual rupture. When analyzing the factors affecting the results of TOLAC, we found that a successfully spontaneously delivered baby had a lower birth weight than the failed TOLAC cases that were converted to cesarean delivery (mean, 2989 g vs. 3379 g; $p < 0.001$). Among the patients who were converted to cesarean section, the most common reason was dysfunctional labor (79.6%), followed by fetal distress (14.3%). Conclusion: Under intensive care and observation, TOLAC section may still be a feasible choice. Nevertheless, the body weight of the baby has been shown to be a factor that can influence the success rate. Copyright © 2016.

Database: EMBASE

36. Trends in trial of labor after cesarean delivery, 2005-2012

Author(s): Friedman A.M.; Ananth C.V.; Siddiq Z.; D'Alton M.E.; Wright J.D.

Source: Reproductive Sciences; Mar 2016; vol. 23 (no. 1)

Publication Date: Mar 2016

Publication Type(s): Conference Abstract

Available at [Reproductive Sciences](#) - from Unpaywall

Abstract:INTRODUCTION: The objective of this study was to analyze factors and temporal trends associated with trial of labor after cesarean delivery (TOLAC). METHODS: This population-based study of U.S. natality records from 2005-2012 evaluated TOLAC for live-born, non-anomalous, cephalic, singleton gestations from >36 to <42 weeks gestational age. Women with >1 prior cesarean delivery were excluded. The primary outcome was the proportion of women who underwent TOLAC. Obstetric, medical, and demographic characteristics associated with TOLAC were analyzed. Multivariable logistic regression models were developed to determine factors associated with TOLAC. RESULTS: Of 1,483,741 women included in the analysis, 988,469 (82.0%) underwent planned cesarean and 266,940 (18.0%) underwent TOLAC. In the adjusted analysis factors associated with increased probability for TOLAC included prior vaginal delivery (odds ratio [OR] 3.60, 95% confidence interval [CI] 3.56-3.63), non-Hispanic black compared to non-Hispanic white race (OR 1.23, 95% CI 1.21-1.25), and presentation to prenatal care in the 3rd compared to the 1st trimester (OR 1.45 95% CI 1.42-1.48). Factors associated with lower probability included preexisting diabetes (OR 0.62, 95% CI 0.59-0.66), being unmarried (OR 0.83, 95% CI 0.82-0.84), and lower educational attainment. TOLAC rates increased the final years of the study (Figure). CONCLUSIONS: Successful TOLAC may be associated with significant potential downstream health benefits that outweigh risks for some women. Significant demographic variation was present in the decision to attempt TOLAC, suggesting that these factors may affect how women view their decision about delivery. After years of decreasing TOLAC rates, TOLAC may be increasing. (Figure Presented).

Database: EMBASE

37. Effect of stage of initial labor dystocia on vaginal birth after cesarean success.

Author(s): Lewkowitz, Adam Korrick; Nakagawa, Sanae; Thiet, Mari-Paule; Rosenstein, Melissa Greer

Source: American journal of obstetrics and gynecology; Dec 2015; vol. 213 (no. 6); p. 861

Publication Date: Dec 2015

Publication Type(s): Research Support, N.i.h., Extramural Journal Article

PubMedID: 26348381

Available at [American journal of obstetrics and gynecology](#) - from Unpaywall

Abstract:OBJECTIVEThe objective of the study was to examine whether the stage of labor dystocia causing a primary cesarean delivery (CD) affects a trial of labor after cesarean (TOLAC) success.STUDY DESIGNThis was a retrospective cohort study of women who had primary CD of singleton pregnancies for first- or second-stage labor dystocia and attempted TOLAC at a single hospital between 2002 and 2014. We compared TOLAC success rates between women whose primary CD was for first- vs second-stage labor dystocia and investigated whether the effect of prior dystocia stage on TOLAC success was modified by previous vaginal delivery (VD).RESULTSA total of 238 women were included; nearly half (49%) achieved vaginal birth after cesarean (VBAC). Women with a history of second-stage labor dystocia were more likely to have VBAC compared with those with first-stage dystocia, although this trend was not statistically significant among the general population (55% vs 45%, adjusted odds ratio, 1.4, 95% confidence interval, 0.8-2.5]). However, among women without a prior VD, those with a history of second-stage dystocia did have statistically higher odds of achieving VBAC than those with prior first-stage dystocia (54% vs 38%, adjusted odds ratio, 1.8 [95% confidence interval, 1.0-3.3], P for interaction = .043).CONCLUSIONNearly half of women with a history of primary CD for labor dystocia will achieve VBAC. Women with a history of second-stage labor dystocia have a slightly higher VBAC rate, seen to a statistically significant degree in those without a history of prior VD. TOLAC should be offered to all eligible women and should not be discouraged in women with a prior second-stage arrest.

Database: Medline

38. Women-centred interventions to increase vaginal birth after caesarean section (VBAC): A systematic review.

Author(s): Nilsson, Christina; Lundgren, Ingela; Smith, Valerie; Vehvilainen-Julkunen, Katri; Nicoletti, Jane; Devane, Declan; Bernloehr, Annette; van Limbeek, Evelien; Lalor, Joan; Begley, Cecily

Source: Midwifery; Jul 2015; vol. 31 (no. 7); p. 657-663

Publication Date: Jul 2015

Publication Type(s): Research Support, Non-u.s. Gov't Journal Article Review Systematic Review

PubMedID: 25931275

Available at [Midwifery](#) - from Unpaywall

Abstract:OBJECTIVEto evaluate the effectiveness of women-centred interventions during pregnancy and birth to increase rates of vaginal birth after caesarean.DESIGNwe searched bibliographic databases for randomised trials or cluster randomised trials on women-centred interventions during pregnancy and birth designed to increase VBAC rates in women with at least one previous caesarean section. Comparator groups included standard or usual care or an alternative treatment aimed at increasing VBAC rates. The methodological quality of included studies was assessed independently by two authors using the Effective Public Health Practice Project quality assessment tool. Outcome data were extracted independently from each included study by two review authors.FINDINGSin total, 821 citations were identified and screened by title and abstract; 806 were excluded and full text of 15 assessed. Of these, 12 were excluded leaving three papers included in the review. Two

studies evaluated the effectiveness of decision aids for mode of birth and one evaluated the effectiveness of an antenatal education programme. The findings demonstrate that neither the use of decision aids nor information/education of women have a significant effect on VBAC rates. Nevertheless, decision-aids significantly decrease women's decisional conflict about mode of birth, and information programmes significantly increase their knowledge about the risks and benefits of possible modes of birth. **KEY CONCLUSIONS** few studies evaluated women-centred interventions designed to improve VBAC rates, and all interventions were applied in pregnancy only, none during the birth. There is an urgent need to develop and evaluate the effectiveness of all types of women-centred interventions during pregnancy and birth, designed to improve VBAC rates. **IMPLICATIONS FOR PRACTICE** decision-aids and information programmes during pregnancy should be provided for women as, even though they do not affect the rate of VBAC, they decrease women's decisional conflict and increase their knowledge about possible modes of birth.

Database: Medline

39. Vaginal birth after cesarean success in high-risk women: a population-based study.

Author(s): Regan, J; Keup, C; Wolfe, K; Snyder, C; DeFranco, E

Source: Journal of perinatology : official journal of the California Perinatal Association; Apr 2015; vol. 35 (no. 4); p. 252-257

Publication Date: Apr 2015

Publication Type(s): Journal Article

PubMedID: 25341198

Available at [Journal of perinatology : official journal of the California Perinatal Association](#) - from ProQuest (Health Research Premium) - NHS Version

Abstract: **OBJECTIVE** The study aim was to identify factors associated with vaginal birth after cesarean (VBAC) in high-risk women. **STUDY DESIGN** This is a population-based retrospective cohort study of all births in Ohio during 2006 and 2007. High-risk patients were defined as singleton gestations in women with one previous cesarean who had ≥ 1 of the following risk factors: body mass index (BMI) ≥ 30 , hypertension, or diabetes. Multivariate logistic regression was utilized to estimate the relative influence of each factor on successful VBAC. **RESULTS** A total of 280 882 births were analyzed: of them, 79 084 (27.1%) were high-risk pregnancies and 8658 (10.9%) women had undergone one previous cesarean; 1433 (16.6%) underwent a trial of labor after cesarean (TOLAC). Of them, 974 (68.0%) had a successful VBAC, whereas 459 (32.0%) did not. Factors significantly associated with VBAC success were as follows: a prior vaginal delivery; pregnancy weight gain ≤ 30 lbs; Caucasian race; and labor augmentation. **CONCLUSION** High-risk women with one prior cesarean are unlikely to undergo a TOLAC, but have a high rate of VBAC.

Database: Medline

40. Clinician-centred interventions to increase vaginal birth after caesarean section (VBAC): a systematic review.

Author(s): Lundgren, Ingela; Smith, Valerie; Nilsson, Christina; Vehvilainen-Julkunen, Katri; Nicoletti, Jane; Devane, Declan; Bernloehr, Annette; van Limbeek, Evelien; Lalor, Joan; Begley, Cecily

Source: BMC pregnancy and childbirth; Feb 2015; vol. 15 ; p. 16

Publication Date: Feb 2015

Publication Type(s): Research Support, Non-u.s. Gov't Journal Article Review Systematic Review

PubMedID: 25652550

Available at [BMC pregnancy and childbirth](#) - from BioMed Central

Available at [BMC pregnancy and childbirth](#) - from SpringerLink - Medicine

Available at [BMC pregnancy and childbirth](#) - from ProQuest (Health Research Premium) - NHS Version

Available at [BMC pregnancy and childbirth](#) - from Unpaywall

Abstract:BACKGROUNDThe number of caesarean sections (CS) is increasing globally, and repeat CS after a previous CS is a significant contributor to the overall CS rate. Vaginal birth after caesarean (VBAC) can be seen as a real and viable option for most women with previous CS. To achieve success, however, women need the support of their clinicians (obstetricians and midwives). The aim of this study was to evaluate clinician-centred interventions designed to increase the rate of VBAC.METHODSThe bibliographic databases of The Cochrane Library, PubMed, PsychINFO and CINAHL were searched for randomised controlled trials, including cluster randomised trials that evaluated the effectiveness of any intervention targeted directly at clinicians aimed at increasing VBAC rates. Included studies were appraised independently by two reviewers. Data were extracted independently by three reviewers. The quality of the included studies was assessed using the quality assessment tool, 'Effective Public Health Practice Project'. The primary outcome measure was VBAC rates.RESULTS238 citations were screened, 255 were excluded by title and abstract. 11 full-text papers were reviewed; eight were excluded, resulting in three included papers. One study evaluated the effectiveness of antepartum x-ray pelvimetry (XRP) in 306 women with one previous CS. One study evaluated the effects of external peer review on CS birth in 45 hospitals, and the third evaluated opinion leader education and audit and feedback in 16 hospitals. The use of external peer review, audit and feedback had no significant effect on VBAC rates. An educational strategy delivered by an opinion leader significantly increased VBAC rates. The use of XRP significantly increased CS rates.CONCLUSIONSThis systematic review indicates that few studies have evaluated the effects of clinician-centred interventions on VBAC rates, and interventions are of varying types which limited the ability to meta-analyse data. A further limitation is that the included studies were performed during the late 1980s-1990s. An opinion leader educational strategy confers benefit for increasing VBAC rates. This strategy should be further studied in different maternity care settings and with professionals other than physicians only.

Database: Medline

41. Predicting vaginal birth after cesarean section: a cohort study.

Author(s): Tessmer-Tuck, Jennifer A; El-Nashar, Sherif A; Racek, Adrienne R; Lohse, Christine M; Famuyide, Abimbola O; Wick, Myra J

Source: Gynecologic and obstetric investigation; 2014; vol. 77 (no. 2); p. 121-126

Publication Date: 2014

Publication Type(s): Comparative Study Journal Article

PubMedID: 24525697

Available at [Gynecologic and obstetric investigation](#) - from ProQuest (Health Research Premium) - NHS Version

Available at [Gynecologic and obstetric investigation](#) - from Unpaywall

Abstract:OBJECTIVETo develop a model to predict vaginal birth after cesarean (VBAC) in our population and to compare the accuracy of this model to the accuracy of a previously published widely used model.MATERIALS AND METHODSWomen attempting trial of labor after cesarean delivery (TOLAC) at our institution from January 1, 2000 through May 30, 2010 were evaluated for inclusion. Demographic and clinical data were collected. Associations of these characteristics with VBAC were evaluated with univariate and multivariate logistic regression. We critically compared the accuracy of the resulting model to a previously published widely utilized model for predicting VBAC.RESULTSA total of 2,635 deliveries with at least 1 prior cesarean delivery were identified. TOLAC was attempted in 599 (22.7%) and resulted in 456 VBACs (76.0%) and 143 repeat cesareans (24.0%). VBAC success was independently associated with age <30 years, a body mass index <30, prior vaginal delivery, prior VBAC, and absence of a recurrent indication for cesarean. This model provided a range of successful probability of VBAC (38-98%) with an area under the receiver operating characteristic curve of 0.723.CONCLUSIONSThis study provides an accurate and simple model that can be utilized to guide decisions related to TOLAC.

Database: Medline

42. Trends of vaginal birth after cesarean delivery in Germany from 1990 to 2012: a population-based study.

Author(s): Kyvernitakis, I; Reichelt, J; Kyvernitakis, A; Misselwitz, B; Hadji, P; Schmidt, S; Kalder, M

Source: Zeitschrift fur Geburtshilfe und Neonatologie; Oct 2014; vol. 218 (no. 5); p. 203-209

Publication Date: Oct 2014

Publication Type(s): Journal Article

PubMedID: 25353214

Abstract:BACKGROUNDThe increasing incidence of cesarean deliveries (CD) in the western world is consequently leading to a rising number of antenatal counselling of pregnant women with a history of previous CD. To counteract the increasing trend of cesarean deliveries, the concept of vaginal birth after cesarean delivery (VBAC) may represent an alternative. The aim of the present study was to longitudinally investigate the incidence of VBAC and compare the changes within all deliveries during 23 years of follow-up.METHODSIn this study we analyzed data from 1 202 557 deliveries in Hesse, Germany from 1990 to 2012. In total, 131 629 births have been identified to have at least one CD in the patients' medical history. We grouped the patients into 3 categories: vaginal spontaneous birth subsequent to CD, vaginal-operative birth subsequent to CD and repeated CD.RESULTSAfter previous CD, 32.1% of the patients delivered spontaneously, 4.0% delivered vaginal-operative and 63.8% had a repeated CD. The rates changed from 40.4, 7.5 and 52.1% in the year 1990 to 23.3, 2.8 and 73.9% in the year 2012 for vaginal spontaneous births, vaginal-operative births and for repeated CDs, respectively ($p<0.01$). We noticed a decline of 17.1 and 4.7% in spontaneous births after

Cesarean and vaginal operative births respectively during the observation period. Notably, we report a dramatic increase of 21.8% of repeated CDs during the past 23 years ($p<0.01$). With regard to the non-affected group including all deliveries, we observed a decrease of 17% in spontaneous deliveries from 1990 to 2012 (75.9 vs. 58.9%). Vaginal operative delivery rates changed from 6.9% in 1990 to 5.9% in 2012. Consequently, CD rates increased from 17.2% in 1990 to 35.2% in the year 2012 ($p<0.01$). The differences between all 3 subgroups were significantly different ($p<0.001$).
DISCUSSION Cesarean rates in Germany have reached an all-time high, while VBAC follows a continuous decrease. The current rate of VBAC is almost the half of that in the year 1990 (26.1 vs. 47.9%). Promotion of a trial of labor (TOL) after low transverse CD in those women who desire 3 or more children may increase the VBAC success rates and reduce maternal morbidity.

Database: Medline

43. Improving VBAC rates: the combined impact of two management strategies.

Author(s): Gardner, Kate; Henry, Amanda; Thou, Steven; Davis, Greg; Miller, Trent

Source: The Australian & New Zealand journal of obstetrics & gynaecology; Aug 2014; vol. 54 (no. 4); p. 327-332

Publication Date: Aug 2014

Publication Type(s): Journal Article

PubMedID: 25117188

Available at [The Australian & New Zealand journal of obstetrics & gynaecology](#) - from Wiley Online Library

Abstract: **BACKGROUND** Cesarean section rates in Australia have risen to >30%, with repeat caesarean delivery the most common indication. One method of reducing caesarean delivery rates is to increase rates of vaginal birth after caesarean section (VBAC). **AIMS** To determine the combined effect of two management strategies on the rates of successful VBAC in women experiencing their first pregnancy following primary caesarean section. **METHODS** Prospective cohort study from May 2009 to October 2010 at a metropolitan Australian teaching hospital. The strategies studied were (i) allocating responsibility for VBAC candidates attempting labour to the hospital's three high-risk obstetric consultants and (ii) implementing a next birth after caesarean (NBAC) antenatal clinic designed to counsel and support women deciding on mode of birth for their next pregnancy after a primary caesarean section. Data were collected from Obstetrix, a NBAC logbook and medical records of 396 eligible women who gave birth during the study period. **RESULTS** Overall VBAC rates improved from 17.2% in 2006 prior to implementation of the combined strategies, to 27.0% over the studied period ($P < 0.001$). Of those women who desired and attempted a VBAC, the success rate was 64.4%. Regression analysis identified an increased likelihood of attempted vaginal birth where malpresentation was the indication for previous caesarean, while Eastern Asian ethnicity was associated with increased likelihood of choosing repeat caesarean. **CONCLUSIONS** A dedicated NBAC clinic and more consistent approach to labour management can help improve VBAC rates. Further targeted counselling towards women with previous malpresentation and/or East Asian descent may further improve VBAC attempt rates.

Database: Medline

44. Pregnancy outcome in women with previous one cesarean section.

Author(s): Balachandran, Lekshmi; Vaswani, Pooja R; Mogotlane, Ramakone

Source: Journal of clinical and diagnostic research : JCDR; Feb 2014; vol. 8 (no. 2); p. 99-102

Publication Date: Feb 2014

Publication Type(s): Journal Article

PubMedID: 24701494

Available at [Journal of clinical and diagnostic research : JCDR](#) - from Europe PubMed Central - Open Access

Available at [Journal of clinical and diagnostic research : JCDR](#) - from Free Medical Journals . com

Available at [Journal of clinical and diagnostic research : JCDR](#) - from Unpaywall

Abstract:OBJECTIVEThe purpose of this study was to determine the outcome of pregnancy in women with previous one cesarean section in relation to vaginal delivery and maternal and perinatal complications. It also aimed at identifying the factors, which can influence the outcome of trial of scar (TOS).MATERIALS AND METHODSA retrospective analysis of medical records of 151 women with previous one cesarean section who delivered at the Mafraq Hospital, Abu Dhabi between January-August 2011was carried out. Those women with previous classical cesarean section and those with extreme prematurity were excluded. The collected data were analyzed using SPSS software version 20. Continuous and categorical data were presented in the form of mean, standard deviation and percentage, while proportions were analyzed using the chi-square test. A p-value ≤ 0.05 was considered statistically significant.RESULTSO f the 151 women, 115 were candidates for TOS. Of them, 96 (83.47%) had vaginal birth after cesarean (VBAC) and 19 (16.5%) had a repeat cesarean section. There were four cases of primary postpartum hemorrhage (PPH) and two cases of scar dehiscence in the study group. No significant perinatal morbidity was observed. VBAC rate was significantly more in women who had prior vaginal deliveries, especially in those with previous VBAC.CONCLUSIONIn carefully selected cases, trial of labour (TOL) after a prior cesarean is safe and often successful. A prior vaginal delivery, particularly, a prior VBAC are associated with a higher rate of successful TOL.

Database: Medline

45. Vaginal birth after caesarean section: a cohort study investigating factors associated with its uptake and success.

Author(s): Knight, H E; Gurol-Urganci, I; van der Meulen, J H; Mahmood, T A; Richmond, D H; Dougall, A; Cromwell, D A

Source: BJOG : an international journal of obstetrics and gynaecology; Jan 2014; vol. 121 (no. 2); p. 183-192

Publication Date: Jan 2014

Publication Type(s): Research Support, Non-u.s. Gov't Journal Article

PubMedID: 24251861

Available at [BJOG : an international journal of obstetrics and gynaecology](#) - from Wiley Online Library

Abstract:OBJECTIVETo investigate the demographic and obstetric factors associated with the uptake and success rate of vaginal birth after caesarean section (VBAC).DESIGNCohort study using data from Hospital Episode Statistics.SETTINGEnglish National Health Service.POPULATIONWomen whose first birth resulted in a live singleton delivery by caesarean section between 1 April 2004 and 31 March 2011, and who had a second birth before 31 March 2012.METHODSLogistic regression to estimate adjusted odds ratios (OR).MAIN OUTCOME MEASURESAttempted and successful VBAC.RESULTSAmong the 143,970 women in the cohort, 75,086 (52.2%) attempted a VBAC for their second birth. Younger women, those of non-white ethnicity and those living in a more deprived area had higher rates of attempted VBAC. Overall, 47,602 women (63.4%) who attempted a VBAC had a successful vaginal birth. Younger women and women of white ethnicity had higher success rates. Black women had a particularly low success rate (OR, 0.54; 95% confidence interval [CI], 0.50-0.57). Women who had an emergency caesarean section in their first birth also had a lower VBAC success rate, particularly those with a history of failed induction of labour (OR, 0.59; 95% CI, 0.53-0.67).CONCLUSIONIn this national cohort, just over one-half of women with a primary caesarean section who were eligible for a trial of labour attempted a VBAC for their second birth. Of these, almost two-thirds successfully achieved a vaginal delivery.

Database: Medline

46. Rates and success rates of trial of labor after cesarean delivery in the United States, 1990-2009.

Author(s): Uddin, Sayeedha F G; Simon, Alan E

Source: Maternal and child health journal; Sep 2013; vol. 17 (no. 7); p. 1309-1314

Publication Date: Sep 2013

Publication Type(s): Journal Article

PubMedID: 22991012

Available at [Maternal and child health journal](#) - from SpringerLink - Medicine

Available at [Maternal and child health journal](#) - from ProQuest (Health Research Premium) - NHS Version

Abstract: This study compares rates of trial of labor after Cesarean delivery (TOLAC) and rates of successful TOLAC between 1990 and 2009. Serial cross-sectional analyses were performed using the National Hospital Discharge Survey data to compare rates of TOLAC and TOLAC success between 1990 and 2009. Joinpoint regression was used to assess trends over time, and logistic regression with marginal effects was used to examine the unadjusted and adjusted significance and magnitude of trends. The rate of TOLAC reached a high of 51.8 % (95 % CI 47.8-55.8 %) in 1995 and a low of 15.9 % (95 % CI 13.8-18.0 %) in 2006, declined, on average, 4.2 (95 % CI -4.8 to -3.9) percentage points per year between 1996 and 2005. Rates increased significantly from 1990 to 1996 and 2005 to 2009. TOLAC success was at its highest rate in 2000, 69.8 % (95 % CI 65.2-74.3 %) and its lowest in 2008, 38.5 % (95 % CI 28.1-48.8 %). The rate of TOLAC success increased significantly between 1990 and 2000, but declined thereafter an average of 3.4 % points per year (95 % CI -4.3 to -2.5). The rate of TOLAC in the US decreased between 1996 and 2005 and the rate of successful TOLAC has declined from 2000 to 2009.

Database: Medline

47. Interventions for supporting pregnant women's decision-making about mode of birth after a caesarean.

Author(s): Horey, Dell; Kealy, Michelle; Davey, Mary-Ann; Small, Rhonda; Crowther, Caroline A

Source: The Cochrane database of systematic reviews; Jul 2013 (no. 7); p. CD010041

Publication Date: Jul 2013

Publication Type(s): Research Support, Non-u.s. Gov't Meta-analysis Journal Article Review
Systematic Review

PubMedID: 23897547

Available at [The Cochrane database of systematic reviews](#) - from Cochrane Collaboration (Wiley)

Abstract:BACKGROUND Pregnant women who have previously had a caesarean birth and who have no contraindication for vaginal birth after caesarean (VBAC) may need to decide whether to choose between a repeat caesarean birth or to commence labour with the intention of achieving a VBAC. Women need information about their options and interventions designed to support decision-making may be helpful. Decision support interventions can be implemented independently, or shared with health professionals during clinical encounters or used in mediated social encounters with others, such as telephone decision coaching services. Decision support interventions can include decision aids, one-on-one counselling, group information or support sessions and decision protocols or algorithms. This review considers any decision support intervention for pregnant women making birth choices after a previous caesarean birth. OBJECTIVES To examine the effectiveness of interventions to support decision-making about vaginal birth after a caesarean birth. Secondary objectives are to identify issues related to the acceptability of any interventions to parents and the feasibility of their implementation. SEARCH METHODS We searched the Cochrane Pregnancy and Childbirth Group's Trials Register (30 June 2013), Current Controlled Trials (22 July 2013), the WHO International Clinical Trials Registry Platform Search Portal (ICTRP) (22 July 2013) and reference lists of retrieved articles. We also conducted citation searches of included studies to identify possible concurrent qualitative studies. SELECTION CRITERIA All published, unpublished, and ongoing randomised controlled trials (RCTs) and quasi-randomised trials with reported data of any intervention designed to support pregnant women who have previously had a caesarean birth make decisions about their options for birth. Studies using a cluster-randomised design were eligible for inclusion but none were identified. Studies using a cross-over design were not eligible for inclusion. Studies published in abstract form only would have been eligible for inclusion if data were able to be extracted. DATA COLLECTION AND ANALYSIS Two review authors independently applied the selection criteria and carried out data extraction and quality assessment of studies. Data were checked for accuracy. We contacted authors of included trials for additional information. All included interventions were classified as independent, shared or mediated decision supports. Consensus was obtained for classifications. Verification of the final list of included studies was undertaken by three review authors. MAIN RESULTS Three randomised controlled trials involving 2270 women from high-income countries were eligible for inclusion in the review. Outcomes were reported for 1280 infants in one study. The interventions assessed in the trials were designed to be used either independently by women or mediated through the involvement of independent support. No studies looked at shared decision supports, that is, interventions designed to facilitate shared decision-making with health professionals during clinical encounters. We found no difference in planned mode of birth: VBAC (risk ratio (RR) 1.03, 95% confidence interval (CI) 0.97 to 1.10; $I^2 = 0\%$) or caesarean birth (RR 0.96, 95% CI 0.84 to 1.10; $I^2 = 0\%$). The proportion of women unsure about preference did not change (RR 0.87, 95% CI 0.62 to 1.20; $I^2 = 0\%$). There was no difference in adverse outcomes reported between intervention and control groups (one trial, 1275 women/1280 babies): permanent (RR 0.66, 95% CI 0.32 to 1.36); severe (RR 1.02, 95% CI 0.77 to 1.36); unclear (0.66, 95% CI 0.27, 1.61). Overall, 64.8% of those indicating preference for VBAC achieved it, while 97.1% of those planning caesarean birth achieved this mode of birth. We found no difference in the proportion of women achieving

congruence between preferred and actual mode of birth (RR 1.02, 95% CI 0.96 to 1.07) (three trials, 1921 women). More women had caesarean births (57.3%), including 535 women where it was unplanned (42.6% all caesarean deliveries and 24.4% all births). We found no difference in actual mode of birth between groups, (average RR 0.97, 95% CI 0.89 to 1.06) (three trials, 2190 women). Decisional conflict about preferred mode of birth was lower (less uncertainty) for women with decisional support (standardised mean difference (SMD) -0.25, 95% CI -0.47 to -0.02; two trials, 787 women; $I^2 = 48\%$). There was also a significant increase in knowledge among women with decision support compared with those in the control group (SMD 0.74, 95% CI 0.46 to 1.03; two trials, 787 women; $I^2 = 65\%$). However, there was considerable heterogeneity between the two studies contributing to this outcome ($I^2 = 65\%$) and attrition was greater than 15 per cent and the evidence for this outcome is considered to be moderate quality only. There was no difference in satisfaction between women with decision support and those without it (SMD 0.06, 95% CI -0.09 to 0.20; two trials, 797 women; $I^2 = 0\%$). No study assessed decisional regret or whether women's information needs were met. Qualitative data gathered in interviews with women and health professionals provided information about acceptability of the decision support and its feasibility of implementation. While women liked the decision support there was concern among health professionals about their impact on their time and workload. **AUTHORS' CONCLUSION** Evidence is limited to independent and mediated decision supports. Research is needed on shared decision support interventions for women considering mode of birth in a pregnancy after a caesarean birth to use with their care providers.

Database: Medline

48. Outcome of trial of labor after cesarean section in women with past failed operative vaginal delivery.

Author(s): Melamed, Nir; Segev, Meirav; Hadar, Eran; Peled, Yoav; Wiznitzer, Arnon; Yogev, Yariv

Source: American journal of obstetrics and gynecology; Jul 2013; vol. 209 (no. 1); p. 49

Publication Date: Jul 2013

Publication Type(s): Comparative Study Journal Article

PubMedID: 23507547

Abstract:OBJECTIVEThe objective of the study was to assess the outcome of trial of labor after cesarean (TOLAC) in women with past failed operative vaginal delivery (OVD).STUDY DESIGNA retrospective study of all women who underwent cesarean section (CS) because of a failed OVD in a tertiary medical center between 1996 and 2011. Women who had a subsequent delivery were identified, and the outcome of subsequent delivery was analyzed.RESULTSOverall, 533 women underwent CS because of failed OVD during the study period. A total of 204 women (38.3%) had a subsequent delivery, of whom 93 (45.6%) had a TOLAC and 111 (54.4%) had a repeat elective CS. The success rate in the TOLAC group was 61.3% (n = 57). The most common indication for repeat CS was lack of progress (72.3%) among the 36 women in whom TOLAC failed (38.7%). The rate of postpartum hemorrhage and prolonged maternal hospitalization was lower in the TOLAC group than in the repeat CS group (2.2% vs 10.8%, P = .02, and 0% vs 8.1%, P = .005). There were no cases of rupture or dehiscence of the uterine scar. Factors associated with failed TOLAC were the occiput-posterior position and prolonged the second stage as the indication for OVD in the index pregnancy, maternal age older than 30 years at the time of subsequent delivery, and a birthweight in the subsequent pregnancy that is higher than the birthweight in the index pregnancy.CONCLUSIONTOLAC in women who underwent a previous CS because of a failed OVD is associated with a relatively high success rate compared with the reported success rates among women with past CS during the second stage of labor. This information and the risk factors for TOLAC failure can be used when counseling these women regarding mode of delivery in subsequent pregnancy.

Database: Medline

49. Vaginal birth after cesarean section.

Author(s): Bangal, Vidyadhar B; Giri, Purushottam A; Shinde, Kunaal K; Gavhane, Satyajit P

Source: North American journal of medical sciences; Feb 2013; vol. 5 (no. 2); p. 140-144

Publication Date: Feb 2013

Publication Type(s): Journal Article

PubMedID: 23641377

Available at [North American journal of medical sciences](#) - from Europe PubMed Central - Open Access

Abstract:BACKGROUND The rate of primary cesarean section (CS) is on the rise. More and more women report with a history of a previous CS. A trial of vaginal delivery can save these women from the risk of repeat CS. AIM The study was conducted to assess the safety and success rate of vaginal birth after CS (VBAC) in selected cases of one previous lower segment CS (LSCS). MATERIALS AND METHOD The prospective observational study was carried out in a tertiary care teaching hospital over a period of two years. One hundred pregnant women with a history of one previous LSCS were enrolled in the study. RESULTS In the present study, 85% cases had a successful VBAC and 15% underwent a repeat emergency LSCS for failed trial of vaginal delivery. Cervical dilatation of more than 3 cm at the time of admission was a significant factor in favor of a successful VBAC. Birth weight of more than 3,000 g was associated with a lower success rate of VBAC. The incidence of scar dehiscence was 2% in the present study. There was no maternal or neonatal mortality. CONCLUSION Trial of VBAC in selected cases has great importance in the present era of the rising rate of primary CS especially in rural areas.

Database: Medline

50. Trial of labor after cesarean delivery in Ireland

Author(s): Lutomski J.; Greene R.; Meaney S.; Forgeard N.; Devane D.; Daly D.

Source: American Journal of Obstetrics and Gynecology; Jan 2013; vol. 208 (no. 1)

Publication Date: Jan 2013

Publication Type(s): Conference Abstract

Abstract:OBJECTIVE: To derive nationally representative rates of Trial of Labor after Cesarean (TOLAC) and Elective repeat cesarean delivery (ERCD) and assess risk of select maternal morbidities and stillbirth. STUDY DESIGN: A retrospective cohort study was performed on childbirth hospitalizations occurring between 2005 and 2010 in Ireland. Using hospital discharge ICD-10-AM codes, we identified women with a previously cesarean delivery and subsequent delivery pathways. Morbidity incidence rates and unadjusted relative risks were derived to determine the risk of select adverse events associated with TOLAC and ERCD. RESULTS: 396,910 singleton deliveries were recorded between 2005 and 2010; 42,212 (10.6%) were reported as having a previous cesarean delivery. Of these deliveries, approximately two-thirds (69.0%; n = 29,110) underwent an ERCD, whereas one-third (31.0%; n = 13,102) undertook a TOLAC. Among the women who undertook a TOLAC, 48.5% (n = 6,349) were successful. Overall, 15.0% of women with a previous cesarean delivery had a vaginal delivery (6,349/42,212). The rate of uterine rupture in the TOLAC group was 3.89 per 1,000 versus 0.65 per 1,000 in the ERCD group. The rate of hysterectomy was also higher in the TOLAC group (1.98 versus 0.93 per 1,000 respectively). This disparity translated to a six-fold increased risk of uterine rupture (unadjusted RR: 5.96; 95% CI: 3.52-10.10) and a two-fold risk of hysterectomy (RR: 2.14; 95% CI: 1.25-3.66). Further, women attempting a TOLAC had an increased risk of stillbirth (4.73 versus 1.03 per 1,000 respectively; RR: 4.59; 95% CI: 2.97-7.10). CONCLUSION: Nearly half of women who undertook a trial of labor in this study had a successful vaginal birth. In

absolute terms, the risks of uterine rupture, hysterectomy and stillbirth were low among women attempting a TOLAC versus women who underwent an ERCD; however, in relative terms, these risks were elevated. Maternity care providers should be encouraged to discuss the risks and benefits of TOLAC with women to achieve an individualized care plan based on their obstetric profile.

Database: EMBASE

51. Trial of labor and vaginal delivery rates in women with a prior cesarean.

Author(s): Eden, Karen B; Denman, Mary Anna; Emeis, Cathy L; McDonagh, Marian S; Fu, Rongwei; Janik, Rosalind K; Broman, Alia R; Guise, Jeanne-Marie

Source: Journal of obstetric, gynecologic, and neonatal nursing : JOGNN; 2012; vol. 41 (no. 5); p. 583-598

Publication Date: 2012

Publication Type(s): Research Support, N.i.h., Extramural Journal Article Review

PubMedID: 22822788

Abstract:OBJECTIVETo evaluate evidence on trial of labor (TOL) and vaginal delivery rates in women with a prior cesarean and to understand the characteristics of women offered a trial of labor.DATA SOURCESMEDLINE, DARE, and Cochrane databases were searched for articles evaluating mode of delivery for women with a prior cesarean delivery published between 1980 and September 2009.STUDY SELECTIONStudies were included if they involved human participants, were in English, conducted in the United States or in developed countries, and if they were rated fair or good base on U.S. Preventive Services Task Force (USPSTF) criteria.DATA EXTRACTION AND SYNTHESISThe search yielded 3,134 abstracts: 69 full-text papers on TOL and vaginal birth after cesarean (VBAC) rates and 10 on predictors of TOL. The TOL rate in U.S. studies was 58% (95% CI [52, 65]) compared with 64% (95% CI [59, 70]) in non U.S.STUDIESThe TOL rate in the U.S. was 62% (95% CI [57, 66]) for studies completed prior to 1996 and dropped to 44% (95% CI [34, 53]) in studies launched after 1996, $p = .016$. In U.S. studies, 74% (95% CI [72, 76]) of women who had a TOL delivered vaginally. Women who had a prior vaginal birth or delivered at a large teaching hospital were more likely to be offered a TOL.CONCLUSIONSAlthough the TOL rate has dropped since 1996, the rate of vaginal delivery after a TOL has remained constant. Efforts to increase rates of TOL will depend on patients understanding the risks and benefits of both options. Maternity providers are well positioned to provide key education and counseling when patients are not informed of their options.

Database: Medline

52. Non-clinical interventions that increase the uptake and success of vaginal birth after caesarean section: a systematic review.

Author(s): Catling-Paull, Christine; Johnston, Rebecca; Ryan, Clare; Foureur, Maralyn J; Homer, Caroline S E

Source: Journal of advanced nursing; Aug 2011; vol. 67 (no. 8); p. 1662-1676

Publication Date: Aug 2011

Publication Type(s): Research Support, Non-u.s. Gov't Journal Article Review Systematic Review

PubMedID: 21535091

Available at [Journal of advanced nursing](#) - from Wiley Online Library

Available at [Journal of advanced nursing](#) - from Unpaywall

Abstract:AIMThe aim of this study was to review non-clinical interventions that increase the uptake and/or the success rates of vaginal birth after caesarean section.BACKGROUNDIncreases in rates of caesarean section are largely due to repeat caesarean section in a subsequent pregnancy. Concerns about vaginal birth after caesarean section have centred on the risk of uterine rupture. Nonetheless, efforts to increase the vaginal birth rate in these women have been made. This study reviews these in relation to non-clinical interventions.DATA SOURCESLiterature was searched up until December 2008 from five databases and a number of relevant professional websites.REVIEW METHODSA systematic review of quantitative studies that evaluated a non-clinical intervention for increasing the uptake and/or the success of vaginal birth after caesarean section was undertaken. Only study designs that involved a comparison group were included. Further exclusions were imposed for quality using the Critical Skills Appraisal Programme.RESULTSNational guidelines influence vaginal birth after caesarean section rates, but a greater effect is seen when institutions develop local guidelines, adopt a conservative approach to caesarean section, use opinion leaders, give individualized information to women, and give feedback to obstetricians about mode of birth rates. Individual clinician characteristics may impact on the number of women choosing and succeeding in vaginal birth after caesarean section. There is inconsistent evidence that having private health insurance may be a barrier to the uptake and success of vaginal birth after caesarean section.CONCLUSIONNon-clinical factors can have a significant impact on vaginal birth after caesarean section uptake and success.

Database: Medline

53. Clinical interventions that increase the uptake and success of vaginal birth after caesarean section: a systematic review.

Author(s): Catling-Paull, Christine; Johnston, Rebecca; Ryan, Clare; Foureur, Maralyn J; Homer, Caroline S E

Source: Journal of advanced nursing; Aug 2011; vol. 67 (no. 8); p. 1646-1661

Publication Date: Aug 2011

Publication Type(s): Research Support, Non-u.s. Gov't Journal Article Review Systematic Review

PubMedID: 21477118

Available at [Journal of advanced nursing](#) - from Wiley Online Library

Abstract:AIMThe aim of this study was to review clinical interventions that increase the uptake and/or the success rates of vaginal birth after caesarean section.BACKGROUNDRepeat caesarean section is the main reason for the increase in surgical births. The risk of uterine rupture in women who have prior caesarean sections prevents many clinicians from recommending vaginal birth after caesarean. Despite this, support for vaginal birth after caesarean continues.DATA SOURCESA search of five databases and a number of relevant professional websites was undertaken up to December 2008.REVIEW METHODSA systematic review of quantitative studies that involved a comparison group and examined a clinical intervention for increasing the uptake and/or the success of vaginal birth after caesarean section was undertaken. An assessment of quality was made using the Critical Skills Appraisal Programme.RESULTSInduction of labour using artificial rupture of membranes, prostaglandins, oxytocin infusion or a combination, was associated with lower vaginal birth rates. Cervical ripening agents such as prostaglandins and transcervical catheters may result in lower vaginal birth rates compared with spontaneous labour. The impact of epidural anaesthesia in labour on vaginal birth after caesarean success is inconclusive. X-ray pelvimetry is associated with reduced uptake of vaginal birth after caesarean and higher caesarean section rates. Scoring systems to predict likelihood of vaginal birth are largely unhelpful. There is insufficient data in relation to vaginal birth after caesarean section between different closure methods for the primary caesarean section.CONCLUSIONClinical factors can affect vaginal birth after caesarean uptake and success.

Database: Medline

54. Delivery after prior cesarean: success rate and factors.

Author(s): Shanks, Anthony L; Cahill, Alison G

Source: Clinics in perinatology; Jun 2011; vol. 38 (no. 2); p. 233-245

Publication Date: Jun 2011

Publication Type(s): Journal Article

PubMedID: 21645792

Abstract:Cesarean delivery rates in the United States have reached an all-time high. The current rate of 31% is 6 times higher than the 1970s rate. Many factors including physician preference and hospital accessibility account for this trend. A decreased vaginal birth after cesarean (VBAC) rate and an increased repeat cesarean rate have important consequences for women in future pregnancies. Because of these considerations, VBAC has been an important issue within the obstetric community for over 3 decades. Identifying the best candidates for VBAC using factors available to the obstetrician can increase the VBAC success rate while minimizing maternal morbidity.

Database: Medline

55. Recent trends and patterns in cesarean and vaginal birth after cesarean (VBAC) deliveries in the United States.

Author(s): MacDorman, Marian; Declercq, Eugene; Menacker, Fay

Source: Clinics in perinatology; Jun 2011; vol. 38 (no. 2); p. 179-192

Publication Date: Jun 2011

Publication Type(s): Journal Article

PubMedID: 21645788

Abstract: Cesarean delivery is the most common major surgical procedure for women in the United States, with 1.4 million surgeries annually. In 2008, nearly one-third (32.3%) of US births were by cesarean delivery. Cesarean delivery rates have increased rapidly in the United States in recent years because of an increasing primary cesarean delivery rate and a declining vaginal birth after cesarean (VBAC) rate. In 2007, the VBAC rate was 8.3% in a 22-state reporting area. The US VBAC rate was lowest among 14 industrialized countries; 3 countries had VBAC rates greater than 50%.

Database: Medline

56. The change in the rate of vaginal birth after caesarean section.

Author(s): Grobman, William A; Lai, Yinglei; Landon, Mark B; Spong, Catherine Y; Rouse, Dwight J; Varner, Michael W; Caritis, Steve N; Harper, Margaret; Wapner, Ronald J; Sorokin, Yoram; Eunice Kennedy Shriver National Institute of Child Health and Human Development Maternal-Fetal Medicine Units Network

Source: Paediatric and perinatal epidemiology; Jan 2011; vol. 25 (no. 1); p. 37-43

Publication Date: Jan 2011

Publication Type(s): Research Support, N.i.h., Extramural Journal Article

PubMedID: 21133967

Available at [Paediatric and perinatal epidemiology](#) - from Wiley Online Library

Available at [Paediatric and perinatal epidemiology](#) - from Unpaywall

Abstract: The objective of this study was to determine whether, and to what degree, the change in the vaginal birth after caesarean section (VBAC) rate is due to a change in the characteristics of the obstetric population, the undertaking of a trial of labour (TOL), or the tendency to abandon a TOL once it has been initiated. All women with one prior low transverse caesarean section (CS) and a vertex singleton gestation at term were identified in a registry of CS deliveries occurring at eight academic centres during a 4-year period (1999-2002). Women were classified by their predicted chance of VBAC and year-to-year differences were analysed. Of the 9643 women who met criteria for analysis, 5334 (55.3%) underwent a TOL. From 1999 to 2002, the VBAC rate underwent a steady decline: 51.8% to 45.1% to 37.4% to 29.8% ($P < 0.001$). Although there were some changes in the characteristics of the population that predispose to successful VBAC, as well as some reduction in the chance that a VBAC is successful once a TOL is undertaken, the most pervasive reason for this decline was that women became increasingly likely to forego a TOL, regardless of their likelihood of vaginal delivery. Based on these results, it appears that the change over time in the VBAC rate is multifactorial, although the greatest change has been a decrease in the frequency with which women undertake a TOL, and this change is observed in all categories of the chance of a successful TOL.

Database: Medline

57. Rates and prediction of successful vaginal birth after cesarean.

Author(s): Grobman, William A

Source: Seminars in perinatology; Aug 2010; vol. 34 (no. 4); p. 244-248

Publication Date: Aug 2010

Publication Type(s): Journal Article Review

PubMedID: 20654774

Abstract:There have been multiple observational studies that have assessed the probability that a woman who undertakes a trial of labor after a previous cesarean delivery will have a vaginal birth. These studies have demonstrated a population-level probability of a successful vaginal birth after cesarean (VBAC) that ranges between 60% and 80%. However, within a population the chances for success of a given individual may vary to a significant degree on the basis of particular demographic characteristics and obstetric history. This review summarizes the different characteristics that have been prominently associated with successful VBAC as well as the different attempts that have been made to develop accurate prediction models for successful VBAC.

Database: Medline

58. Trends and patterns of vaginal birth after cesarean availability in the United States.

Author(s): Gregory, Kimberly D; Fridman, Moshe; Korst, Lisa

Source: Seminars in perinatology; Aug 2010; vol. 34 (no. 4); p. 237-243

Publication Date: Aug 2010

Publication Type(s): Journal Article Review

PubMedID: 20654773

Abstract:A review of the literature and analysis of the National Inpatient Sample Database was performed to describe the trends in vaginal birth after cesarean availability in the United States and the factors associated with changing use. Vaginal birth after cesarean increased after the first National Institutes of Health Consensus Conference on Cesarean Childbirth in 1981. It increased from 3% to a maximum rate of 28.3% in 1996. Despite studies reporting stable success rates of approximately 70% and low complication rates (<1%), concerns about patient safety and physician liability have led to more restrictive policies and a decrease in vaginal birth after cesarean use. The current rate is approximately 8.5%, and decreased rates have been noted for all age and ethnic groups. There is decreased use of vaginal birth after cesarean as the result of concerns about patient safety and physician liability, which has resulted in decreased availability.

Database: Medline

59. Vaginal birth after cesarean: new insights.

Author(s): Guise, Jeanne-Marie; Eden, Karen; Emeis, Cathy; Denman, Mary Anna; Marshall, Nicole; Fu, Rongwei Rochelle; Janik, Rosalind; Nygren, Peggy; Walker, Miranda; McDonagh, Marian

Source: Evidence report/technology assessment; Mar 2010 (no. 191); p. 1-397

Publication Date: Mar 2010

Publication Type(s): Journal Article Review

PubMedID: 20629481

Available at [Evidence report/technology assessment](#) - from PubMed Central

Abstract:OBJECTIVE To synthesize the published literature on vaginal birth after cesarean (VBAC). Specifically, to review the trends and incidence of VBAC, maternal benefits and harms, infant benefits and harms, relevant factors influencing each, and the directions for future research. DATA SOURCES Relevant studies were identified from multiple searches of MEDLINE; DARE; the Cochrane databases (1966 to September 2009); and from recent systematic reviews, reference lists, reviews, editorials, Web sites, and experts. REVIEW METHOD Specific inclusion and exclusion criteria were developed to determine study eligibility. The target population includes healthy women of reproductive age, with a singleton gestation, in the U.S. with a prior cesarean who are eligible for a trial of labor (TOL) or elective repeat cesarean delivery (ERCD). All eligible studies were quality rated and data were extracted from good or fair quality studies, entered into tables, summarized descriptively and, when appropriate, pooled for analysis. The primary focus of the report was term pregnancies. However, due to a small number of studies on term pregnancies, general population studies including all gestational ages (GA) were included in appropriate areas. RESULTS We identified 3,134 citations and reviewed 963 papers for inclusion, of which 203 papers met inclusion and were quality rated. Studies of maternal and infant outcomes reported data based upon actual rather than intended route of delivery. The range for TOL and VBAC rates was large (28-82 percent and 49-87 percent, respectively) with the highest rates being reported in studies outside of the U.S. Predictors of women having a TOL were having a prior vaginal delivery and settings of higher-level care (e.g., tertiary care centers). TOL rates in U.S. studies declined in studies initiated after 1996 from 63 to 47 percent, but the VBAC rate remained unimproved. Hispanic and African American women were less likely than their white counterparts to have a vaginal delivery. Overall rates of maternal harms were low for both TOL and ERCD. While rare for both TOL and ERCD, maternal mortality was significantly increased for ERCD at 13.4 per 100,000 versus 3.8 per 100,000 for TOL. The rates of maternal hysterectomy, hemorrhage, and transfusions did not differ significantly between TOL and ERCD. The rate of uterine rupture for all women with prior cesarean is 3 per 1,000 and the risk was significantly increased with TOL (4.7/1,000 versus 0.3/1,000 ERCD). Six percent of uterine ruptures were associated with perinatal death. No models have been able to accurately predict women who are more likely to deliver by VBAC or to rupture. Women with one prior cesarean delivery and previa had a statistically significant increased risk of adverse events compared with previa patients without a prior cesarean delivery; blood transfusion (15 versus 32.2 percent), hysterectomy (0.7 to 4 percent versus 10 percent), and composite maternal morbidity (15 versus 23-30 percent). Perinatal mortality was significantly increased for TOL at 1.3 per 1,000 versus 0.5 per 1,000 for ERCD. Insufficient data were found on nonmedical factors such as medical liability, economics, hospital staffing, structure and setting, which all appear to be important drivers for VBAC. CONCLUSION Each year 1.5 million childbearing women have cesarean deliveries, and this population continues to increase. This report adds stronger evidence that VBAC is a reasonable and safe choice for the majority of women with prior cesarean. Moreover, there is emerging evidence of serious harms relating to multiple cesareans. Relatively unexamined contextual factors such as medical liability, economics, hospital structure, and staffing may need to be addressed to prioritize VBAC services. There is still no evidence to inform patients, clinicians, or policymakers about the outcomes of intended route of delivery because the evidence is based largely on the actual route of delivery. This inception cohort

is the equivalent of intention to treat for randomized controlled trials and this gap in information is critical. A list of future research considerations as prioritized by national experts is also highlighted in this report.

Database: Medline

60. Vaginal birth after two caesarean sections (VBAC-2)-a systematic review with meta-analysis of success rate and adverse outcomes of VBAC-2 versus VBAC-1 and repeat (third) caesarean sections.

Author(s): Tahseen, S; Griffiths, M

Source: BJOG : an international journal of obstetrics and gynaecology; Jan 2010; vol. 117 (no. 1); p. 5-19

Publication Date: Jan 2010

Publication Type(s): Meta-analysis Comparative Study Journal Article Review Systematic Review

PubMedID: 19781046

Available at [BJOG : an international journal of obstetrics and gynaecology](#) - from Wiley Online Library

Abstract:BACKGROUND Trial of vaginal birth after Caesarean (VBAC) is considered acceptable after one caesarean section (CS), however, women wishing to have trial after two CS are generally not allowed or counselled appropriately of efficacy and complications.OBJECTIVE To perform a systematic review of literature on success rate of vaginal birth after two caesarean sections (VBAC-2) and associated adverse maternal and fetal outcomes; and compare with commonly accepted VBAC-1 and the alternative option of repeat third CS (RCS).SEARCH STRATEGY We searched MEDLINE, EMBASE, CINAHL, Cochrane Library, Current Controlled Trials, HMIC Database, Grey Literature Databases (SIGLE, Biomed Central), using search terms Caesarean section, caesarian, C*rean, C*rian, and MeSH headings 'Vaginal birth after caesarean section', combined with second search string two, twice, second, multiple.SELECTION CRITERIA No randomised studies were available, case series or cohort studies were assessed for quality (STROBE), 20/23 available studies included.DATA COLLECTION AND ANALYSIS Two independent reviewers selected studies and abstracted and tabulated data and pooled estimates were obtained on success rate, uterine rupture and other adverse maternal and fetal outcomes. Meta-analyses were performed using RevMan-5 to compare VBAC-1 versus VBAC-2 and VBAC-2 versus RCS.MAIN RESULTS VBAC-2 success rate was 71.1%, uterine rupture rate 1.36%, hysterectomy rate 0.55%, blood transfusion 2.01%, neonatal unit admission rate 7.78% and perinatal asphyxial injury/death 0.09%. VBAC-2 versus VBAC-1 success rates were 4064/5666 (71.1%) versus 38 814/50 685 (76.5%) ($P < 0.001$); associated uterine rupture rate 1.59% versus 0.72% ($P < 0.001$) and hysterectomy rates were 0.56% versus 0.19% ($P = 0.001$) respectively. Comparing VBAC-2 versus RCS, the hysterectomy rates were 0.40% versus 0.63% ($P = 0.63$), transfusion 1.68% versus 1.67% ($P = 0.86$) and febrile morbidity 6.03% versus 6.39%, respectively ($P = 0.27$). Maternal morbidity of VBAC-2 was comparable to RCS. Neonatal morbidity data were too limited to draw valid conclusions, however, no significant differences were indicated in VBAC-2, VBAC-1 and RCS groups in NNU admission rates and asphyxial injury/neonatal death rates (Mantel-Haenszel).CONCLUSIONS Women requesting for a trial of vaginal delivery after two caesarean sections should be counselled appropriately considering available data of success rate 71.1%, uterine rupture rate 1.36% and of a comparative maternal morbidity with repeat CS option.

Database: Medline

61. Vaginal birth after cesarean (VBAC) outcomes associated with increasing number of prior VBACs.

Author(s): Stamilio, David M; Shanks, Anthony

Source: Women's health (London, England); May 2008; vol. 4 (no. 3); p. 233-236

Publication Date: May 2008

Publication Type(s): Journal Article

PubMedID: 19072472

Available at [Women's health \(London, England\)](#) - from ProQuest (Health Research Premium) - NHS Version

Available at [Women's health \(London, England\)](#) - from Unpaywall

Abstract:Evaluation of: Mercer BM, Gilbert S, Landon MB et al., for the National Institute of Child Health and Human Development Maternal-Fetal medicine Units Network: Labor outcomes with increasing number of prior vaginal births after cesarean delivery. Obstet. Gynecol. 111(2), 285-291 (2008). From a prospective US multicenter cohort of 45,988 patients with a singleton gestation and a prior cesarean, 13,532 women that elected to attempt a vaginal birth after cesarean (VBAC) were selected for this secondary analysis. This study was conducted to estimate the success rates and risks of an attempted VBAC according to the number of previously successful VBAC attempts. Outcomes evaluated included VBAC success, maternal major morbidity (e.g., uterine rupture and surgical complications), neonatal morbidity (e.g., intensive care nursery admission and acidemia) and maternal and neonatal death. The VBAC success rate rose incrementally from 63.3 to 91.6% in patients that had from zero to four or more prior successful VBACs. Uterine rupture and peripartum risks decreased by 50% after the initial successful VBAC and did not increase with increasing prior VBAC number. Neonatal morbidity did not increase with increasing VBAC number.

Database: Medline

62. Vaginal birth after cesarean: clinical risk factors associated with adverse outcome.

Author(s): Gregory, Kimberly D; Korst, Lisa M; Fridman, Moshe; Shihady, Ida; Broussard, Paula; Fink, Arlene; Burnes Bolton, Linda

Source: American journal of obstetrics and gynecology; Apr 2008; vol. 198 (no. 4); p. 452

Publication Date: Apr 2008

Publication Type(s): Journal Article Research Support, U.s. Gov't, P.h.s.

PubMedID: 18395037

Abstract:OBJECTIVEThe objective of the study was to identify vaginal birth after cesarean (VBAC) success rates and maternal and neonatal complication rates for selected antenatal conditions.STUDY DESIGNThis was a population-based cohort study using administrative discharge data for women delivering in California hospitals during 2002.RESULTSAmong 41,450 women, 29.72% (12,320 of 41,450) had maternal, fetal, or placental conditions complicating pregnancy. Attempted VBAC rates and VBAC success rates varied widely by these clinical condition, ranging from 10% to 73%. The VBAC success rate for low-risk women (no conditions) was 73.76% vs 50.31% for high-risk women (at least 1 condition), $P < .0001$. Absolute rates of maternal and neonatal complications were low (less than 1-2%), and the rate of adverse events was higher in the high-risk clinical group as compared with the low-risk clinical group.CONCLUSIONVariation in rates of VBAC success and childbirth morbidities can be partially attributed to clinical factors complicating pregnancy. Women without such conditions show improved VBAC success and fewer maternal and neonatal complications.

Database: Medline

Strategy 723243

#	Database	Search term	Results
1	Medline	(VBAC ADJ2 rate*).ti,ab	198
2	Medline	("vaginal birth after caesarean" ADJ2 rate*).ti,ab	35
3	Medline	("vaginal birth after cesarean" ADJ2 rate*).ti,ab	113
5	Medline	exp "VAGINAL BIRTH AFTER CESAREAN"/sn,td	534
6	Medline	(1 OR 2 OR 3 OR 5)	665
7	Medline	("trial of labor" ADJ2 (rate* OR trend*).ti,ab	53
10	Medline	("trial of labour" ADJ2 (rate* OR trend*).ti,ab	10
12	Medline	(TOLAC ADJ2 (rate* OR trend*).ti,ab	35
13	Medline	(7 OR 10 OR 12)	93
14	Medline	(6 AND 13)	49
15	EMBASE	*"VAGINAL BIRTH AFTER CESAREAN"/	238
16	EMBASE	exp "EPIDEMIOLOGICAL DATA"/ OR exp EPIDEMIOLOGY/	3883784
17	EMBASE	exp "TREND STUDY"/	29324
18	EMBASE	(rate ADJ2 success*).ti,ab	78378
19	EMBASE	(16 OR 17 OR 18)	3959582
20	EMBASE	((("vaginal birth after cesarean" OR VBAC OR "vaginal birth	33

		after caesarean") ADJ2 (incidence OR trend*).ti,ab	
21	EMBASE	(15 AND 19)	109
22	EMBASE	exp "TRIAL OF LABOR"/	1142
23	EMBASE	(19 AND 22)	517
24	EMBASE	((("trial of labor" OR "trial of labour" OR TOLAC) ADJ2 (incidence OR trend*).ti,ab	7
25	EMBASE	(15 AND 19)	109
26	EMBASE	exp INCIDENCE/	447348
27	EMBASE	(15 AND 26)	12
28	EMBASE	(20 OR 21 OR 24 OR 25 OR 27)	141
29	EMBASE	(22 AND 26)	44
30	EMBASE	(28 OR 29)	180
31	CINAHL	((("vaginal birth after caesarean" OR VBAC OR "vaginal birth after caesarean") ADJ2 (incidence OR trend*).ti,ab	17
32	CINAHL	exp "VAGINAL BIRTH AFTER CESAREAN"/td,sn	185
33	CINAHL	exp "VAGINAL BIRTH AFTER CESAREAN"/	1334
34	CINAHL	(rate ADJ2 success).ti,ab	12262
35	CINAHL	33 and 34	57
36	CINAHL	(31 OR 32 OR 35)	237