



Use of external cephalic version for breech presentation at term: A national survey of Norwegian birth units

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ABSTRACT

Introduction: International guidelines recommend that external cephalic version (ECV) be offered to all women with single fetuses in breech presentation at term. In Norway, ECV is not offered routinely; the national clinical guidelines advice that birth units capable of offering ECV for breech pregnancies make their own practice decisions. This study was performed to determine the extent to which Norwegian birth units offer ECV to pregnant women with fetuses in breech presentations at term, and to identify factors that might influence the use of ECV. **Material and methods:** A survey of all 39 obstetric birth units providing ECV in Norway was conducted using a self-reporting questionnaire about ECV availability, attitudes, clinical procedures, perceived competence, and outcome expectations.

Results: Chief obstetricians from all birth units responded. Twenty-six (67%) respondents reported that their units offered ECV for breech presentation at term to a large degree. Thirty-one (80%) respondents reported a large degree of competence in performing ECV. Thirty-three (85%) units followed local ECV procedures. Nineteen (49%) units provided standardized information about the procedure to pregnant women. The respondents had different views about who should be offered ECV, and varying knowledge about ECV outcomes.

Conclusions: The majority of Norwegian birth units offer ECV to pregnant women with fetuses in breech position to a large extent. However, the survey results reveal challenges related to ECV information provision to pregnant women, determination of women's eligibility for ECV attempts, and familiarity and agreement with the knowledge base regarding ECV.

Introduction

Breech presentation is defined as the longitudinal positioning of a fetus with the buttocks or feet closest to the cervix. Its incidence in singleton pregnancies decreases with advancing gestational age, from 25% before 28 weeks of gestation to 3–4% at term. Multiple factors, including placenta previa, maternal hypothyroidism, multiple gestation, uterine anomalies, and fetal anomalies (e.g., anencephaly, neurological impairment, and prematurity), may cause a fetus to present in breech [1,2]. However, no etiological explanation can be provided in approximately 85% of term breech presentations [3]. Even in the absence of an underlying fetal or maternal abnormality, breech presentation places the mother and fetus at increased risk of complicated delivery [4].

Following the publication in 2000 of initial findings from the Term Breech Trial, which suggested that elective caesarean section in cases of

breech presentation reduced neonatal morbidity and mortality [5], major policy shifts toward caesarean section performance in all or some cases of breech presentation occurred in many countries. In contrast, the practice of vaginal delivery in these cases has largely continued in Norwegian maternity clinics, based on research conducted in Norway indicating that this delivery mode remains safe and complies with strict national guidelines [6–8]. Since the publication of the Term Breech Trial results, the caesarean delivery rate for breech presentations in Norway has increased from 56% in 2000 to 63% in 2020 [9]. Although elective caesarean section is safe for babies, it increases maternal risks (e.g., of repeat caesarean section, scar rupture, placental invasion of the uterus, and hysterectomy) during delivery and postoperative recovery, and in terms of complications in future pregnancies [10,11].

External cephalic version (ECV) is a procedure in which the fetus is manipulated from breech presentation into a cephalic position through

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the application of targeted manual pressure on the maternal abdominal wall. It is performed as an elective procedure in non-laboring women at or near term to improve the chance of vaginal cephalic birth. It is relatively straightforward and cost efficient, with a low risk of complications [12,13]. ECV has been shown to decrease the incidence of breech presentation at term, reducing the caesarean section rate and thereby improving perinatal and maternal outcomes [14,15]. International guidelines recommend that ECV be offered routinely to all eligible women, with emphasis on the need to present information and facts to all such women with fetuses in breech presentation at term to allow the women and their partners to make informed choices about attempting ECV [16,17]. The Norwegian clinical guidelines do not clearly recommend the offering of ECV to all eligible women; they state that ECV “could” be performed in cases of ultrasonically verified breech positions at gestational age > 36 completed weeks. Clinical practice decisions are left to the birth unit or hospital responsible for a given patient [18]. Given the high caesarean delivery rate for breech presentation in Norway, improved implementation of ECV in these cases would constitute a significant positive change in Norwegian perinatal care.

The purpose of this study was to describe the extent to which level-1 and level-2 Norwegian birth units offer ECV to pregnant women with fetuses in breech presentation at term, and no ECV contraindication. Furthermore, we sought to identify factors that might influence the use of ECV for breech presentation at term.

Methods

Information for this study was obtained by electronic questionnaire (Nettskjema; University of Oslo, Norway), based on previous studies of ECV implementation in the Netherlands [19–21].

The questionnaire had five parts: 1) background information, 2) availability of ECV, 3) clinical procedures, 4) attitudes toward the use of ECV, and 5) ECV outcome expectations (appendix 1). It consisted of 14 questions with dichotomous, multiple-choice, and scaled-response-formats. For scaled-response items about the extent of ECV provision and ECV attitudes and knowledge, we used a 6-point Likert scale ranging from 1 (“to a very small extent/seldom” and “strongly disagree,” respectively) to 6 (“a very large extent/always” and “strongly agree,” respectively). Responses to ECV attitudes and knowledge items were then dichotomized as indicating agreement (“agree,” “strongly agree,” and “very strongly agree”) and disagreement (“disagree,” “strongly disagree,” and “very strongly disagree”). The questionnaire was tested with a group of three obstetricians and adjusted for accuracy. To ensure data integrity, respondents were not allowed to complete the online survey without answering all of the questions.

In Norway, obstetric care is offered at three levels. At level 1, highly specialized birth units provide advanced obstetric, pediatric, and anesthetic services, and operate neonatal intensive care units. Level-2 care is provided in birth units of smaller hospitals, with obstetric and anesthetic services, and level-3 care is provided exclusively to low-risk women in complementary or midwifery-led units. At the time of the study, 17 level-1, 22 level-2 units, and 4 complementary and 6 independent midwifery-led units were operational in Norway. National standards require that ECV attempts be made only in level-1 and level-2 birth units, which have the capacity to proceed to caesarean section in case of emergency [22]. An e-mail message with information about the survey and a link to the questionnaire was sent to all 39 level-1 and level-2 birth units in Norway in May 2021. Chief obstetricians in the maternity wards responded on behalf of the birth units. Two rounds of survey completion reminders and motivational pitches were delivered by mail and/or telephone.

Statistical analyses

The data were analyzed using SPSS version 27 (IBM Corporation, Armonk, NY, USA). We performed descriptive analyses, including the

calculation of frequencies and cross-tabulation.

Ethical approval

The survey was approved by the Norwegian Center for Research Data (ref. no. 504472, 08.24.2021). As the Norwegian Health Research Act stipulates that surveys of healthcare professionals’ attitudes and practices fall outside the remit of research ethics committees, no further approval was required.

Results

All included birth units completed the survey by September 2021 (100% response rate). Table 1 shows the distribution of respondents by obstetric unit level and Regional Health Authority affiliation.

Availability of ECV

Twenty-six (67%) respondents reported that their birth units offered ECV to a large or very large degree. Thirteen (33%) respondents reported that they offered ECV to a small or very small degree.

Thirty-one (80%) respondents reported having a large degree of competence in performing ECV in cases of breech presentation at term. Eight (20%) respondents reported having low competence levels for this procedure.

Patient information and clinical procedures

Nineteen (49%) respondents reported that their birth units had standardized procedures for informing patients about and performing ECV. Thirty-three (85%) respondents reported that their birth units followed local procedures regarding ECV performance for breech presentation at term.

Attitudes toward ECV

Twenty (51%) respondents agreed that all eligible women with fetuses in breech presentation at term and no contraindication should be offered ECV attempts; 19 (49%) respondents disagreed with this statement. Twenty-three (59%) respondents agreed that ECV should be offered only to pregnant women with no contraindication for whom vaginal breech delivery is not advised, or who are reluctant to experience breech birth; 16 (41%) respondents disagreed with this statement. Five (13%) respondents agreed that ECV should be offered only to pregnant women with no contraindication who consent to vaginal breech delivery; 34 (87%) respondents disagreed with this statement (Table 2).

Table 1

Distribution of survey respondents by obstetric unit level and Regional Health Authority affiliation.

Obstetric unit level	South-Eastern Norway Regional Health Authority	Western Norway Regional health Authority	Central Norway Regional health Authority	Northern Norway Regional health Authority	Total
Level 1 Specialized obstetric units	9	4	2	2	17
Level 2 Obstetric units in local hospitals	8	2	5	7	22
Total	17	6	7	9	39

Table 2

Distribution of questionnaire responses regarding which patients should be offered external cephalic version (ECV) and outcome expectations.

Assertions	Degree of agreement n (%)					
	Disagree very strongly	Disagree strongly	Disagree	Agree	Agree strongly	Agree very strongly
Women that should be offered ECV						
All women with a child in breech position should be offered ECV (where this is not contraindicated).	2 (5,1)	7 (17,9)	10 (25,6)	8 (20,5)	4 (10,3)	8 (20,5)
Only women who are not recommended vaginal breech birth or do not want vaginal breech birth should be offered ECV (where this is not contraindicated)	5 (12,8)	3 (7,7)	8 (20,5)	8 (20,5)	7 (17,9)	8 (20,5)
Only women who consent to vaginal breech birth should be offered ECV (where this is not contraindicated)	23 (59,0)	8 (20,5)	3 (7,7)	1 (2,6)	1 (2,6)	3 (7,7)
<i>Outcome expectations for ECV</i>						
ECV at term will increase the proportion of head presentations at birth	0 (0,0)	2 (5,1)	11 (28,2)	18 (46,2)	5 (12,8)	3 (7,7)
ECV at term will reduce the proportion of Cesarean sections (due to breech presentation)	0 (0,0)	2 (5,1)	13 (33,3)	14 (35,9)	6 (15,4)	4 (10,3)

Outcome expectations

Twenty-six (67%) respondents agreed that ECV performance at term would increase the number of cephalic presentations at birth; 13 (33%) respondents disagreed with this statement. Twenty-four (62%) respondents agreed that the procedure would reduce the number of cesarean sections performed due to breech presentation; 15 (38%) respondents disagreed with this statement (Table 2).

Discussion

This study showed that the majority of level-1 and level-2 Norwegian birth units offer ECV to pregnant women with fetuses in breech position to a large extent. However, it also revealed variation among units in this extent and in whether standardized or local ECV procedures are followed. The chief obstetricians who responded to the survey also had different opinions about which women should be eligible for ECV, and the outcomes of ECV.

Access to ECV and guidelines on ECV eligibility

Patient and Consumer Rights Act § 1-1 states that all Norwegian residents are entitled to equal access to healthcare [23]. This population includes pregnant women receiving prenatal and maternity care. One-third of the birth units surveyed in this study offered ECV to a small or very small degree, indicating that access to ECV differs among birth units. As a result, Norwegian women's right to equal access to healthcare may be limited according to their place of residence.

International guidelines recommend that all pregnant women with singleton fetuses in breech presentation at or near term and no contraindication be given information about ECV and be offered this procedure as an alternative to vaginal breech birth or elective caesarean section [16,17]. The clinical guidelines of the Norwegian Gynecological Association provide no clear, consistent recommendation for the provision of ECV to such women [18]. Only about half of respondents in this study agreed that all eligible women with breech presentations and no contraindication should be offered ECV, which may be a consequence of the ambiguity of the recommendations issued by national policy makers.

Access to information about ECV

The receipt of information is a statutory right for all patients and users of Norwegian health services [23]. Obstetricians are thus obliged to give all pregnant women with breech presentations supplementary information regarding breech vaginal birth, caesarean section, and ECV, in a manner that is objective and understandable to each woman. The provision of written and oral information is recommended to strengthen

women's understanding of health service content and user satisfaction. This study revealed that less than half of Norwegian birth units had standardized procedures for the provision of information about ECV to patients.

Without proper information, women in perinatal care have limited access to available healthcare services and reduced ability to participate in their care, make informed choices, and provide informed consent. Health services must not be provided without women's informed consent, and consent to treatment is not valid unless a woman has received supplementary information about her treatment options. Women's participation in their care and receipt of information are important, as participation can strengthen their self-worth, motivation, and self-esteem, and the lack of information is a barrier to ECV attempts in eligible breech pregnancies [19,20].

Outcome expectations and knowledge about ECV

ECV-attempts for breech presentation at birth reduce the number of caesarean sections performed due to breech presentation, and the incidence of non-cephalic presentations at birth [14,15]. Vaginal cephalic births are associated with fewer maternal and neonatal risks than are vaginal breech births and caesareans [24,25]. In this study, about two-thirds of respondents agreed that ECV attempts would increase the number of fetuses in cephalic presentation at time of birth and thereby reduce the number of caesarean sections performed due to breech presentation. Thus, about one-third of respondents were not aware of this association or disagreed with this statement, revealing challenges regarding the provision of up-to-date information and knowledge concerning the treatment of breech pregnancies at term in maternity clinics in Norway.

Study strengths and limitations

This study provides insight into the provision of ECV and factors influencing ECV use in Norway. All chief obstetricians from all birth units in Norway that provide care to pregnant women with fetuses in breech presentation completed this national online survey. The soliciting of information only from chief obstetricians may be a limitation of this study, as the subjective perspectives of these respondents may not fully represent the perspectives of the unit staff. Further studies on the use of ECV in Norway conducted with larger samples of clinicians are warranted.

Conclusions

The majority of birth units caring for pregnant women with fetuses in breech presentation in Norway offer ECV to a large extent. At the same

time, access to this alternative depends to some extent on the birth unit or hospital that a pregnant woman attends. This survey identified challenges related to the provision of information to patients, obstetricians' opinions about which women should be eligible for ECV attempts, and their familiarity and agreement with the knowledge base regarding ECV.

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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Appendix A. Supplementary material

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