



Contents lists available at SciVerse ScienceDirect

Midwifery

journal homepage: www.elsevier.com/midw

Patients' and professionals' barriers and facilitators to external cephalic version for breech presentation at term, a qualitative analysis in the Netherlands

A.N. (Ageeth) Rosman, MSc^a, F. (Floortje) Vlemmix, MD, MSc^{a,*}, M.A.H. (Margot) Fleuren, PhD^b, M.E. (Marlies) Rijnders, PhD^c, A. (Antje) Beuckens, MSc^d, B.C. (Brent) Opmeer, PhD^e, B.W.J. (Ben Willem) Mol, MD, PhD (Prof.)^a, M.C.B. (Myra) van Zwieten, PhD^f, M. (Marjolein) Kok, MD, PhD^a

^a Department of Obstetrics and Gynecology, Academic Medical Center, University of Amsterdam, Amsterdam, the Netherlands

^b TNO Department of Life Style, Leiden, the Netherlands

^c TNO Department of Child Health, Leiden, the Netherlands

^d The Royal Dutch Organisation for Midwives, Utrecht, the Netherlands

^e Clinical Research Unit, Academic Medical Center, University of Amsterdam, Amsterdam, the Netherlands

^f Department of General practice/Medical Ethics, Academic Medical Center, University of Amsterdam, Amsterdam, the Netherlands

ARTICLE INFO

Article history:

Received 2 October 2012

Received in revised form

24 March 2013

Accepted 29 March 2013

Keywords:

Breech presentation

External cephalic version

Implementation

Facilitators and barriers

ABSTRACT

Objective: external cephalic version (ECV) is a relatively simple and safe manoeuvre and a proven effective approach in the reduction of breech presentation at term. There is professional consensus that ECV should be offered to all women with a fetus in breech presentation, but only up to 70% of women eligible for ECV undergo an ECV attempt. The aim of the study was to identify barriers and facilitators for ECV among professionals and women with a breech presentation at term.

Design: qualitative study with semi-structured interviews.

Setting: Dutch hospitals.

Participants: pregnant women with a breech presentation who had decided on ECV, and midwives and gynaecologists treating women with a breech presentation.

Measurements: on the basis of national guidelines and expert opinions, we developed topic lists to guide the interviews and discuss barriers and facilitators in order to decide on ECV (pregnant women) or advice on ECV (midwives and gynaecologists).

Findings: among pregnant women the main barriers were fear, the preference to have a planned caesarean section (CS), incomplete information and having witnessed birth complications within the family or among friends. The main facilitators were the wish for a home birth, the wish for a vaginal delivery and confidence of the safety of ECV. Among professionals the main barriers were a lack of knowledge to fully inform and counsel patients on ECV, and the inability to counsel women who preferred a primary CS. The main facilitator was an unambiguous policy on (counselling for) ECV within the region.

Conclusion: we identified several barriers and facilitators possibly explaining the suboptimal implementation of ECV for breech presentation in the Netherlands.

This knowledge should be taken into account in designing implementation strategies for ECV to improve the uptake of ECV by professionals and patients.

© 2013 Elsevier Ltd. All rights reserved.

Background

External cephalic version (ECV) is a relatively simple and safe manoeuvre, which is proven to be an effective approach in the

reduction of breech presentation at term and consequently reduces the number of caesarean deliveries due to breech presentation (Hofmeyr, 2000). After the publication of the Term Breech Trial, which reported an improvement in severe neonatal outcome after planned caesarean section (CS) compared to planned vaginal breech birth, the percentage of caesarean deliveries in the Netherlands increased from 50% to 80% within a year (Hannah et al., 2000; Rietberg et al., 2005). However, a CS leads to more maternal and fetal morbidity compared to a vaginal birth of a

* Correspondence to: Academic Medical Center, Department of Obstetrics and Gynecology, Meibergdreef 9, room H4-253, Amsterdam, 1105 AZ, the Netherlands.
E-mail address: f.vlemmix@amc.uva.nl (F. Vlemmix).

fetus in cephalic presentation. Thus, ECV is the best answer in the dilemma of short versus long-term consequences of the mode of delivery for breech presentation.

The Royal Dutch Organisation for Midwives (KNOV) and the Dutch Society for Obstetrics and Gynaecology (NVOG) both published guidelines for term breech presentation in 2000 and 2001, which recommend offering ECV to all women without a contra-indication for the procedure.

Despite these guidelines, a significant number of women do not undergo ECV. An inventory survey among all hospitals in the Netherlands in 2007 reported that 5% of the gynaecologic practices did not perform any ECV at all and a prospective cohort study in the Netherlands reported that 26% of eligible women declined an ECV attempt (Rijnders et al., 2010; Feitsma, 2011). This means that a substantial proportion of clients do not receive the appropriate care they should receive according to the guidelines.

One of the main problems with the introduction of guidelines in the health-care system is that professionals do not – automatically – use the guidelines as intended by the developers. Several models and frameworks exist on how to introduce guidelines effectively (Fleuren et al., 2004; Greenhalgh et al., 2004; Grol et al., 2005; Bartholomew, 2006; Fullan, 2007; Guldbrandsson, 2008). A detailed understanding of critical determinants, a so called determinant analysis, is a prerequisite for designing an implementation strategy that is adapted to the several critical determinants, in order to achieve real change (Fleuren et al., 2004).

The aim of this study was to identify professionals' and patients' facilitators and barriers for the implementation of ECV at term.

Methods

Setting

In the Netherlands, ECV is performed in either an out-of-hospital setting by special trained midwives or within the hospital by gynaecologists or clinical midwives. There are hospitals with organised ECV office hours where an experienced group of professionals perform ECV, whilst in other hospitals ECV is performed by the professional who is on call at the moment an ECV is scheduled. Patients are informed and counselled by either the professional who diagnosed the breech position, or the professional who performs ECV, or both. The information provided varies widely and may contain an objective brochure, DVD and detailed counselling or only a few minutes explanation about the possibility of the procedure with a directive or non-directive advice from the health-care provider whether or not to undergo an ECV.

Focus group meetings with professionals

To identify potential facilitators and barriers for professionals to offer and perform ECV, we organised four focus group meetings each with a different subgroup of professionals: (1) midwives performing ECV in an out of hospital setting, (2) midwives referring their patients for ECV to a hospital, (3) obstetricians performing ECV, and (4) ambivalent obstetricians who either do not offer ECV or discourage it. The meetings were led by three members of the project group. We opted for a semi-structured interview process to prompt discussion (Gearin and Kahle, 2006). A random sample of hospitals and midwife practices was contacted by telephone and invited to participate, until there were at least five attendants per focus group, who were able to participate at the set date.

In this study, we used a framework developed by Fleuren et al. (2004) (Fig. 1). This framework identifies four main stages in innovation processes: dissemination, meaning that every professional is actually supplied with the guideline; adoption, or the intention of the professional to use or not to use the guideline; implementation, the use of the guideline in daily practice and continuation, where working with the guideline becomes routine practice. The four main stages can be thought of as failure points where the desired change may not occur. The transition from one stage to the next can be affected positively or negatively by various factors or 'determinants': (1) characteristics of the guidelines (e.g. relative advantage, complexity), (2) characteristics of the health professional (e.g. skills, knowledge, self-efficacy), (3) characteristics of the organisation (e.g. available expertise, staff turnover, financial resources), and (4) characteristics of the socio-political environment (e.g. collaboration with other professionals, client co-operation, reimbursement) (left part of Fig. 1) (Fleuren et al., 2010).

Prompts were structured according to these determinants to reveal facilitators and barriers (details of the prompts are available in the Supplementary Appendix). Prior to the focus groups confidentiality was assured and the process of the focus group was explained. The focus groups were audio taped and fully transcribed. All attendants were requested to take notice of the Dutch guidelines for their profession before the focus group meeting, as far as they were not familiar with these.

Patient interviews

To identify potential facilitators and barriers for patients to undergo ECV, we organised interviews with women who had made a decision regarding undergoing an ECV procedure. Clients were recruited in seven midwife practices and hospitals throughout the Netherlands. We purposely sampled patients with different ethnic and religious backgrounds and education levels. The interviews were carried out by AR and FV and conducted by telephone or face-to-face, according to the preference of the patient. Participation of the partner in the interviews was allowed, but not specifically requested. Again we chose for a semi-structured interview setting to allow free input by the participants. A topic list was based on the expert opinion of all of the authors and the list was extended after the first five interviews with topics indicated by the participants. We analysed the results for the first time after 24 interviews and saturation seemed to be reached after 18 interviews (no new facilitators or barriers were mentioned by the participants). Therefore, no more patients were interviewed and the results are based on the findings in the 24 conducted interviews.

Analysis

The detected determinants in the interviews were structured and analysed in MAXQDA (VERBI GmbH, Marburg, Germany), a software programme to assist qualitative data analysis. The aim of the analysis was to conceptualise the content of the patient interviews and focus group meetings. We started with the first focus group meeting and patient interview respectively, to generate a list of quotations containing all mentioned facilitators and barriers. The list was extended with all new mentioned barriers and facilitators in the subsequent interview. The quotations were categorised in four predefined domains: characteristics of the innovation (ECV), professional, organisation, and socio-political environment (implementation model by Fleuren et al. (2004), Fig. 1) and a fifth domain containing those quotations that did not fit into the 4 categories. This procedure was carried out by two authors and any inconsistencies were resolved by discussion and consensus and if necessary by consulting a third person.

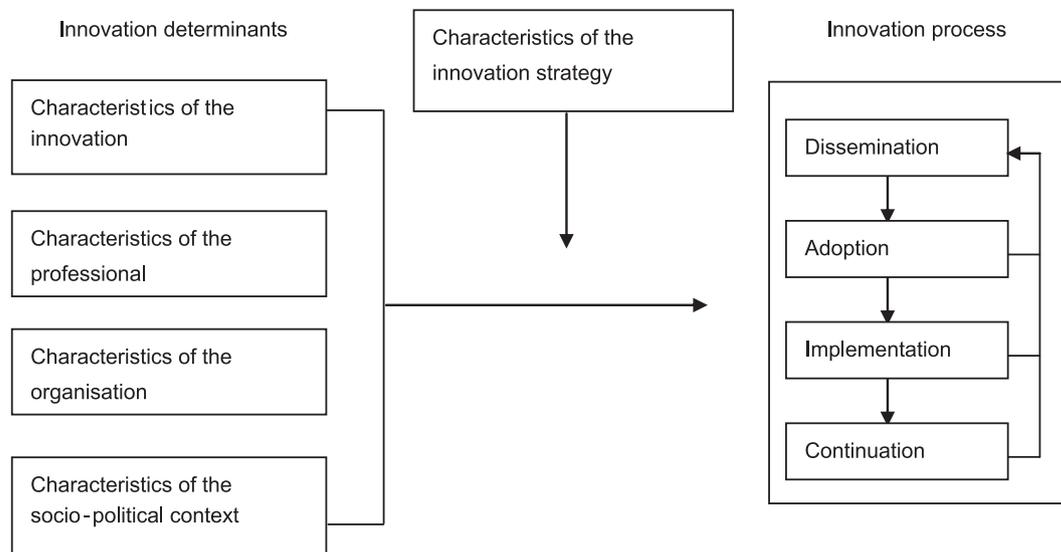


Fig. 1. Framework for the introduction and evaluation of innovations⁷.

While coding the data it appeared that respondents often did not make a clear distinction between determinants related to the organisation or to the socio-political context. Therefore these two categories were combined into a broad category 'organisational and political context'. This is in line with later publications of Fleuren et al., in which they specify several determinants which are related to both the level of the organisation and the socio-political context (Fleuren et al., 2010). Determinants related to the professional's anticipated or perceived patient co-operation or patient satisfaction, were mentioned apart which is a common category in other qualitative studies as well (Gearin and Kahle, 2006; Fleuren et al., 2010). This resulted in the four domains: characteristics of the intervention itself (ECV), of the professional, of the patient, of the organisational and the socio-political context.

Findings

The characteristics of the 20 professionals, who attended the focus group meetings, are summarised in Table 1. Table 2 shows the patient characteristics of the 24 women, and summarises the degree in variety of age, parity, country of origin, and educational level.

Barriers and facilitators mentioned by at least two participants are listed in Table 3 (professionals) and Table 4 (patients). Those barriers and facilitators mentioned by more than 50% of the participants are marked in the tables with an asterisk (*).

Barriers and facilitators related to the implementation of ECV according to professionals

The professionals identified 43 potential barriers and facilitators for ECV. The domain 'characteristics of the professional' contained the most barriers and the domain 'characteristics of the context' contained the most facilitators.

Domain 1: characteristics of the intervention

The 'procedure of ECV' was described as the whole process from informing and counselling a patient until the actual turning of the baby. The explanation of 'fetal monitoring during ECV' was used to persuade the patient of the safety and therefore mentioned as facilitator.

Table 1
Professional characteristics.

Characteristics	Midwives		Gynaecologists	
	N=12	%	N=8	%
Male	1	8	5	63
Female	11	92	3	37
Regularly performing ECV	5	42	5	63
Positive attitude towards ECV	12	100	3	37

Table 2
Patient characteristics.

Characteristics	Number of patients	
	N=24	%
Parity		
Nulliparous	13	54
Multiparous	11	46
Country of origin		
The Netherlands	18	75
Other*	6	25
Age (median, range)	32	26–36
Educational level		
Low	3	12
Medium	9	38
High	12	50
ECV attempt	16	67
Successful	11	69
Unsuccessful	5	31

* England, Turkey, Spain, Russia, Ghana.

Domain 2: characteristics of the professional

The barriers identified in this domain can be divided into five categories. First of all; self-efficacy, this is the self-assessed skill to inform or counsel patients. Professionals mentioned the inability to convince patients of the safety and effectiveness of ECV who already decided to opt for a planned CS without prior counselling. Second, the lack of knowledge on ECV. This includes knowledge of the procedure (among those professionals who do not perform ECV themselves), the success rates of ECV in general and within their region, the complication risks and the content of the guidelines including the cited

Table 3
Barriers (b) and facilitators (f) of ECV according to professionals.

Domain 1: Characteristics of ECV procedure	Domain 2: Characteristics of the professional
<p>Patient information</p> <ul style="list-style-type: none"> – Lack of adequate patient information materials (b) – Written information about ECV (f) – Uniform patient leaflet of both organizations (hospitals and midwifery practices) (f) <p>Procedure</p> <ul style="list-style-type: none"> – Shortage of evidence of safety of ECV (b) – Monitoring fetal condition (f)* 	<p>Self-efficacy</p> <ul style="list-style-type: none"> – Inability to get the message across, meaning difficulties explaining the advantages of ECV if couples opt for primary CS (b)* – Inability to explain safety of ECV to patients (b)* – Inability to explain risks of planned CS (b) <p>Lack of knowledge</p> <ul style="list-style-type: none"> – about ECV procedure (b) – about success rate (b) – about guidelines and literature of ECV (b) – about complication risk during counselling (overestimation) (b) – Shortage of evidence of safety of ECV (b) <p>Skills/expertise</p> <ul style="list-style-type: none"> – Lack of routine in ECV by professional who is supposed to do the ECV (b)* <p>Attitude</p> <ul style="list-style-type: none"> – Negative attitude towards ECV (b) – Not convinced of importance of ECV (b) – Directive counselling of ECV (f) <p>Outcome expectations/perceived risk</p> <ul style="list-style-type: none"> – In daily practice more contra-indications compared to guideline (b) – Having witnessed of severe complication of ECV (b)
Domain 3: Characteristics of the patient	Domain 4: Characteristics of the context
<p>Need for ECV</p> <ul style="list-style-type: none"> – Unawareness of benefits ECV (b) – Cultural background and education (b/f) – Client's wish to avoid vaginal delivery in general (b) <p>Fear of ECV procedure</p> <ul style="list-style-type: none"> – ECV is in conflict with the nature of pregnant woman to protect her belly (b) – Fear of losing control (b) – Fear of harm to the fetus (b) <p>Anticipated patient co-operation</p> <ul style="list-style-type: none"> – ECV is in conflict with the nature of pregnant woman to protect her belly (b) – Fear of losing control (b) – Fear of harm to the fetus (b) <p>Prevention of CS</p> <ul style="list-style-type: none"> – Patient focus on short term and not on long term outcome (b)* <p>Outcome expectations/perceived risk</p> <ul style="list-style-type: none"> – Trivializing risks of ECV (they think: 'it will not happen to me'. (f)*) – Underestimating risk CS (b) – Decreasing number of children per woman (b)** – Lack of confidence in success of ECV(b)† 	<p>Logistical/clear procedures</p> <ul style="list-style-type: none"> – Regional organisation of care (b) – Transparency of patient care within the region (f) – Explaining ECV takes time (b)* – Subjective information sources (internet, family)(b)* <p>Available time</p> <ul style="list-style-type: none"> – Shortage of time in counselling (b)* <p>Reimbursement</p> <ul style="list-style-type: none"> – Discrepancy between investment of time and financial support (b) <p>Collaboration professionals</p> <ul style="list-style-type: none"> – Local consensus about referral policy (f) – Local consensus about location ECV in and out clinic setting (f) – Transparency of adherence to guideline within the region (f) – Offering ECV in specialized centre with specialized trained midwives and/or gynaecologists (f)*

* Means the statement is made by more than 50% of the professionals.

† Nowadays, the number of children per woman is on average 2, women are less prepared to take risks during their pregnancies and choose more often for safety.

‡ If a patient has a confidential relationship with her midwife or gynaecologist, she has more trust in the skills of the professional and is more willing to choose for ECV.

literature. Third, an (assumed) lack of skills among the professional performing ECV within that region (due to the idea that the success rates are low). Fourth, a minority of professionals was not convinced of (the safety of) ECV at all, and counselled against it. And last, having witnessed a major complication of ECV was a barrier for those professionals to advise ECV (quotation: 'I once witnessed severe foetal distress on the foetal heart rate monitor after an ECV attempt, a run for

a rapid CS. The foetus passed away. That is why I will never perform an ECV attempt myself.')

Disagreement on the list of contra-indications in the guidelines was an issue among professionals as well. This means that they tend to use more contra-indications than mentioned in the national guidelines (quotation: 'I once advised against ECV for a patient with a tight belly, foetal growth on the 10th percentile, not

Table 4

Barriers (b) and facilitators (f) of ECV according to pregnant women with a breech presentation at 35 weeks gestation onwards.

Domain 1: Characteristics of ECV procedure	Domain 2: Characteristics of the professional
<p>Patient information</p> <ul style="list-style-type: none"> – Lack of information in foreign languages (b) – Involving partner into procedure of ECV (f) <p>Procedure</p> <ul style="list-style-type: none"> – Painful treatment (b)* – Complication risk (risk of CS < 1%) (f) – Success rate 40% (f) – Verification of fetal condition (CTG and ultrasound) (f) 	<p>Self-efficacy</p> <ul style="list-style-type: none"> – Inability to counsel patient for ECV (b) – Involving partner into procedure of ECV (f) <p>Lack of knowledge</p> <ul style="list-style-type: none"> – Professionals emphasise complication risk factors (b) – Incomplete information to patient (b) <p>Skills/expertise</p> <ul style="list-style-type: none"> – Inability of providing information or counselling in foreign language (b) <p>Attitude</p> <ul style="list-style-type: none"> – Professional's attitude for counselling for ECV, for the procedure of ECV (f) <p>Outcome expectations/perceived risk</p> <ul style="list-style-type: none"> – Underestimation of ECV success rates (b)*
Domain 3: Characteristics of the patient	Domain 4: Characteristics of the context
<p>Need for ECV</p> <ul style="list-style-type: none"> – Misunderstanding reason for ECV (b) – Language barrier (b) <p>Fear of ECV procedure</p> <ul style="list-style-type: none"> – Assurance of being in control of termination of procedure (f) – Confidence in skills of the professional (f) – Irrational fear of physical harm to the fetus (b)* <p>Anticipated patient co-operation</p> <ul style="list-style-type: none"> – Wish to stay in total control of pregnancy (b) <p>Prevention of CS</p> <ul style="list-style-type: none"> – Wish to vaginal (home) birth (f) – Fear for vaginal breech delivery or CS (f)* – Underestimating risks of CS (f) <p>Outcome expectations/perceived risk</p> <ul style="list-style-type: none"> – Confidence of reasonable chance of success procedure (f) – Believe in natural reason or God of breech presentation (b) 	<p>Timing of informing/counseling</p> <ul style="list-style-type: none"> – Early information in third trimester (f)* – Short period between diagnosis and procedure (b)* <p>Social background</p> <ul style="list-style-type: none"> – Supporting social network (partner, family, friends) (f)* – Complications of pregnancy within social network (even if not related to breech presentation) (b)

* Means the statement is made by more than 50% of the patients.

too much amniotic fluid and anterior placenta localisation. A doctor should always consider if ECV is safe enough, taking more factors into account than just the list of absolute contraindications.').

Some professionals tend to counsel very directive as they were convinced that every client should undergo ECV. Directive counselling was seen as a facilitator.

Domain 3: characteristics of the patient

The professionals mentioned a variety of characteristics of patients which were classified as barriers in order to undergo ECV. First of all, according to professionals not all patients are convinced of the need for ECV and overestimate the chance of a spontaneous version. A second barrier mentioned by professionals was the fear of the patient to the ECV procedure itself. ECV is in conflict with the nature of pregnant women to protect their belly. Not only fear to an unknown procedure, but fear in general was seen as a barrier. Third, professionals assumed that uptake of ECV would decrease if also the complications of ECV, which are rare, were mentioned during counselling. Fourth, the patients' attitude towards a CS might influence a patient's choice to opt for ECV.

According to the professionals most women focus on short term outcomes and therefore underestimate the risks of a CS. Furthermore, due to the decreased number of children per woman over the last decades, the argument of risks of CS for consecutive pregnancies is considered less relevant as women state to have their last child.

Explanation of risks of ECV was also mentioned as a barrier as some professionals were afraid to frighten the patient (quotation: 'Especially if it is her last pregnancy, it is even more needless to overcome a CS in her opinion.').

A facilitator mentioned by the professionals was a good professional–patient relationship. A last factor mentioned was cultural background (other religion, birth rituals, believes etc.) of the patient which could both positively or negatively influence the willingness to undergo ECV.

Domain 4: characteristics of the context

Health-care providers thought there was a lack of adequate patient information materials and mentioned this as a barrier. The time needed for adequate counselling was mentioned as a barrier by all professionals. Lack of reimbursement for the counselling for

ECV was mentioned as a barrier for the midwives. In general, a local transparent policy about informing, counselling, referral and performing ECV is considered a facilitator for all professionals (quotation: 'I am not sure if the professional who performs ECV has the same attitude towards ECV and informs the patient in a similar way. I hardly get any feedback of the results.'). And so were standardized information leaflets and the centralisation of ECV attempts in specialized office hours and narrowing the number of professionals involved in ECV in order to increase expertise.

Barriers and facilitators related to the implementation of ECV according to patients

Patients identified 27 barriers and facilitators for ECV. Most factors were scored under the domain 'characteristics of the patients'. Compared to the professionals, the patients came up with more facilitators compared to the professionals.

Domain 1: characteristics of the intervention

Patients listed pain as a barrier to opt for an ECV attempt. Facilitators were the verification of the fetal condition, the low complication rate (chance of emergency CS below 1%) and mean success rate of 40% (quotation: 'If the doctor tells me the foetal condition is all right and I have a chance of success of 40% or more to give home birth (as I want), why should I not choose an ECV?'). Lack of information leaflets in different languages made it hard for non-Dutch women to understand the need for ECV (quotation 'Unfortunately my caregiver did not have an information leaflet in English. I wished she had, because then I should understand better what an ECV was and why it was done. Now I asked a friend of mine to tell me more about ECV.').

Domain 2: characteristics of the professional

Women commented upon the information provided by the health-care professionals. The barriers they mentioned were: the incompleteness of information, conflicting information from different professionals, and a too directive attitude of the professionals, and the misunderstanding of the information they received from the professional, possibly caused by a linguistic barrier between the professional and the patient. Also, some mentioned that the professional emphasised the potential complications of ECV in their opinion (quotation: 'My professional told me I had to go to the hospital, but I did not understand why. She told me that if the baby was not turned, I could not deliver. I did not understand I had the choice to undergo an ECV attempt or not.').

A significant proportion of women needed more time than provided to make a decision; the professional gave too much information at once to comprehend. Patients appreciated involvement of their partner in the decision making process (quotation 'I was very pleased that my caregiver asked my partner if he understood the process of ECV, the importance of ECV and his opinion to undergo an ECV attempt.').

Domain 3: characteristics of the patient

Fear was an important barrier, consisting of fear of harm to the fetus during ECV (quotations 'I was very afraid of a premature birth as I had read on the internet that labour could start after ECV. I asked the midwife if ECV could be done later on in pregnancy. The midwife explained that the baby had not descended yet and that the chance of a preterm birth was very small, but still I was very worried.' and 'There are complications connected and it is painful, even though they tell you there are not. I've seen enough. And I did not want to disturb the child, it is how it is. And I had no objection to a caesarean. I was well aware of the advantages and

disadvantages of a vaginal birth and CS and after I had considered all options, I have chosen to opt for an elective CS.').

Some women stated that their fear for a CS, or at least the wish to avoid an operation and following longer recovery compared to vaginal delivery), was the incentive to opt for ECV. On the other hand women regularly told they preferred a planned CS in case of breech position to prevent them from pain of a vaginal delivery. ECV was seen as a barrier for not having a planned CS and a more easy way of delivery, according to the patient.

Women, who felt more confident about the chance of success of ECV, were more willing to undergo ECV. Other facilitators were the reassurance that they were in control of stopping the procedure if it would be too painful, and their confidence in the skills of the professional.

Whether a patient is willing to consider ECV is influenced both positively and negatively by cultural background and religion. A barrier was the argument 'there must be a higher reason why this baby is in breech and therefore, I must accept this.' Or 'it is God's will that the baby is in breech, I have to respect that'.

Domain 4: characteristics of the context

Since breech presentation is often diagnosed at regular visits earlier in pregnancy, women would also like to be informed earlier (despite the high chance of spontaneous version). The short time between information to decision was mentioned as a barrier by approximately half of the women (quotation 'I would appreciate if I was told about ECV in an earlier stage. I knew my baby was lying with his head up from 32 weeks onwards. I was informed about ECV around 36 weeks and I had to decide if I would undergo an ECV at the same day my professional told me my baby was in breech position. She made an appointment for the ECV attempt as she did not do it by herself and I could come immediately. Afterwards I was so confused about everything I underwent that day, that I should not choose an ECV a second time. Only if I get more time between the information and the ECV attempt, I will choose ECV another time.').

Patients often explained that opinions and experiences of friends and family played an important role in their decision making. If a friend/family member had witnessed birth complications or perinatal death, even if there was no relation to breech or ECV, it might be the argument for a patient to not undergo ECV.

On the other hand patients also told that the support of family and friends and the shared decision making were important facilitators for ECV (quotation 'Well actually I was not totally convinced about ECV, but I have a niece who is pregnant too and when I told her I had also a breech position she told immediately to do an ECV. On the contrary many of my aunts told me not to do an ECV attempt as it was outdated. In the end I decided to listen to my body and to my niece and I opted for an ECV. I was lucky; it succeeded and now I can have a normal birth.').

All patients who participated in the interviews were asked if travel distance to a specialist in ECV was a facilitator or barrier. Almost all patients stated that they were willing to travel up to 1.5 hours if the specialist had high success rates.

We also asked if patients preferred a familiar health-care provider. Again, this was secondary to the expertise of the professional.

Discussion

We identified a wide variety of barriers and facilitators influencing the implementation of external cephalic version in breech position. Among professionals the main barriers were a lack of knowledge to fully inform and counsel patients on ECV, and the inability to counsel women who preferred a primary CS. The main

facilitators were the monitoring of the fetal condition, and an unambiguous policy in which ECV is offered in specialized centres with specialized trained midwives and/or gynaecologists. The main reasons for not wanting ECV for more than 50% of the interviewed women were fear of physical harm to the fetus and a painful treatment. The main facilitators were fear for a vaginal breech delivery or CS, a supporting social network (partner, family and friends) and early information in the third trimester.

Both patients and professionals identified the lack of (use of) information leaflets and incomplete verbal information as a barrier. Objective, uniform information might also be an important tool to take away fear of pain, fetal injuries, and the fear to lose control, but health-care providers need to be aware of these barriers in order to help the patient. The lack of adequate patient information is a common barrier, reported in different other studies (Van den Boogaard et al., 2011). The professional barriers concerning the difficulties of informing and counselling (especially with patients who already made up their minds) indicates a lack of self-efficacy, which is a common barrier in guideline adherence (Cabana et al., 1999; Haagen et al., 2005; Lugtenberg et al., 2009). Previous research among professionals in communication and counselling showed a better information transfer to patients in professionals who were trained in communication and counselling (Smith et al., 1995). An Australian study showed that patients using a decision aid could better express their choice for or against an ECV (Nassar et al., 2007).

Patients and professionals have a different view on barriers. Professionals' assumptions about patient's barriers are certainly not applicable to all patients. For instance, explaining complications of ECV was mentioned as a barrier, because professionals assumed that this might deter patients. But the majority of patients considered ECV to be safe even if the complications were emphasised during counselling. Thus this presumed barrier should not withhold professionals to properly and thus fully inform patients on the risks and benefits of ECV. Also, it is known that people in general tend to underestimate potential risks of their behaviour or the situation they are in ('there are risks, but it will not happen to me') (Reynolds, 2011).

A difficult issue is the opinion of professionals that patients underestimate the risks of a CS. The patients we have interviewed and who opted for a planned CS were fully aware of the complications. Also, a preference study on mode of delivery among couples with a baby in breech presentation showed that women tend to choose the safest option for their baby, while their partners tend to choose the safest option for the mother (Kok et al., 2008). In the end, it is not very likely that all women will opt for ECV if they are fully informed; our interviews showed that women might choose on less rational but very emotional grounds if for instance they have witnessed major pregnancy or birth complications. The group of women who opt for a planned CS instead of ECV because of fear for a vaginal delivery in general, is a group for which very good counselling skills are needed to diminish this fear. But this is also the group to focus on in order to increase the number of ECV attempts.

We realise there are some limitations in this study that should be considered. The numbers of health-care providers and patients in the groups were small and representativeness of the identified facilitators and barriers need to be quantified in a questionnaire among a significant sample of the professionals and patients. Especially as it was difficult to recruit patients rejecting ECV as this is the minority of patients counselled for ECV.

The results of this study show that an implementation strategy needs to focus on training of professionals in objective counselling and information transfer to pregnant women about ECV and on the other hand focus on offering adequate patient information materials to pregnant women with a fetus in breech position. The patient information need to be timed earlier than provided nowadays, for instance from 32 weeks and beyond. With the knowledge

obtained in this study, the next step is to design a tailored implementation strategy.

Conclusion

In summary, this study gives insight into the barriers and facilitators of the implementation of external cephalic version in the Netherlands. Knowledge of these factors may help to improve implementation of ECV in clinical practice and enlarge the number of pregnant women who choose ECV. The results show that an unambiguous policy on counselling plays an important role in improving the implementation of ECV.

Appendix A. Supporting information

Supplementary data associated with this article can be found in the online version at <http://dx.doi.org/10.1016/j.midw.2013.03.013>.

References

- Bartholomew, L.K.P.G.K.G.G.N., 2006. Planning Health Promotion Programs: An Intervention Mapping Approach. Jossey-Bass, San Francisco.
- Cabana, M.D., Rand, C.S., Powe, N.R., et al., 1999. Why don't physicians follow clinical practice guidelines? A framework for improvement. *JAMA* 282, 1458–1465.
- Feitsma, J.M.D.O., 2011. External cephalic version at term; an inventory among Dutch hospitals. Online source.
- Flouren, M., Wiefferink, K., Paulussen, T., 2004. Determinants of innovation within health care organizations: literature review and Delphi study. *International Journal for Quality in Health Care* 16, 107–123.
- Flouren, M., Wiefferink, K., Paulussen, T., 2010. Checklist determinants of innovations in healthcare organisations. 88, 55–58. 1-1-2010. *TSG Tijdschrift Gezondheidswet*.
- Fullan, M., 2007. *The New Meaning of Educational Change*. Teachers College Press, New York.
- Gearin E., Kahle C., 2006. Focus Group Methodology Review and Implementation. 1-1-2006. Online source.
- Greenhalgh, T., Robert, G., Macfarlane, F., Bate, P., Kyriakidou, O., 2004. Diffusion of innovations in service organizations: systematic review and recommendations. *Milbank Quarterly* 82, 581–629.
- Grol, R., Wensing, M., Eccles, M., 2005. *Improving Patient Care: The Implementation of Change in Clinical Practice*. Elsevier, Edinburgh.
- Guldbrandsson, K., 2008. From news to everyday use: the difficult art of implementation. *Ostersund: Swedish National Institute of Public Health*.
- Hannah, M.E., Hannah, W.J., Hewson, S.A., Hodnett, E.D., Saigal, S., Willan, A.R., 2000. Planned caesarean section versus planned vaginal birth for breech presentation at term: a randomised multicentre trial. *Term Breech Trial Collaborative Group. Lancet* 356, 1375–1383.
- Haagen, E.C., Nelen, W.L., Hermens, R.P., Braat, D.D., Grol, R.P., Kremer, J.A., 2005. Barriers to physician adherence to a subfertility guideline. *Human Reproduction* 20, 3301–3306.
- Hofmeyr, G.J., 2000. External cephalic version facilitation for breech presentation at term. *Cochrane Database Systematic Reviews* (2), CD000184.
- Kok, M., Gravendeel, L., Opmeer, B.C., van der Post, J.A., Mol, B.W., 2008. Expectant parents' preferences for mode of delivery and trade-offs of outcomes for breech presentation. *Patient Education and Counseling* 72, 305–310.
- Lugtenberg, M., Zegers-van Schaick, J.M., Westert, G.P., Burgers, J.S., 2009. Why don't physicians adhere to guideline recommendations in practice? An analysis of barriers among Dutch general practitioners. *Implementation Science* 4, 54.
- Nassar, N., Roberts, C.L., Raynes-Greenow, C.H., Barratt, A., Peat, B., 2007. Evaluation of a decision aid for women with breech presentation at term: a randomised controlled trial [ISRCTN14570598]. *BJOG* 114, 325–333.
- Reynolds, B.J., 2011. When the facts are just not enough: credibly communicating about risk is riskier when emotions run high and time is short. *Toxicology and Applied Pharmacology* 254, 206–214.
- Rietberg, C.C., Elferink-Stinkens, P.M., Visser, G.H., 2005. The effect of the Term Breech Trial on medical intervention behaviour and neonatal outcome in The Netherlands: an analysis of 35,453 term breech infants. *BJOG* 112, 205–209.
- Rijnders, M., Offerhaus, P., van, D.P., Wiegers, T., Buitendijk, S., 2010. Prevalence, outcome, and women's experiences of external cephalic version in a low-risk population. *Birth* 37, 124–133.
- Smith, M.D., McChan, W.F., Lauger, G., 1995. Pharmacists counseling and outcomes of smoking cessation. *American Pharmacists NS35*, 20–29.
- van den Boogaard, N.M., van den Boogaard, E., Bokslag, A., et al., 2011. Patients' and professionals' barriers and facilitators of tailored expectant management in subfertile couples with a good prognosis of a natural conception. *Human Reproduction* 26, 2122–2128.