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Identification and Treatment of Women with a Fear of Birth

ELIN TERNSTRÖM



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Abstract

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Although a fear of birth affects many women during pregnancy and is associated with adverse birth outcomes, it is rarely measured in clinical practice and evidence-based treatments are lacking. The aim of this thesis was to assess the clinical utility of the Fear of Birth Scale, and to evaluate the effect of guided Internet-based cognitive behavior therapy compared with standard care on the levels of fear of birth in pregnant and postpartum women.

This thesis consists of four papers originating from three studies. The Fear of Birth Scale was used to measure fear of birth among pregnant women in all three studies. In *Study I*, prevalence of fear of birth among Swedish-born and foreign-born pregnant women was measured, and in *Study II*, 31 pregnant women were interviewed about their thoughts when assessing fear of birth. In *Study III*, a multicenter randomized controlled trial was conducted to compare guided Internet-based cognitive behavior therapy (ICBT) with standard care for pregnant women with a fear of birth.

Fear of birth was identified among 22% of the pregnant women. Prevalence was twice as high among the foreign-born women (37%) compared to the Swedish-born women (18%). When asking the participants what they thought when assessing their fear on the Fear of Birth Scale, they confirmed that they had understood the measurement intent of the scale. The randomized controlled trial showed that fear of birth decreased during pregnancy and postpartum in both groups. However, the levels of fear decreased more in the guided ICBT-group when measuring fear of birth up to one year postpartum. The changes in fear of birth over time did not differ between parity groups.

Altogether, these results suggest that the Fear of Birth Scale is a suitable screening instrument for identifying pregnant women with a fear of birth in a clinical setting and that such screening would be beneficial, as it probably would increase the chance of achieving a more equitable care. As the effect of time during pregnancy and postpartum was most evident in reducing fear of birth, this can be communicated to pregnant women, along with a continuous dialogue about how the women experience fear during pregnancy.

Keywords: Fear of birth, Fear of Birth Scale, foreign-born, guided Internet-based cognitive behavior therapy, midwifery, pregnancy, randomized controlled trial, screening, treatment

Elin Ternström, Department of Women's and Children's Health, Akademiska sjukhuset, Uppsala University, SE-75185 Uppsala, Sweden.

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*To all women who have given birth,
those who want to give birth,
and to those who do not*

List of Papers

This thesis is based on the following papers, which are referred to in the text by their Roman numerals.

- I Ternström, E., Hildingsson, I., Haines, H. & Rubertsson, C. (2015) Higher prevalence of childbirth related fear in foreign-born pregnant women – Findings from a community sample in Sweden. *Midwifery*; 31:445–50.
- II Ternström, E., Hildingsson, I., Haines, H. & Rubertsson, C. (2016) Pregnant women's thoughts when assessing childbirth related fear on the Fear of Birth Scale. *Women and birth*; 29:e44–9.
- III Ternström, E., Hildingsson, I., Haines, H., Karlström, A., Sundin, Ö., Ekdahl, J., Segeblad, B., Larsson, B., Rondung, E. & Rubertsson, C. (2017) A randomized controlled study comparing Internet-based cognitive behavioral therapy and counselling by standard care for fear of birth – A study protocol. *Sexual & Reproductive Healthcare*; 13 (Supplement C):75–82.
- IV Rondung, E., Ternström, E., Hildingsson, I., Haines, H., Sundin, Ö., Ekdahl, J., Karlström, A., Larsson, B., Segeblad, B., Baylis, R. & Rubertsson, C. A randomized controlled trial comparing Internet-based cognitive behavior therapy with standard care for women with fear of birth. (Submitted)

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Abbreviations

CBT	Cognitive Behavior Therapy
CI	Confidence Interval
CONSORT	Consolidated Standards of Reporting Trials
FOB	Fear of Birth
FOBS	Fear of Birth Scale
ICBT	Internet-based Cognitive Behavior Therapy
OR	Odds Ratio
RCT	Randomized Controlled Trial
SPSS	Statistical Package for the Social Sciences
U-CARE	Uppsala University Psychosocial Care Programme
VAS	Visual Analogue Scale
WDEQ-A	Wijma Delivery Expectancy Questionnaire

Introduction

“How can women in Sweden be afraid of giving birth when it is one of the safest countries in the world to give birth in?” is a question often asked by the media but also among healthcare professionals working with pregnancy, labor and birth. This is hopefully an expression of frustration, without intention to cause harm, but it also reflects the ignorance that women with a fear of birth (FOB) encounter in their everyday lives.

Yes, giving birth in Sweden is medically safe and most babies are born healthy. Although research has found that the maternal mortality rate in Sweden is underestimated, we have a low incidence of both intrauterine fetal death, neonatal death and pregnancy-related mortality (1,2). Hence, the FOB in Sweden does not reflect medical safety, but rather the emotion of not feeling safe during birth. This feeling of fear is a real experience which is hard to live with, deal with, and, all too often, difficult to obtain effective treatment for.

Sweden has the benefit of having midwives as the primary care-givers for women during pregnancy, and almost all pregnant women attend antenatal care (3). If complications arise, the antenatal midwife refers the woman to other healthcare professionals and the care surrounding the pregnant woman continues in collaboration between them and the midwife. Births in Sweden usually take place at an obstetrician-led ward in a hospital. Midwives attend the births, but midwife-led units do not exist. Homebirths are very rare; about 1/1000 births in Sweden are planned home births (4).

Although the medical birth outcomes in Sweden are now better than ever, many distressing topics, ones that affect pregnant women and their partners, are constantly debated. Lack of midwives, smaller birth units closing down in favor of larger more centralized units, high prevalence of vaginal tears, lack of empty beds in the birth units, and long travelling times to the hospitals have been the headline news several times over the last few years (5,6). These issues are most likely causing worry and fear among parents-to-be, with good reason.

To be identified with FOB in Sweden, the pregnant woman must disclose her fear to her antenatal midwife. To enable her to do that, circumstances must be such that the woman feels confident enough to discuss her fear, that there is enough time to raise the issue, and that she knows and understands the responsibilities of her midwife and the tasks she performs. It also requires that the midwife is able to communicate in a way that encourages the woman to

ask questions and to reveal her worry and fear. These circumstances are likely to result in some women with a FOB not being identified.

On the other hand, positive changes are also taking place. For the first time in Sweden, there is a consumer movement for expectant parents called “Födelsevrålet” (the birth roar). The Födelsevrålet movement was preceded by Swedish midwives voicing their opinions about their intolerable work situation at labor units all over Sweden, affecting not only the midwives, but also the expectant parents and their children. Födelsevrålet’s agenda is to change and improve maternity care from a patient perspective and to increase the patients’ freedom of choice (7). Besides these objectives, Födelsevrålet has also initiated a group, consisting of midwives, doctors and physiotherapists, with whom expectant parents and parents can consult for medical advice and further referral in healthcare. From the start of 2016, Födelsevrålet has not only listened to and helped people, but it has also played an active role in the political debate about birth in Sweden, while always focusing on the women’s and partners’ perspective. At the same time, and probably under the influence of Födelsevrålet, the Swedish government has allocated extra funding to the care surrounding pregnancy and birth. These extra resources are mainly aimed at strengthening staffing levels and improving the working environment in maternity care, thus providing a safer healthcare service provision for expectant parents (8).

In line with Födelsevrålet’s endeavor to increase expectant parents’ freedom of choice, midwives and doctors have also stressed the desire for expectant parents to be able to influence their own maternity care to a greater extent. This has stimulated the county councils to map women’s needs in connection with pregnancy and birth with the goal of developing new forms of care (9).

The work of this thesis commenced in 2013, just before the debate surrounding maternity care was raised in Sweden. Logically, this has affected the work, including the women who participated and me as a researcher and midwife. Hopefully this debate has also brought new light to some aspects of FOB, stressing the need for a better, more equal and empowering care, and one that includes a greater freedom of choice.

Background

Defining fear of birth

To date, there is no standard definition of FOB. In general, it refers to feeling fearful, anxious or worried in relation to pregnancy and childbirth (10). The concept of FOB has been used synonymously with many other terms, e.g., childbirth fear, childbirth-related fear, childbirth anxiety and tocophobia, to mention some. This inconsistency complicates the FOB-research literature, as the different terms have different meanings and are also measured in different ways (11).

When asking a woman about her FOB, it is not a question of whether the fear exists, but rather how fearful she is. Although FOB is constructed as a continuum ranging from no fear to strong fear (12,13), definitions are needed to be able to distinguish the extension of fear, and to decide when a person's life is negatively affected and thereby in need of extended help.

In the literature, FOB has been categorized in various ways; low (13), mild (14), moderate (13–15), distinct (16), high (13,15,17,18), serious (19), severe (20–22), intense (14,23,24), very intense (24), extreme (13), and phobic (25). No universal definitions of low, mild or moderate fear exist, however, high, severe or intense fear has been characterized as a “disabling fear that interferes with occupational or academic functioning, with domestic and social activities or with relationships” (12). Furthermore, phobic fear has been defined as “an unreasoning dread of childbirth”, or a pathological fear that can lead to avoidance of pregnancy (25,26).

In the Swedish policy document for the healthcare surrounding FOB, four different levels of fear are described (27). *Low fear* represents a manageable worry that can help the pregnant woman prepare for birth. *Moderate fear* means a worry that can be hard to cope with without any support, but it does not contribute to ongoing mental ill-health. *Severe fear* can result in mental ill-health and interferes with the pregnant woman's daily life or her attachment to the baby, while *phobic fear* is a state which may contribute to avoidance of giving birth vaginally or even avoidance of becoming pregnant (27). This document mentions the possibility of measuring FOB with different instruments, but no final recommendation is made, which is probably an expression of all the undefined and unclear evidence that FOB struggles with.

Usually, FOB is also divided into primary and secondary fear. Primary FOB affects primiparous women who have not given birth and the origin of

their fear varies. Secondary fear affects multi-parous women and is commonly the result of a previous traumatic birth (28).

Prevalence of fear of birth

Comparisons in FOB prevalence between studies and population groups are problematic as it varies depending on the studied population, its culture and how fear is measured and defined. A review published in 2017 (29), including 33 prevalence studies, demonstrated a world FOB prevalence of 14%. Still, when talking about a world prevalence of FOB, it is important to acknowledge that, in most countries, FOB is not yet a known concept.

In countries where FOB has been studied among pregnant women, the results vary. In Australia, the prevalence varies from 4.8% to 29% (15,30,31), and studies from Asia (China, India, Iran) show a FOB prevalence of 0%–48.2% (32–34). North American studies indicate a FOB prevalence of 9.1%–24.9% (17,35,36).

In European countries (outside the Nordic countries) where FOB is a known concept, the prevalence has been reported to vary between 5.3% and 16% (21,37,38). In the Nordic countries (except for Sweden), FOB has been explored extensively with varying results. In these studies, the prevalence varies from 3.5% up to 21.5% (19–22,39,40).

In Sweden the first prevalence study was conducted in 1981, where severe FOB was found in 6%, and moderate FOB in 17%, among a cohort of 139 women in late pregnancy (16). Since then, several studies have reported the FOB prevalence among Swedish pregnant women, with results varying between 11% and 23% (14,20,21,24,41,42).

Measuring fear of birth

As there are no international diagnostic criteria and no reference standards for FOB, it has been measured in many different ways. This may explain why results from prevalence studies differ and presents a possible reason for why it is difficult to estimate how the FOB-prevalence has changed over time. Defining the presence of FOB in research studies has been accomplished either by looking at those referred to special FOB-units (43), those who have sought help for FOB themselves (44), using Likert-type scales (34,35,45), single-item measures (37,41,42,46), and other instruments (30,47,48). In some studies, diagnostic criteria have been used to define FOB, either according to the American Psychiatric Association's diagnostic criteria for severe phobia (49), or according to the Finnish diagnostic criteria for FOB, as they, from 1997, have a standard diagnosis for FOB (O99.80, Förlossningsfruktan) (40,50).

Globally, FOB is seldom measured in clinical practice. In Sweden, FOB can be identified if the woman herself reports her fear to the antenatal midwife during pregnancy, if the antenatal midwife asks the woman about FOB, or, in some cases, if the clinic uses a screening instrument for detecting FOB (51).

Wijma Delivery Expectancy Questionnaire

The most commonly used instrument for measuring fear of childbirth is the Wijma Delivery Expectancy Questionnaire (WDEQ-A) (48). WDEQ-A was developed from the concept that pregnant women's expectations about the upcoming birth are very important for her birth experience. There is also another version, Wijma Delivery Experience Questionnaire (WDEQ-B), which measures FOB up to 5 weeks after giving birth. Both versions are recommended for measuring FOB among both primi- and multi-parous women. However, the authors state that this instrument measures FOB more clearly in multi-parous women (48).

WDEQ-A has been tested and used extensively in international research studies (10,11). In the WDEQ-A, the woman is asked to consider 33 feelings and thoughts in relation to her upcoming birth, and to describe to what extent she expects to feel, for example, fantastic, frightful and lonely on a 6-point scale ranging from 'Extremely' to 'Not at all'. The minimum score is 0 and the maximum score is 165, with higher points referring to higher levels of FOB.

Ways of identifying FOB using WDEQ-A have varied. Most studies have used a cut-off point of ≥ 85 to identify FOB (21,24,52–54), while other studies have used a cut-off point of > 100 (19). Other disparities also exist, with studies using WDEQ-A mean scores (22,55) or the highest quartile of the measure (13,15) to detect FOB.

However, WDEQ-A has also received some critique. In several studies it has been criticized for measuring different constructs in addition to childbirth fear (15,21,55–57). In the most recent one, conducted in Australia, the authors undertook a detailed psychometric evaluation of the WDEQ-A and concluded that the scale consists of four distinct subscales and is not appropriate to use as a unidimensional scale with a summed score (57). WDEQ-A has also been criticized for its length, with 33 items, and for difficulties in its interpretation when translated into other languages. This makes it problematic to use in various cultural settings and therefore also in clinical practice (15,55).

Criticism has also been drawn to the readability and content of W-DEQ. A qualitative study by Roosevelt and Low in 2016 revealed that the English version of W-DEQ was difficult to understand for the general population. Also, the words used to describe FOB in the W-DEQ did not reflect how the participants would discuss FOB themselves. Furthermore, the participants identified themes that contributed to their FOB, such as fear of caregivers, hierarchies

and structural aspects of the healthcare system, that were not identified by the W-DEQ (58).

Other Likert-type scales

In some studies, Likert-type scales have been used to measure FOB during pregnancy. For example, the Childbirth Attitudes Questionnaire, a 15-item instrument with possible scores ranging from 15–60 (35), and the Pregnancy Related Anxieties Questionnaire – Revised (PRAQ-R), consisting of 34 items with both item-scores and total mean-scores ranging from 0–4 (45). Furthermore, single items have been used to measure FOB in several studies. In these studies, the pregnant woman was asked how she felt when thinking about labor and birth (42), whether she was anxious or afraid about the coming birth (37,46), or to what extent she experienced FOB (41).

The Fear of Birth Scale

The usage of a visual analogue scale (VAS) measuring FOB was first initiated by Rouhe et al. (22). Because VAS had been used to self-report other feelings and sensations, the authors assumed it would also be a valid measure for FOB. The pregnant women were asked how afraid of birth they were on a VAS-scale from 0–10 cm. The researchers found the VAS, with a cut-off point of 5, to be an appropriate method for initial screening of FOB, as it had high sensitivity against WDEQ-A ≥ 100 and was fast and easy to use.

Based on Rouhe's research (22), the Fear of Birth Scale (FOBS) was developed and tested in pregnant women in both Sweden and Australia (30). The items in the FOBS cover two constructs: worry and fear. The participants are asked to rate their feelings about the approaching birth by responding to the question "How do you feel right now about the approaching birth?" They indicate their feeling and respond by placing a mark on two 100 mm VAS-scales with the anchor words "calm/worried" and "no fear/strong fear" (see Figure 1). The two values on the VAS-scales are averaged to give a total score ranging from 0 to 100, with high scores indicating higher levels of fear. Haines et al. (30) found that the FOBS had good known group validity in both Swedish- and English-speaking settings. While the early use of the FOBS followed the recommendations of Rouhe et al. (22) to use the cut-off point of 50 to identify FOB, the specificity and sensitivity was improved by testing the FOBS against WDEQ-A 85. The cut-off point was then changed to 54 (59). However, when the critique directed against W-DEQ was taken into consideration and the authors had received feedback from clinical expertise, a cut-off point of 60 was found to be more suitable for identifying FOB, and thus the FOBS with the cut-off point of 60 came into use (60).

The constructs used in the FOBS, worry and fear, are both closely related to anxiety. In the psychology literature, anxiety is described as a diffuse apprehension to an unspecific source of danger (61). FOB was studied in terms of anxiety measures until the 1990s, but was then reconsidered to be a domain in its own right (48). Fear and anxiety may overlap in terms of intense negative feelings and bodily expressions, but fear is more specifically defined as a reaction to a known source of danger and a desire to escape a situation (62,63). Worry is described as the cognitive component in anxiety, with uncontrollable thoughts that usually cannot be terminated by the individual him/herself (64). Although worry can be a positive process that helps us resolve our problems, worry can also generate more anxieties and fears if it does not lead to a solution (62).

How do you feel right now about the approaching birth? Please mark with an X on the lines below.	
Calm	_____ Worried
No fear	_____ Strong fear

Figure 1. The fear of birth scale

Objects of fear of birth

Different fears described in relation to pregnancy and birth have been studied among non-pregnant women, pregnant women with or without FOB, and among women with varying levels of FOB who had given birth at some point within the previous year (37,65–68). The most commonly described fears in relation to giving birth are labor pain (37,66–70), the health and life of the baby (34,35,37,65,66,71), the health and life of the mother (65,68,71), fear of the unknown (37,66,69,72), and attitudes of healthcare staff (34,65,67,70,71). Other fears that have been identified are loss of control (35,37,66,68), an operative birth (37,71), and perineal tearing (69). Although many studies have found similar content of the fear, researchers have also suggested that the content may differ when fear is measured in different contexts, especially in different countries and cultures (21).

Background factors relating to fear of birth

Characteristics of women with a fear of birth

Many studies have attempted to relate different background characteristics to FOB, showing various results depending on the setting. Some studies have reported that FOB is more common among younger women (46,73), while other studies found it to be more prevalent among older women (24,40), or found no association at all between age and FOB (74,75). Low educational level and unemployment has been related to FOB in the Nordic countries (46,73,76), while an association between FOB and being employed was found in a study conducted in Australia (31).

When it comes to parity and FOB, some studies have shown that primiparous women more commonly report FOB (21,39) or that their FOB is more severe (30). Other researchers found that FOB was more prevalent among multi-parous women (40) or that parity was not associated with difference in prevalence of FOB (44). However, looking at parity and levels of FOB, the overall evidence implies that primiparous women experience higher levels of FOB compared to multi-parous women (77). Moreover, different personality variables, such as anxiety sensitivity, neuroticism, low self-esteem, vulnerability, and low socialization, have all been associated with FOB (47,76,78). An association between FOB and childbirth-specific self-efficacy, i.e., childbirth confidence, a woman's ability to cope with labor and birth, has also been identified (35,79). In addition, foreign-born women in Sweden have been identified as an at-risk population for experiencing FOB (42).

Foreign-born women in Sweden

The main objective of health policy in Sweden has, since the 1990s, been to promote health for everyone, and to offer healthcare to the whole population on equal grounds (80). Despite this, disparities in health exist and are even increasing in Swedish society.

Over the last twenty years, the number of foreign-born citizens in Sweden has increased rapidly, from 11% in the year 2000 to about 18% in 2017 (81). According to an estimate of the Swedish future population, this number will have increased to 22% by the year 2060 (82). Most people coming to Sweden from a country outside Europe are born in Iraq, Syria, Iran and Somalia. However, among females, being born in Thailand is also common (83). When talking about foreign-born people living in Sweden, one must bear in mind that they are far from being a homogenous group. Migrants who have come to Sweden originate from almost 200 different countries with diverse backgrounds and status such as reason for migrating and length of time living in Sweden (84). However, most existing statistics and research from Sweden have so far identified migrants as one homogenous group.

Foreign-born citizens of Sweden are, in general, a vulnerable group with poorer health than native Swedes (85,86). Immigrants living in Sweden, especially those with a different native language than Swedish, experience more difficulties in seeking healthcare and in receiving adequate levels of care. In addition, foreign-born women experience worse treatment than foreign-born men when it comes to both primary care, emergency services and inpatient care (87).

An international review by Almeida et al. (88) indicated that immigrants are at higher risk during pregnancy, birth and postpartum, however, with large differences observed between their countries of origin. The main reasons for the higher risk were; reduced access to healthcare, poor communication, lower rates of medical interventions, higher prevalence of stillbirth and neonatal death, and a higher incidence of postpartum depression.

In Sweden, 27% of the women giving birth are born in a foreign country, a number that has doubled since 1980 (89). A few studies have been conducted about foreign-born women's reproductive health in Sweden, and some groups have been studied more than others have. In a study by Råssjö et al. (90) Somali women were found to be more likely to have anemia and severe hyperemesis during pregnancy. They were also found to have an increased risk of undergoing emergency caesarean section during birth compared to women born in Sweden (90). Women from Sub-Saharan Africa, Asia and Latin America have been identified as having a higher risk of obstetric complications compared to women from Sweden (91). Additionally, preterm birth has been identified as being more prevalent among women originating from Sub-Saharan Africa and Asia while living in Sweden (92). Alarming results from a study by Esscher et al. (93) also revealed that women who are foreign-born and give birth in Sweden have an increased risk of maternal mortality, when compared to Swedish-born women. Factors associated with this risk were miscommunication, lack of interpreters, and lack of knowledge about rare diseases and pregnancy-related complications.

Considering the results of another Swedish study showing that non-native Swedish-speaking pregnant women more commonly reported depressive, anxiety and posttraumatic stress symptoms compared to native Swedish-speaking women (94), it is important to continue to include foreign-born women in research studies on reproductive health in general, and FOB in particular. The only Swedish study identified that addresses this subject showed that Eritrean women who have experienced female genital cutting and live in Sweden feel fearful and anxious about the coming birth (95). Since then, researchers have suggested focusing on foreign-born women and FOB (24,58), however, no such studies have yet been published. Some of the reasons for this could be limited access to interpreters, a low educational level among the foreign-born women which makes it difficult to obtain study-information at the right level, and a lack of sufficient time for the healthcare providers to include foreign-born participants (96).

Mental health and fear of birth

Several studies report an association between FOB and different mental health problems, particularly anxiety and depression. Some studies have found that anxiety might be a predictor of FOB among pregnant women. In a cohort of 30 480 primi-parous women, Laursen et al. (46) found that symptoms of anxiety increased the odds of having FOB almost five-fold (OR 4.8; CI 4.1–5.7). This association was first confirmed by Rouhe et al. (97), who concluded that 10% of women with a FOB also had anxiety, compared to 4% among the non-fearful women. A year later, similar findings was reported by Storksen et al. (53), who reported that FOB was twice as common among women with anxiety. Researchers have also suggested that FOB may influence the development of anxiety among pregnant women (98).

An association between FOB and depression has been reported in a register study of 788 317 pregnant women in Finland, where depression was found to be the strongest risk factor for FOB, regardless of parity (40). Likewise, both Storksen et al. (53) and Laursen et al. (46) concluded that symptoms of depression increased the odds of having FOB (OR 8.4; CI 4.8–14.7 and OR 2.7; CI 2.23–3.26, respectively). Furthermore, FOB during pregnancy has been shown to be a risk factor for postnatal depression (38,99). Logically, the highest prevalence of FOB has been found among women with both anxiety and depression (53), which was also confirmed in the review conducted by Rundung et al. (77).

Further, FOB has been linked to psychiatric diagnoses, medication use (97,100) and psychiatric syndromes, such as mood- and anxiety disorders, eating disorders and posttraumatic stress disorder (52,97,100). In addition, a history of different forms of abuse has been associated with FOB. For instance, one study reported that more than half of 86 women with a FOB had previously been subjected to abuse (101). When it comes to sexual abuse, Henriksen et al. (102) observed that women who had been exposed to severe sexual violence more often expressed FOB, however, this finding was not confirmed by Schroll et al. (103). History of childhood abuse (e.g., sexual, physical or emotional) has also been shown to be more prevalent among women suffering from FOB during pregnancy compared to less fearful women (19,104). Moreover, abuse in healthcare, i.e., subjective experiences of lacking healthcare leading to suffering for the patient, has also been connected to FOB. In a study by Lukasse et al. (105), severe suffering of abuse in healthcare was found to be significantly associated with FOB in both primi- and multi-parous women.

Consequences of fear of birth

Birth outcomes

The percentage of cesarean births is increasing, not only in Sweden but also worldwide. A review based on data from 123 countries estimated that the global cesarean birth rate increased from 6.7% to 19.1% between 1990 and 2014 (106). Similarly, the Swedish cesarean birth rate increased from 10.9% in 1990 to 17.6% in 2016 (107). Because the recommended level of cesarean births to reduce maternal and perinatal mortality rates is set at 10–15%, this increase indicates that the cesarean birth rate is now considered to be too high (108). This is alarming because cesarean births are linked to both short- and long-term risks for the woman and child, and for the health of the woman and baby in future pregnancies. For instance, when comparing women who had given birth by low-risk planned cesarean section with women who had given birth vaginally in a large population-based study, the ones who had given birth by cesarean section had an increased risk of severe morbidity, e.g., cardiac arrest, hematoma, hysterectomy and infection (109). In addition, women who have experienced a cesarean birth have an increased risk of placenta previa and placenta accreta in subsequent pregnancies (110,111). Concerning the children born by cesarean section, the most evident short-term risk is respiratory morbidity. Regarding the long-term consequences for the children, the evidence is still unclear (112).

Only a small proportion of cesarean births are performed on maternal request, without medical indication (113–115). According to a recent qualitative review, the reasons behind those requests are complex (116). The women's motives are multifaceted, where social norms and emotional and personal experiences are the focus. One of the highlighted components that leads to requests for cesarean births is FOB. In a number of quantitative studies, FOB has been identified as a common underlying reason for preferring or requesting a cesarean birth in the absence of medical reasons (24,41,113,115,117,118).

Along with the increased risk of planned caesarean births, numerous studies have found that pregnant woman with FOB have an increased risk of emergency caesarean births or births aided by vacuum extraction (78,119,120). In addition, a dose-response relationship between level of FOB and emergency caesarean births has been seen (73,78). However, opposite results have also been observed (19,121). Furthermore, women with a FOB are induced more frequently than non-fearful women (122), and more often choose epidural analgesia during labor (39,123). Studies have also reported a longer duration of labor among women with a FOB, which likely increases the risk for obstetrical complications and interventions, such as augmentation of labor or operative births (39,49,119).

At the same time, women who have given birth by cesarean section or aided by vacuum extraction are also more likely to report FOB, compared to women who have experienced a normal vaginal birth (18,22). One might assume that women who prefer to and go on to have a cesarean birth would benefit from this, and thereby experience the birth as positive and less connected to fear in subsequent pregnancies. This seems to be the case for some women who request a cesarean birth, as experiencing a vaginal birth may result in post-traumatic stress symptoms (124). However, this situation is complex, and research suggest that women who prefer and actually give birth by cesarean section experience a difficult time during the decision-making process and experience the birth as more negative compared to women who prefer and give birth vaginally (125). In addition, associations between FOB and postponing or avoiding pregnancy have also been mentioned in the literature (49,126,127).

Hence, these studies highlight that women with a FOB have an increased risk of undergoing augmentation of labor, experiencing prolonged labor, and planned as well as unplanned operative births, which in turn increases the risk of FOB in subsequent pregnancies.

Birth experiences

Several researchers have confirmed that a previous negative birth experience, either measured in relation to a prior birth, i.e., the year after giving birth, or with reference to a prior birth when pregnant again, is strongly associated with FOB (44,78,128). Negative birth experiences often originate from a traumatic birth with unbearable pain, a birth longer or shorter than expected, negative experiences with staff, or lack of support from staff (66,69,70,72). In terms of adverse events, negative birth experiences have often been associated with cesarean births, instrumental births and epidural analgesia (129,130), but also with high usage of analgesics postpartum (131).

Women with a FOB are particularly vulnerable to negative birth experiences, as they more often give birth using epidural analgesia, aided by vacuum extraction or by caesarean section. However, women's subjective experiences are not always related to specific birth events (132). In case of complicated births, these can be balanced by emotions such as feeling safe and taken care of during labor and birth (131,133). On the contrary, a medically uncomplicated birth can be considered as a negative experience if the woman did not feel safe or well taken care of (134). Altogether, it seems as though the subjective birth experience is more important than obstetric complications when it comes to FOB during a subsequent pregnancy (21,132).

Treating fear of birth

As the prevalence and consequences of FOB have received more and more attention over the last 30 years, the interest and need of developing an effective treatment for FOB has increased. To mention some interventions, researchers have tested therapeutic treatments, midwife-led counseling, antenatal preparation classes, hypnosis and physical exercise to reduce FOB (18,135–138). Continuous support during childbirth and midwife-led continuity of care, where the same midwife provides the care for the woman during pregnancy, the birth of the child and early parenthood, are approaches that have shown positive results in reducing FOB (139–141).

Two review articles on interventions aimed at reducing FOB were published in 2017 (142,143). The review by Moghaddam Hosseini et al. (142) included studies with follow-up measurements, both in late pregnancy and postpartum, while the other review by Stoll et al. focused on the reduction of FOB during pregnancy (143). According to these reviews, prenatal education, yoga, hypnosis, individual intensive therapy, and individual telephone counseling were effective in reducing FOB for pregnant women.

Two studies on prenatal education showed positive results in reducing FOB-levels. One study evaluated a two-hour childbirth education class (144) and the other evaluated a 16-hour prenatal course held over a period of 8 weeks (137). In addition, an 8-week course of yoga, as well as three hours of education in self-hypnosis, have also been shown to reduce FOB (138,145,146). However, these studies were limited by low response rates (145), small effect sizes (146), and by only measuring post-intervention FOB six weeks postpartum (138).

In a randomized controlled trial (RCT) exploring individual intensive cognitive therapy, an obstetrician, with experience of treating women with a FOB and a little training in cognitive therapy, performed the intervention among Finnish pregnant women with a FOB (147). In practice, the therapy focused on providing information, and discussing earlier birth experiences, feelings and misconceptions, but it also focused on self-reflection and changing the patients' behavior by doing cognitive and behavioral exercises. Compared with conventional therapy, the intervention was effective in reducing FOB and requests for cesarean births.

In an Australian RCT, individual telephone counseling was performed by midwives who had received intensive four-hour training and support through written information, web-based resources and personal supervision (148). In this study, the group receiving telephone counseling was compared with a control group receiving standard antenatal care. The telephone counseling was based on psychoeducation, which is described as a way for the patient to receive individual situational support and to encourage her to use that support to manage negative events during pregnancy and birth (18). The telephone counseling intervention resulted in reduced levels of FOB.

In a recent non-randomized Swedish study by Nieminen et al. (149), the feasibility of internet-based cognitive behavior therapy (ICBT) was tested for primi-parous women with a FOB. The intervention included different components; information about pregnancy and birth, and therapy, including psychoeducation and exposure, as well as relapse prevention. Reduced FOB-levels from pre- to post-intervention were reported and, in general, the participants found the intervention to be helpful during labor and birth. However, the authors recommended confirmation by randomized studies.

In Sweden, unlike most other countries in the world, there is an existing model of care for women with a FOB. This model consists of midwife-led counseling for pregnant women with a FOB (often referred to as Aurora), and was introduced by experienced staff in labor wards in Sweden who saw the need for helping women with a FOB. This model exists in all obstetric clinics in Sweden, yet, each clinic organizes it in very different ways (51). In general, the antenatal midwife, who sees the pregnant woman regularly, uses her clinical judgement to assess the woman's FOB. Depending on the level of the fear, the antenatal midwife continues to counsel the woman or she is referred to midwifery counselors who usually work together with obstetricians, and sometimes also psychologists or social workers. Together, they work to help the woman and her partner to deal with the fear (27,51,150). This standard care (SC) for FOB is not based on empirical evidence, but rather on clinical knowledge. It has been popular among pregnant women who, in general, are satisfied with the received care (75,151). On the other hand, research has concluded that the midwife-led counseling has a minor effect in the reduction of FOB, improving birth experiences and decreasing caesarean section rates (75,151).

Internet-based cognitive behavior therapy

Cognitive behavior therapy (CBT) is a therapy focusing on the interaction between the individual and her environment. It is based on the concept that thoughts, feelings, physical sensations and actions are connected and that negative thoughts and feelings can cause you to become trapped in a vicious cycle. In general, CBT deals with present issues and experiences rather than focusing on problems from the past. The aim of CBT-treatment is to help the individual to manage problems by changing thoughts and behaviors and thereby find ways to improve the state of mind on a day-to-day basis (152).

CBT is the primary treatment option for most anxiety disorders and for women with depression during pregnancy and the postpartum period (153–156). Because FOB has been described as being a distinctive form of anxiety (157), CBT seems to be a good treatment alternative for pregnant women with a FOB.

Internet-based CBT (ICBT), i.e., CBT provided over the Internet, is a growing field, and a recent review reported that it is equivalent to face-to-face CBT

in terms of efficacy (158). Guided ICBT, i.e., ICBT guided by a clinician who communicates with participants by phone or computer, has been shown to be superior to unguided ICBT (159). Guided ICBT has proven to be well-accepted by participants (160) and can be advantageous in terms of accessibility and convenience for both therapists and participants compared to ICBT performed without support from a clinician. In addition, guided ICBT has a lower level of therapist involvement than face-to-face CBT, making the therapist available for more individuals and thereby saving costs (161).

Theoretical framework

FOB is, or at least should be, the concern of midwives, doctors and other healthcare professionals working with pregnancy, birth and postpartum care. Although midwives and doctors have overlapping areas of professional competence, their education originates from different approaches; the midwifery model of care, and the medical model.

The starting point for the midwifery model of care is that pregnancy and birth are physiological events and the majority of pregnant women can have a safe childbirth with little or no medical interventions. The well-being of the pregnant woman and her family is crucial for positive outcomes (162,163). Preventative work is an important component in maternity care and in the midwifery model of care (164,165). However, if complications arise and interventions are required, those should not replace all other aspects associated with the experience of pregnancy and birth (163).

The key focus of the medical model is reducing the risk of maternal and infant morbidity and mortality. From the medical perspective, to guarantee safe birth, it needs to be controlled with medical surveillance. The medical practitioner is there to react and treat when someone is sick or something goes wrong (162,164). This focus on pathology is integral to the medical model (163). The pregnant women are categorized as either “low risk” or “high risk” to detect pathology in time so that interventions can be applied at an early stage (162,165).

Yet, there is also a common ground for midwives and obstetricians. They work in the same field, engage in research, take part in each other’s scientific publications, and undertake interdisciplinary teaching. Improvements in maternity care have emerged from both fields, yet central parts of the two practices are not entirely accessible to the other. For instance, being present with the woman and empowering her in her ability to give birth is the midwife’s domain, and, conversely, the ability to diagnose women and prescribe medicine lies in the hands of the obstetrician. However, both perspectives are complementary and compatible, and most midwives acknowledge the importance of obstetricians and vice versa (163). In addition, every midwife does not adhere only to the midwifery model of care and doctors to the medical model;

the working practice for both midwives and doctors in Sweden are situated somewhere in between. The most central aspects are, however, that each model should be recognized as important and applied accurately (162,165,166).

Throughout the last few decades in Sweden, the use of technology and interventions during birth (e.g., electronic fetal monitoring, epidural analgesia, augmentation of labor, cesarean births) has increased (89,167). The field of work for Swedish midwives is normal birth, which is defined by the World Health Organization (WHO) as a birth that: starts spontaneously, is low-risk at the start of labor and remains so throughout birth, spontaneous birth of the baby in the head-down position, gestational weeks 37–42 and good condition of mother and baby after birth (168). However, neither the WHO nor the Swedish guidelines have defined which interventions should or should not be included in the concept of normal birth (167,168). As midwives are supposed to be the guardians of normal birth, their experiences of working within hospitals were explored in a metasynthesis of 14 studies conducted in the UK, New Zealand, Ireland and Norway. The results showed that having competence in the use of technology and various interventions, together with the capacity to manage births in a busy environment, was more valued by midwives than providing a woman-centered approach or minimizing the use of interventions (169). In line with that synthesis, Nyman et al. (170) found that the norm for Swedish midwives was to focus on practical technical actions rather than caring for the individual woman. These technocratic workplace cultural norms may influence individual midwives to comply with the expectations and demands of their colleagues rather than those of the women and their partners (169). Medical knowledge and technique have certainly made pregnancy and birth safer in many instances, however, they have also transformed birth into being framed as a risky event – regardless of whether there are actually indications of problems (171). Although Swedish midwives may try to hold back the focus on technology and interventions and aim at empowering the women, every woman is still routinely examined during pregnancy and birth (for example, their weight, cardiotocography, vaginal examination). These procedures are performed to make sure that “everything is alright” and, consequently, the possibility of pathology occurring is reinforced. As a consequence of this duality, the pregnant woman is subordinate to the agenda of the healthcare system (171).

To add more understanding of the findings of this thesis, they are discussed in light of the midwifery model of care and the medical model, which both influence the care around pregnancy and birth in general and the area of FOB in particular.

Rationale

Several studies have documented that FOB is common during pregnancy and birth, and foreign-born women have been identified as an at-risk population. Although the Swedish Society of Obstetrics and Gynecology favor measuring FOB, they do not recommend a specific instrument for measurement or routine screening in clinical practice. Instead, the pregnant woman, if she has knowledge about the antenatal midwife's scope of practice and feels comfortable, self-reports her fear to the midwife. Furthermore if the pregnant woman has been identified with FOB, there is limited information and no consensus on how to help her. The SC for FOB in Sweden is not evidence-based. In the absence of an effective treatment, ICBT has been suggested as a suitable treatment for FOB, but controlled trials are lacking. Performing an RCT, comparing guided ICBT with SC for FOB, can provide more information on evidence-based treatment for fearful pregnant women. Furthermore, using a short screening instrument such as the FOBS for identification of fearful women can contribute with additional guidance on the measurement of FOB in clinical practice with diverse populations.

Aims

The overall aim of this thesis was to assess the clinical utility of the Fear of Birth Scale in a mixed population of pregnant women, and to evaluate the effect of guided Internet-based cognitive behavior therapy compared with standard care on the levels of fear of birth in pregnant and postpartum women.

The specific aims of the included papers were to:

- I** Investigate the prevalence of childbirth related fear in early pregnancy among both Swedish-born and foreign-born women living in Sweden, and to describe the factors associated with this fear.
- II** Report what women in mid-pregnancy think when assessing fear of birth on the Fear of Birth Scale.
- III** Present the protocol of a randomized controlled trial aiming to compare ICBT with SC for pregnant women reporting fear of birth.
- IV** Evaluate the efficacy of a guided Internet-based self-help program based on CBT compared with standard care on levels of fear of birth in late pregnancy and one year after birth in a Swedish sample of primiparous and multiparous women reporting clinically significant levels of FOB.

Methods

Overview of the included studies

This thesis consists of three studies with different research designs, presented in four papers, using both quantitative and qualitative methods (Table 1). In the initial study (Paper I), which provided results for the planned RCT, pregnant women were screened for FOB. Following the first study, we conducted the second qualitative study (Paper II) to obtain a deeper insight about using the FOBS as a screening-tool by asking the women what they thought about when assessing FOB. In the third study (Paper IV), a multicenter RCT was carried out to determine the efficacy of a guided ICBT intervention on FOB among pregnant women. Paper III is a study protocol for Study III.

Table 1. *Design, methods, participants and analyses of Papers I-IV.*

Paper	Design	Data collection	Participants	Analysis
I (Study I)	Cross-sectional prevalence study	Questionnaire	606 women in mid-pregnancy	Descriptive statistics, Logistic regression, Chi-square test
II (Study II)	Qualitative interview study	Semi-structured interviews, with a think aloud technique	31 women in mid-pregnancy	Content analysis
III (Study III)	Study protocol for Study III	NA	NA	NA
IV (Study III)	Randomized controlled trial	Questionnaires	258 pregnant women with a fear of birth	Descriptive statistics, <i>t</i> -test, Mann-Whitney <i>U</i> test, Chi-square test, Linear mixed models

Study I (Paper I)

Design

Study I was a cross-sectional prevalence study conducted at a Swedish university referral hospital with an annual rate of 4000 births. The aim of the study was to investigate the prevalence of fear of birth in mid-pregnancy among both Swedish-born and foreign-born women living in Sweden, and to describe factors associated with this fear.

Recruitment and participants

During a two-month period in 2013, pregnant women in gestational weeks 17–20 attending their screening ultrasound were recruited in the waiting area of the ultrasound clinic. The only inclusion criterion was a normal result on the screening ultrasound. All women received study-information from the research midwife and had the opportunity to ask questions. If the woman did not speak Swedish or English, the information was given through a third person (often a partner or friend) who spoke the woman's native language and Swedish or English. Those women who consented verbally to participate completed the questionnaire in their chosen language in the waiting area, and returned it to the research midwife before leaving the clinic.

Approximately 630 women underwent a screening ultrasound at the clinic during the study period. Of these women, 615 were asked about participation in the study and 15 were missed. Five women did not complete the questionnaire because of a negative result at the screening ultrasound. Two women declined participation and two could not participate because the questionnaire was not available in their languages (Urdu and Kurmanji). The final sample was thus 606 women.

Data collection

The research team designed a short questionnaire specifically for this study (Appendix I). The questionnaire included questions about age, civil status, education, gestational week, parity and mode of birth in previous births. It also included a question about country of birth and, if the woman was born abroad, she was asked what year she moved to Sweden. Measurement of FOB was conducted using the FOBS (30,172). The FOBS was chosen for two main reasons; its capacity to be easily administered in the clinical setting, and for its capability to be accurately translated into multiple languages. In addition to Swedish, the questionnaire was translated into eight languages; English, Ara-

bic, Persian, Polish, Sorani Kurdish, Somali, Spanish and Thai. These languages were considered to be the most commonly spoken languages in this hospital catchment area. In addition, the research midwife also asked the clinical staff at the study hospital about their experiences regarding pregnant women's spoken languages. The various language versions of the questionnaire were constructed by both professional and lay translators. The draft versions of the translated questionnaires were then assessed for accuracy by Swedish-speaking health professionals who were fluent in one or more of the non-Swedish languages (173).

Analysis

To identify FOB, a FOBS cut-off point of 60 was used. Thereafter, the participants were dichotomized into two groups: participants who reported a FOBS-score of 60 or above (fearful), and participants who reported a FOBS-score of 59 or less. Descriptive statistics were used to describe the sample and to assess prevalence of FOB. Relationships between dependent and independent variables were examined using Chi-square analysis. Odds ratios (ORs) for FOB, with a 95% confidence interval (CI), were calculated separately for each independent variable (174). The statistical analyses were conducted using IBM SPSS statistics, version 20.

Study II (Paper II)

Design

In Study II, we used a qualitative design. To confirm the validity of the FOBS, the study aimed at reporting what women in mid-pregnancy think when assessing worry and fear on the Fear of Birth Scale. It was undertaken at a Swedish university referral hospital, with an annual rate of approximately 4000 births.

Recruitment and participants

During one month in 2013 and one month in 2014, a purposive sample of 33 pregnant women were asked to participate in an interview study. The purposive sampling was chosen to ensure diversity in the sample, i.e., that both fearful, non-fearful, primi- and multi-parous, as well as Swedish-born and foreign-born pregnant women were included in the study. The participants were asked to participate in the study, either after filling out the questionnaire from Study I (in 2013) or the screening questionnaire from Study III (in 2014) (Appendix II). Two women declined participation due to lack of time, which left 31 women in the final sample. The recruited women received information about the focus of the interview, which was their thoughts and feelings about the impending birth.

Data collection

Semi-structured interviews (175), with a think-aloud technique were used. The think-aloud method was originally used to make a person verbalize what he/she was thinking while solving some sort of task or problem. Thereafter, the written thoughts are analyzed. The think-aloud method has proven to be a unique way of retrieving information and it intends to demonstrate a participant's cognitive process while solving a problem or answering a question (176). In practice, the participant is encouraged to say out loud all the thoughts in his/her mind either while, or after, answering a question. Depending on the aim and design of the task, the think-aloud method can either be conducted concurrently (i.e., the participant thinks aloud as he/she performs the task), or in retrospect, where the participant is asked to think aloud directly after the task is performed (177). In the present study, the retrospect think-aloud method was used, where the interviews were conducted immediately after the participants had assessed their worry and fear on the FOBS. The retrospect think-aloud method has the benefit of not intervening with the given question.

The participants can answer at their own pace and are likely to answer in the same way as they would without using the think-aloud method (178).

The completed FOBS was the starting point for the interview, which took place in a private room at the ultrasound clinic. In the interview, two main questions were asked: “What were you thinking as you made the decision about where to place the mark on the worry scale?” and “What were you thinking as you made the decision about where to place the mark on the fear scale?” Additional questions, such as “What does worry/fear mean to you?”, and follow-up questions, such as “What do you mean?” or “Tell me more”, were asked when needed, to obtain further explanations and insight into the women’s thoughts and feelings, as suggested by Hsieh et al. (179).

Analysis

To describe the different dimensions and to gain a deeper understanding of FOB, content analysis was conducted (180,181). The aim of content analysis is to reach a focused but still varied description of the studied topic, and to provide understanding and knowledge about that topic (179,180). In addition, the outcome should describe the topic using different categories (180). The interviews lasted for two to ten minutes and were transcribed verbatim shortly after being conducted. Given the limited previous knowledge about what women think when assessing FOB on the Fear of Birth Scale, the analysis was conducted using an inductive approach. The first 17 interviews were read through several times in order to get a sense of the whole and to gather ideas for further analysis. In order to extend the variety of expressions, we conducted 14 more interviews. The transcribed text was structured into meaning units and then condensed so that unnecessary words were removed without losing the content of the text (182). Thereafter, we coded the condensed meaning units so that they could be understood using only one or a few words (181). The research team read through and compared the codes in order to identify differences and similarities. Subsequently, the codes were linked and sorted into subcategories. We discussed the content of the sub-categories several times, and created categories while trying to maintain close integrity with the original text (179,181). Successively, we identified examples for each code, sub-category and category from the data. A category was identified as a descriptive unit, summing up the sub-categories that had the same meaning. An example of the analyzing process is presented in Table 2.

Table 2. Example of the analyzing process of Study II

Category	Worry- unspecific feelings, sensations, and thoughts about an unpredictable event				
Sub-category	Feelings about an unpredictable event			Stress reactions	
Code	Not knowing what to expect	Feeling insecure	Feeling that something might go wrong	Feeling stressed	Nagging feeling
Condensed meaning unit	Worry is being unprepared and unaware of what you will go through.	Worry and insecurity belong very much together.	Worry is being afraid that something negative will happen during labor.	Worry can lead to stress and difficulties in sleeping.	Worry is a nagging feeling that something is wrong, there and bothers you all the time.
Meaning unit	<i>Ehmm, being a little unprepared maybe or... yes ... no but ... you don't know what you will go through exactly. (6)</i>	<i>Worry is when I feel insecure. They go very much together. (19)</i>	<i>...being afraid that something difficult or bad will happen, I guess there is a lot that can happen during labor that is not so nice. (18)</i>	<i>... then you easily get stressed and have difficulties sleeping. (13)</i>	<i>...a nagging feeling that something can be wrong or go wrong or something like that. Worry is more like something that is there and bothers you all the time. (4)</i>

Study III (Papers III and IV)

Design

Study III presents the primary (level of FOB at 36 weeks of gestation) and a secondary outcome (level of FOB one year after giving birth) of a randomized controlled trial (RCT) with a multi-center design called the U-CARE: pregnancy trial.

The RCT aimed to compare guided ICBT (intervention) with SC for FOB (midwife-led counseling) for pregnant women with a FOB. The RCT was associated with the Uppsala University Psychosocial Care Programme (U-CARE), a government-funded project aiming at preventing and reducing emotional distress for patients with somatic diseases via the Internet (183). The RCT followed Consolidated standards of reporting trials (CONSORT) guidelines and was registered at Clinicaltrials.gov (No. NCT02306434) (184).

The sample size was determined on a reduction in level of FOB, assessed in mid-pregnancy and one year after giving birth. It was based on a previous study, where 59% of the women who were fearful during pregnancy reported no FOB one year postpartum (41). Based on a 20% reduction of FOB, a two-sided test, a power of 0.80 and a level of significance of 5%, the power calculation showed that approximately 200 participants must be enrolled in the study to achieve adequate statistical power.

Recruitment and participants

The RCT was undertaken at three study centers in Sweden; one university referral hospital with 4000 births yearly, one regional hospital with 2800 births yearly, and one regional hospital with an annual rate of 1600 births. The recruitment started in February 2014 and ended in February 2015 (see Figure 2 for the detailed Flow diagram).

In the screening procedure, ultrasound midwives or research nurse assistants handed out information sheets to women attending the screening ultrasound in gestational weeks 17–20. The information sheet included brief information about the RCT and a screening questionnaire. Questions about age, gestational week, parity, the FOBS, and information about personal access to a mobile phone and computer with Internet connection was included in the questionnaire. Of the 7401 women eligible for screening, 4502 completed the questionnaire and agreed to be contacted by one of the research midwives for further information and the possibility to ask questions about the results of the questionnaire. The ultrasound midwives and research nurse assistants collected the questionnaires, which in turn were collected weekly by the research midwives.

In the next step of the inclusion strategy, the 864 women who scored 60 or above on the FOBS, and who fulfilled the inclusion criteria (gestational weeks 17–20 with a normal screening ultrasound, mastering the Swedish language, and access to a mobile phone and computer with Internet connection) received a phone call from one of the research midwives. The midwives explained the outline of the study to the 712 women who were reached, and the women were informed that if they consented to participate in the study they would be randomized to either guided ICBT or to SC. The women also had the opportunity to ask further questions. Besides talking about the RCT, the women often disclosed their worries, fears and birth experiences as well as other personal experiences during this conversation.

During the phone call, supplementary information came up which excluded an additional 38 women. The women who did not want to participate in the RCT most commonly stated that they were not in need of treatment, did not view their fear as treatable, preferred to take part in the SC for FOB, or already felt supported by their antenatal midwife. The 325 women who were interested in participating were sent a letter of invitation and an informed consent form together with a pre-paid envelope. Within the U-CARE project, an internet platform called the U-CARE portal (www.u-care.se) was developed. The portal is used for interventions undertaken within the U-CARE program, as well as randomization and data collection of the different associated studies (183). Therefore, the 276 women who returned the signed consent form received login details to the portal.

Of those provided with login, 258 completed the online pre-intervention questionnaires and were then randomized (1:1) by the portal to either guided ICBT or SC. The participants received a message in the portal with information about which group they were randomized to, and an e-mail with additional information about how to proceed through the portal. All baseline questionnaires were blinded for the researchers until randomization was completed.

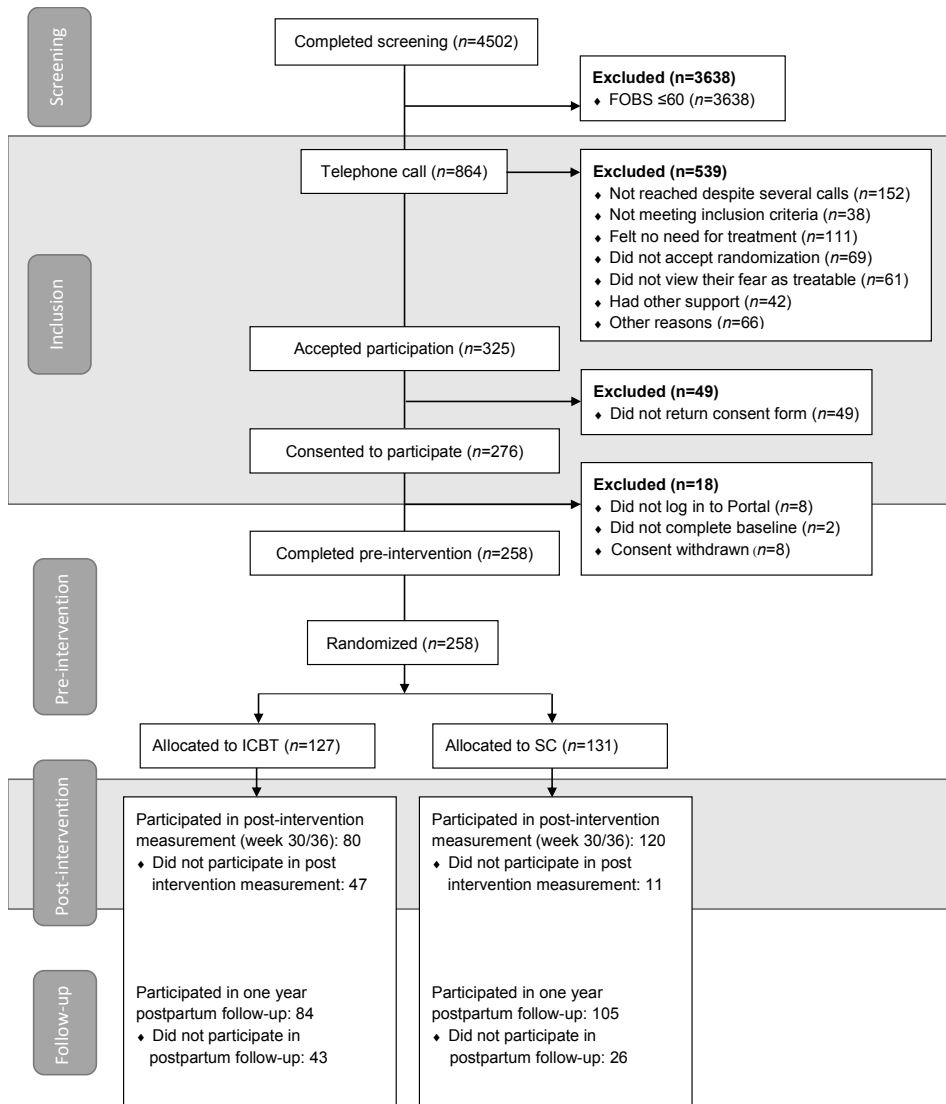


Figure 2. Flow diagram of Study III, developed according to CONSORT guidelines

Intervention – guided Internet-based cognitive behavior therapy

Participants randomized to guided ICBT received a personal message in the portal and were automatically given access to the first treatment module. The message welcomed the participant to the treatment, introduced her to a psychologist (one of two), and encouraged the participant to start working with the first treatment module. The participants were also sent a phone text message informing them about the personal message in the portal. To optimize adherence and motivation, the psychologists started to call each ICBT-participant about halfway through the study. In total, the psychologists talked to 37 of the participants on the phone.

In total, the guided ICBT consisted of nine modules; eight treatment modules and one postpartum follow-up module. Each module contained one or two sections with text material, and one-to-three assignments closely relating to the content in the preceding texts. Within a week after submitting each assignment, the participants received written feedback from the psychologist through the portal. The participants could only proceed to the next module when the required assignments for the active module had been submitted and approved by the psychologist.

The treatment was designed specifically for this study, and was aimed at helping the participants to observe and understand their FOB and to find new ways of coping with difficult thoughts and emotions. This was done through both educational modules and self-registrations where the participants themselves wrote down for example thoughts and feelings they experienced as problematic.

The first module was an introduction to CBT and how it applies to fear in general and to FOB in particular. In the first assignment, the participants were asked to formulate individual goals for the treatment and to identify specific behaviors related to those goals.

The second and third modules consisted of texts about emotions and behavior. More specifically, the participant could read about what an emotion is and how emotions, such as fear and anxiety, function and influence what you do and why. The text also described how a situation of, for example, fear or anxiety, may affect how similar situations are approached or avoided in the future. In the assignments in these modules, the participants were asked to pay attention to their own worry and fear, observe in which situations these emotions occur, and what thoughts, bodily sensations and behaviors they are connected to.

In the fourth and fifth modules, the participant could learn about automatic thoughts and catastrophizing. Further on, the concepts of mindfulness and acceptance were explained, and in the assignments the participants were encouraged to work with present-focused awareness and identification of areas in need of acceptance.

The sixth and seventh modules focused on exposure. First, the participants learned why exposure is helpful and that there are different kinds of exposure, for example, situational, imagined, and exposure to bodily sensations. Second, the exposure took place; both exposure to photos relating to birth such as photos of the birth room, and to personally avoided situations such as taking a blood sample.

In the eighth module the aim was to summarize the program. The participants were encouraged to work to maintain what they had learned during the program and to prevent a relapse. In the last assignment, the participants evaluated their personal progress and created a plan for maintaining that progress and to determine how to continue the improvement.

The ninth module was a follow-up module which was available postpartum. Here, the participants could work with their birth experience and reflect on how the skills they acquired through the program could be generalized to other areas in life.

All participants received feedback from their psychologist when finishing each assignment. In addition, the psychologist worked to positively reinforce the participant's efforts while working with the treatment. Beside this communication, the participants could also ask questions and receive additional support through text messages and e-mails, sent within the portal. The psychologists also sent text messages and e-mails to participants who did not log in to the portal or who did not follow the plan for the treatment, reminding them to log in to the portal.

Standard care for fear of birth – midwife-led counseling

Participants randomized to SC for FOB were offered counseling in accordance with the guidelines of the Swedish Society of Obstetrics and Gynecology. However, despite these guidelines, the counseling differs throughout the country (51,151). Because of this, the SC is organized in different ways at the three study centers. At these centers, women with a FOB are counseled either by their antenatal midwife, and/or counseling midwives and/or obstetricians, or by a psychosocial unit consisting of midwives, obstetricians and psychologists. Depending on what study center the participant belonged to, she received a message in the portal either with the information that the counseling was going to start in the next meeting with the antenatal midwife, or that a referral was going to be sent to the counseling midwives.

The exact content and format of the FOB counseling also differs between the hospitals and the people who perform it. In general, the counseling aims at reducing fear and making the birth experience as positive as possible, irrespective of mode of birth. In the counseling sessions, the midwives inform about the process of giving birth, the pros and cons of the different modes of birth, and promise early pain relief, such as epidural analgesia. They try to strengthen the woman in her belief in herself and her ability to give birth, and

they usually write a birth plan together with the expectant parents (51). If the woman has given birth before, those birth experiences are central to the counseling. In those cases, the focus is to understand what happened during the previous birth and to accept the birth and the emotions that accompanied it (27). The counseling typically consists of two to four sessions (51).

Data collection

Data in the RCT were collected at six time-points; at screening in gestational weeks 17–20, pre-intervention in gestational weeks 20–25, post-intervention in gestational weeks 30 and 36, and at follow-up two months and one year after birth. Reminders, in the form of phone text messages and e-mails, were sent to each participant after the start of each time-point in order to maintain retention. In Paper IV, data from screening, pre-intervention, post-intervention and follow-up one year after birth were used.

All participants completed all questionnaires via the portal, except the screening questionnaire, which was a paper questionnaire. Reminder questionnaires, which were sent one year after birth, were also regular paper questionnaires. Sociodemographic information and obstetric history were collected at pre-intervention, while the FOBS was included at all time-points.

Analysis

IBM SPSS Statistics, version 24 was used for the statistical analyses in this intention-to-treat study. Due to participant non-response, the last observation carried forward was used to combine data from gestational weeks 30 and 36. Independent samples *t*-test, Mann-Whitney *U* test and Pearson's chi-square test were used to analyze between-groups differences in pre-intervention characteristics and in FOB at post-intervention and follow-up. Little's MCAR test (185) was used to conclude that data were missing completely at random.

Both observed and estimated data were used to calculate between- and within-group effect sizes (Cohen's *d*). In line with criteria stated by Jacobsen and Truax (186), individuals with post-treatment and/or follow-up levels of FOB two standard deviations below the pre-intervention mean of the group were considered responders to treatment.

To analyze changes in FOB over time and whether such changes depended on treatment allocation, parity, or both, Linear Mixed Model analyses were used. Linear Mixed Models analysis is suitable for intention-to-treat analyses in longitudinal studies as it uses all available data, instead of excluding participants with missing data and generates unbiased parameter estimates, as long as data are missing at random (187–189). To compare the first model with the next models, the maximum likelihood estimation was used (190).

The first model examined the fixed effect of time (the individual week of response) on FOB (the dependent variable), with a fixed intercept (the estimated due date). The second model examined the random effect of time, with a random intercept. The third model was conducted in two versions, in the first version, the fixed effect of treatment and the interaction between treatment and time was analyzed. The second version of model three examined the fixed effects of parity along with the interaction between parity and time. Further on, all of the parameters from the two versions of the third model, as well as the three-way interaction between time, treatment, and parity, were included in the fourth model. The fit of each model was compared with the preceding using the Likelihood Ratio Statistic (190).

Ethical considerations

All studies were conducted in accordance with the Helsinki Declaration to ensure the rights and welfare of the participants (191). According to this declaration, a patient's health and best interest should be the main consideration when medical research involves humans. It also states that groups who are underrepresented in research should be given access to participating in research and that particularly vulnerable groups should receive considered protection. Both foreign-born women and women with a FOB were therefore given extra concern by the research midwives, whom were available to answer phone calls, phone text messages and e-mails during each of the study periods.

Ethical approval for the studies was obtained from the Regional Ethical Review Board in Uppsala (approval number: 2013/209) and from the head of the clinics where the studies were conducted. All women who completed the screening questionnaires were given oral and written information and were informed that participation was voluntary and that all information would be treated confidentially. All staff working with recruitment to the studies were informed about the studies and could contact the research midwives in case of any questions.

All participants gave their informed consent before inclusion in the studies. In Studies I and II, we asked for their consent at the ultrasound clinic, and in Study III we asked for their consent by telephone and mail. If a participant regretted giving her consent, she could withdraw from the study at any time without giving any reason. In Studies I and II, a participant could withdraw by contacting the study researchers, and in Study III, by contacting the research midwives, contacting her antenatal midwife, or by sending a message to the psychologists in the portal.

Once having given her consent to participate, a code was assigned to each participant. In Studies I and II, the code was assigned manually by the study researcher, and in Study III, the portal automatically provided the participant with a code and the participants also chose a username. Only the study researcher had access to the collected questionnaires and the recorded and transcribed interviews in Studies I and II. In Study III, the researchers connected to this RCT were the only ones who had access to this specific study in the portal.

All participating women received standard antenatal care during pregnancy, birth and postpartum and were not considered to be at risk of harm. Participants in Studies I and II who scored 60 or above on the FOBS were encouraged by the research midwife to talk to their antenatal care midwife for further FOB-counseling.

In Study III, all data collection, distribution of the guided ICBT intervention, and communication between participants and psychologists were conducted through the portal. In order to log in to the portal, a two-step verification was required, with a user name, password and a unique five-digit code

sent via phone text message at each log-in. Major efforts (such as obtaining signed informed consent and information concerning the patients' rights as participants) were taken to ensure that the participants' personal data could not be linked to the patient-reported data by anyone other than the researchers. For example, the signed informed consent forms and information concerning randomization were kept separately, in locked storage files.

Another ethical concern in Study III was the possibility of including participants who were in need of specialized psychiatric care. All participants saw their antenatal care midwife regularly, and if they also participated in any other medical or psychological treatment, they did not have to end this because of inclusion in the RCT. If any participant was thought to benefit from more specialized care than the RCT, both before inclusion or during the RCT, this was discussed with the participant and she was guided to suitable healthcare services when needed.

Summary of findings

Prevalence of fear of birth (Study I)

Of the 606 participants, 22.1% ($n=134$) were born outside Sweden; 11.2% were born in Asia, 5.8% were born in Europe, 3.8% were born in Africa, and 1.3% were born elsewhere. In total, 7.4% completed the questionnaire in a language other than Swedish (English, Arabic, Sorani Kurdish, Persian, Somali or Thai). The most common questionnaire languages, besides Swedish, were English (2.6%) and Arabic (2%).

The prevalence of FOB in the total group was 22.1% ($n=134$). Among the women born in Sweden, 18% ($n=85$) reported FOB, while 36.8% ($n=49$) of the foreign-born women reported FOB. Thus, foreign-born women were more than twice as likely to report FOB compared with women who were born in Sweden (OR 2.7; CI 1.7–4.0). Being primi-parous and completing the questionnaire in a language other than Swedish was associated with higher levels of FOB (OR 1.9; CI 1.3–2.8, OR 2.3; CI 1.2–4.3, respectively). No differences in age, civil status or level of education between women with or without FOB were found.

When separating the women who were born in Sweden and the foreign-born women and analyzing the associated factors for FOB, being a foreign-born primi-parous woman was the only variable associated with an increased risk for FOB (OR 3.8; CI 1.8–8.0). There was no difference in levels of FOB between the foreign-born women who completed the questionnaire in Swedish compared to the foreign-born women who completed it in another language.

Women's thoughts when assessing fear of birth (Study II)

In the analysis, six different categories emerged. The participants described worry and fear, how they understood the FOBS and they also specified different their worries and fears. Additionally, they exemplified aspects that influenced worry and fear, and described strategies for how to cope with worry and fear.

Worry – unspecific feelings, sensations, and thoughts about an unpredictable event

Irrespective of previous birth experiences, worry was described as unspecific, but often negatively loaded, feelings, sensations and thoughts. In the statements, there were recurrent descriptions of birth as an unpredictable event. The primi-parous women primarily linked it to feeling insecure about something they had not done before, while the multi-parous women stated that it is difficult to know what is going to happen during birth, irrespective of earlier birth experiences (positive or negative).

Both primi- and multi-parous women described worry as a feeling that something might go wrong. Feeling worried was also explained as having recurring thoughts or thoughts that were present for a long period of time. The thoughts could be either troubling or more neutral. For some participants, feeling worried led to reactions such as stress, nervousness, stomach aches, nightmares or sleeping difficulties. Despite these descriptions, worries were also seen as a normal part of the expectations around an upcoming birth, with some even describing their worry as fascinating.

Fear – a strong situation-specific feeling

In contrast to worry, fear was described as a strong feeling connected to something specific. The participants described that fear was either based on earlier experiences, or was connected to other people's information or experiences. Knowing that the fear originated from specific situations, information or experiences sometimes made some women feel that something could be done to prevent it. In addition, fear was described as being constantly present. Some participants expressed that the fear affected them daily and felt that it was hard to manage. Figure 3 illustrates the content of worry and fear.



Figure 3. The content of worry and fear

Understanding the Fear of Birth Scale

The intention of the FOBS was understood by the participants who commented that marking low on the scale meant that they had little or no worry or fear and vice versa. Some also commented that worry and fear change during pregnancy, which would make them mark the scales differently later on.

Examples of worries and fears

The participants specified different worries and fears in relation to birth. They raised different psychological and physical concerns, such as feeling left out, perceiving loss of control, labor pain, and tearing. Thoughts about the health of the baby were also prevalent.

Aspects influencing worry and fear

Certain aspects, such as previous births, previous encounters with the health services, and other women's birth stories or information/stories in media, influenced the participants' feelings of worry and fear. Other people's experiences and media stories were mainly explained as having a negative influence on their thoughts about the impending birth while their own birth experiences were referred to as affecting their thoughts, both positively and negatively. Some foreign-born participants pointed out that they and their partners were alone in Sweden without support from their families. This generated feelings of loneliness, which affected their feelings for the impending birth.

Strategies used to cope with worry and fear

Different strategies to cope with worries and fears were described by some participants. One strategy mentioned was trust in external resources, which implied that the participants trusted the staff, had faith in analgesics, faith in God, or relied on support from their partners. Trust in one's own capacity was another strategy, which related to personal characteristics. Furthermore, the notion that other women have given birth before made the participants more convinced that they also could give birth. Some women had adopted the approach of just taking the birth as it comes, while others mentioned the importance of being prepared.

The randomized controlled study (Study III)

Sample characteristics

The mean age of the 258 participants was 29.6 years (SD 4.88, range 17–42 years). At screening, the FOB prevalence differed between 17.4% and 20% in the different study centers and the FOB prevalence in the total group was 19.2%. Although all participants had FOB (FOBS ≥ 60) at screening, 20.2% of the participants scored below this cut-off point at pre-intervention. Of the multi-parous participants, 35.6% reported a previous negative birth experience, 22.1% had experienced a previous emergency caesarean birth, and 25.0% had experienced a birth aided by vacuum extraction. For further background characteristics, see Table 3. The guided ICBT-group and the SC-group did not differ with regards to any of the background characteristics or FOB-levels at screening or pre-intervention.

Table 3. *Characteristics of the participants in Study III*

All participants (N=258)	n (valid %)
Civil status	
Living with partner	243 (94.2)
Not living with partner	15 (5.8)
Level of education	
Compulsory school / high school	120 (46.5)
University education	138 (53.5)
Country of birth	
Sweden	224 (86.8)
Other country	34 (13.2)
Parity	
Primi-para	154 (59.7)
Multi-para	104 (40.3)
Previous abortion	
Yes	61 (23.6)
No	197 (76.4)
Previous miscarriage	
Yes	60 (23.3)
No	198 (76.7)
Ongoing or history of depression	
Yes	91 (35.3)
No	167 (64.7)
Ongoing or history of anxiety	
Yes	75 (29.1)
No	183 (70.9)
Using medication for depression/anxiety at present	
Yes	20 (7.8)
No	238 (92.2)
Previous CBT experience	
Yes	29 (11.2)
No	229 (88.8)
Previous experience of standard care for FOB (N=257)	
Yes	17 (6.6)
No	240 (93.4)

Treatment adherence

Of the 127 participants allocated to guided ICBT, 103 (81%) commenced treatment. Further on, 60 (47%) participants opened the second module, 35 (28%) opened the third module and 24 (19%) participants opened the fourth module. One participant opened all nine modules. Regarding the participants allocated to SC, feedback on adherence could not be retrieved.

Missing data analysis

According to Little's MCAR test, data were missing completely at random in the primary outcome variable, $\chi^2(8) = 9.799, p = .28$. No differences were found between participants completing post- and/or follow-up measures and those lost to follow-up. However, a larger proportion of participants lost to follow-up had been assigned to the guided ICBT-group.

Descriptive statistics, mean differences, and effect sizes

The FOB-levels did not differ between the guided ICBT-group and the SC-group in late pregnancy, and the between-group effect sizes were very small; $d = 0.14$ in the observed data and $d = 0.15$ in the estimated data, both favoring SC. However, at follow-up, one year after birth, participants in the guided ICBT-group had significantly lower levels of FOB, both in observed and estimated data ($U = 3674.00, z = -1.97, p = .049$ and $U = 6985.00, z = -2.23, p = .001$, respectively). The between-group effect sizes were still small at follow-up, $d = 0.28$ in observed data, and $d = 0.29$ in the estimated data, but at this point guided ICBT was favored instead. See Figure 4 for observed and estimated mean scores from screening until one year postpartum.

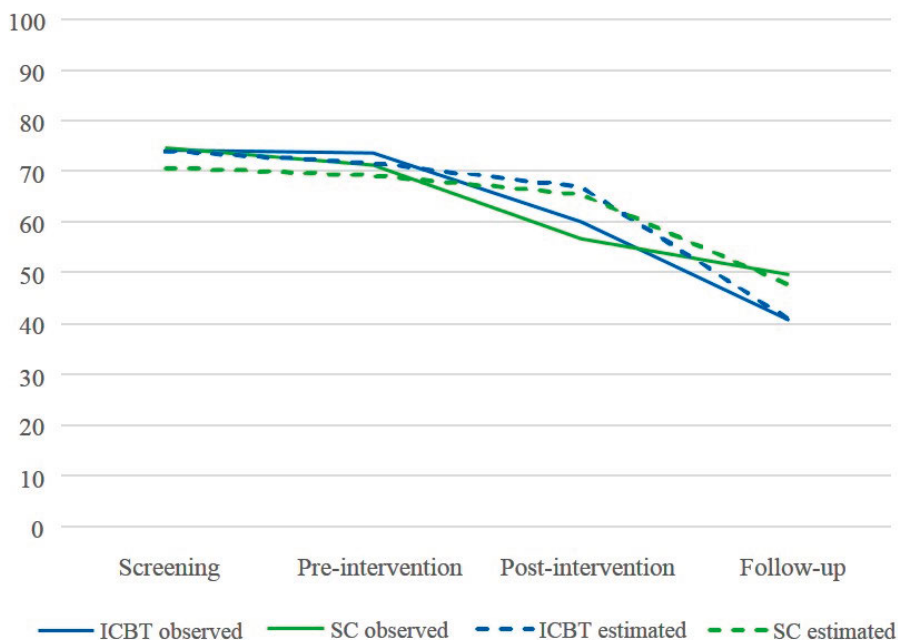


Figure 4. Observed and estimated FOBS mean scores from screening until one year postpartum

Responder analysis

In late pregnancy, a significantly higher proportion of the SC-participants had responded to treatment, 29 (22.1%) as compared to 11 (8.7%) in the guided ICBT-group, $\chi^2(1) = 8.94, p = .003$. At one year postpartum, the groups did not differ; 44 (34.6%) of the participants in the guided ICBT-group and 37 (28.2%) of the participants in the SC-group reached below the cut-off point.

Linear mixed model analysis

In the linear mixed model analysis, we found a significant difference between participants in the effect of time on FOB. This difference could partly be explained by treatment allocation. Over time (from screening to one year postpartum), FOB decreased more in the guided ICBT-group than in the SC-group $F(192.538) = 4.96, p = .03$. Changes in FOB did not differ between parity groups, and no interaction between treatment allocation and parity on the effect of time on FOB was found.

Discussion

The research presented in this thesis showed that FOB, assessed in a general pregnant population, was identified among 22% of the pregnant women. Also, FOB was more than twice as common among the foreign-born women when compared to the women who were born in Sweden. When we asked the participants what they thought when assessing their FOB on the FOBS, they confirmed that they had understood the measurement intent of the scale. They were also able to distinguish between the constructs of worry and fear and described several other factors relating to worry and fear that came up while assessing FOB.

The RCT showed that FOB decreased during pregnancy and postpartum in both the guided ICBT-group and in the SC-group. The levels of FOB, and how they changed over time, varied between the participants, with no significant differences between the guided ICBT- and the SC-group in late pregnancy. However, the FOB-levels decreased more in the guided ICBT-group when measuring FOB up to one year postpartum. The changes in FOB over time did not differ between the parity groups. These findings will be discussed in relation to the two models presented in the framework; the midwifery model of care, and the medical model.

Prevalence of fear of birth and medicalization of birth

The identified prevalence of FOB in both Study I (22%) and Study III (19.2%) can be perceived as high compared to the estimated global FOB prevalence of 14% (29), but other studies in Sweden using the FOBS have shown similar results (60). In addition, as we included non-Swedish-speaking women in Study I, a FOB prevalence of 22% may even be closer to the true prevalence of FOB among pregnant women in Sweden. Since the 1980s, when measurement of FOB was initiated in Sweden (16), it is believed that FOB among pregnant women has increased (24). However, it is difficult to estimate whether the prevalence of FOB has changed over time, given that FOB has been assessed with different instruments and at different time-points during pregnancy in the various studies. If in fact the prevalence of FOB in Sweden has increased in recent years, one possible explanation for this may be the medicalization of childbirth.

Medicalization has framed childbirth into something uncontrollable and unpredictable where risks are underlined. Thereby, manifestations of FOB, such as fear of the unknown and fear that something can go wrong, may be raised (192). In Study II, both the primi- and multi-parous women associated worry with not knowing what to expect and the feeling that something might go wrong. This result is consistent with the findings from Fisher et al., who also concluded that fear of the unknown is a common object of women's FOB (66). Although women in Study II might have had previous positive birth experiences, such experiences was not always brought to mind in ongoing pregnancies. Fisher et al. found similar results in their study, which was explained as a result of the medicalization of childbirth and the construction of birth as a hazardous medical event (66). In line with that finding, fear of the unknown has also been associated with fearful women who would prefer to give birth by cesarean section, as they may perceive cesarean births as being more controllable than a vaginal birth (124).

In Study I, more than twice as many of the foreign-born women feared birth (37%), compared to the women who were born in Sweden (18%). Although little is known about FOB among foreign-born women, certain aspects have been shown to be important for their experiences of the care surrounding childbirth. An international review article focusing on immigrant women's experiences of antenatal care in Sweden, the UK, Canada, USA and Australia concluded that communication problems, lack of familiarity with how care was provided, and experiences of discrimination affected their experiences negatively (193). Internationally, a higher prevalence of cesarean births among foreign-born women has been found, which could be a result of the experienced lack of communication (194,195). In addition, research has shown that foreign-born women compared to women who were born in Sweden are more likely to prefer a cesarean section when being asked about their preferred mode of birth (113). The reason for their preference for caesarean section is unknown, but the high prevalence of FOB among foreign-born women could be one cause. Although the aspects mentioned above have not been investigated in this thesis, the foreign-born women in Study I might have similar experiences of problems in relation to poor communication, which, in that case, probably affect their feelings towards birth.

It has been suggested that the risk discourse underpinning the medical model in maternity care leads to women's lack of confidence in their bodies, and entails a lack of faith in their ability to give birth safely without medical interventions. The new technologies have required pregnant women to deal with the concept of 'risk', making decisions on whether to undergo a test, for example prenatal screening, and to deal with the consequences of that decision (196). The thought of being able to avoid risks makes some pregnant women want to plan and control as much as possible, which in turn can make them anxious because of the constant awareness of possible risks and concerns about themselves and their baby's health (196). This lack of childbirth self-

efficacy has been connected to both high FOB (197,198), higher usage of epidural analgesia during birth (197) and preference for a cesarean section (199). Because usage of epidural analgesia and a cesarean section preference have also been associated with high FOB (115,117,118,123), Carlsson et al. (197) recommended that the causal relationship between childbirth self-efficacy and FOB should be investigated further.

In countries such as Sweden, the medical model has strongly influenced the healthcare system and, subsequently, healthcare professionals, which makes the understanding of this model important for Swedish maternity care (164). If the midwifery model of care had the same influence and power on the maternity care system, expectant parents would thus be informed about the evidence of continuous support in improving birth outcomes (139) and would be more likely to choose such care if it were available. If fully embraced, the midwifery model is known to empower women, reduce stress and improve women's experience of managing pain (162). Likewise, Swedish midwives who are working in a context where the medical model is more powerful than the midwifery model of care may be more likely to suggest that women take a medical approach to managing labor and suggest epidural analgesia as first choice for pain relief rather than less invasive approaches, such as mobility during birth, upright birth positions and relaxation techniques as suggested by the WHO (200). The lack of prioritized time for supporting the woman who is giving birth seems to be one reason for this (169), but one can also speculate that the pervasive impact of medicalization may have led to an increased lack of competency in how to provide support to women. Moreover, when midwives attempt to normalize birth in contexts where medicalization is the dominant paradigm, this conflict becomes problematic and can lead to both emotional distress and frustration for the midwives (169,201). Consequently, this could be one reason for why midwives are leaving the profession (202).

The fact that some women have a strong belief in medical technology and prefer to defer to medical control over the unpredictable pregnancy and birth has also been discussed. From that point of view, medical control can have a reassuring effect as it makes birth seem more predictable and controllable (203). Furthermore, in a recent longitudinal study of 836 pregnant Israeli women, a positive attitude towards medicalization was associated with higher levels of FOB and higher odds of having a more medicalized birth (e.g. planned cesarean birth, emergency cesarean birth or instrumental vaginal birth) (204). This finding further reinforces the theory that some women manage their fear by putting their trust in medical technology.

Screening for fear of birth

Because FOB is not a life-threatening condition, it is not recognized in the same way in the medical model as it is in the midwifery model of care. From a midwifery perspective, one would screen for FOB after a clinical evaluation where the midwife would build a relationship with the woman, ask her questions, and, together with the woman, determine whether she would benefit from further consultation. Seen from the medical perspective, if screening for FOB were to be prioritized, it would be performed to find out whether the woman has a FOB, and, in such case, she would be referred for further treatment. Irrespective of the domination of either the midwifery model or the medical model, it is important to clarify the pros and cons of screening for FOB, before any recommendations can be made in regard to policy guidelines.

Given the 22% prevalence of FOB found in this study and the complications that might emerge as result of FOB, there is reason to discuss whether routine screening for FOB should be considered during pregnancy. If we want to be able to identify the women with a FOB, such screening needs to be performed in a systematic way. Still, screening for FOB is a form of risk assessment. Such assessments can be beneficial, detecting potential adverse events that can be prevented by interventions to improve the outcome, but if a clear benefit is lacking, it can also lead to unnecessary stress for the pregnant woman (162).

According to the WHO, screening should only be applied if certain principles are fulfilled (205). Firstly, the condition should be an important health problem and there should be enough knowledge about its natural history and development. A considerable amount of literature has concluded that FOB is of importance as it can worsen the health of the pregnant woman and generate complications during pregnancy, birth and postpartum (38,78,119,128). Furthermore, the objects of FOB have been well explored (37,65–67,69). However, lack of unified terminology, definitions and diagnosis of FOB are still gaps in the FOB research that need to be filled before routine screening can be recommended.

In addition, according to the WHO principles, a suitable test that is acceptable for the population must exist (205). The construct and face validity of the FOBS, as a screening tool for FOB, was confirmed in the qualitative study (Study II). The women confirmed that they had understood the FOBS and their descriptions of their fears and worries were consistent with the existing literature. Additionally, a two-item measure in a clinical context appeared to be easy to use. To be successful in identifying psychosocial complications during pregnancy, the measure needs to be concise, user-friendly and performed in a systematic way, especially if it is going to take up time in an already busy antenatal care setting (206). In addition, Richens et al. (11) recently published a review on measurements of FOB, suggesting that the FOBS, in comparison with W-DEQ and other more or less frequently used scales, has benefits as a

clinical screening tool for detecting FOB (e.g. being flexible and user-friendly). However, they suggested further testing the FOBS in other diverse groups of women. Therefore, the ability to translate the FOBS to different languages, as seen in Study I, is also an advantage in comparison to other, more comprehensive, instruments. The high prevalence of FOB and the overall limited knowledge about the foreign-born women who give birth in Sweden further demonstrates that an instrument for assessing FOB should be applicable to all pregnant women.

The FOBS is a non-restricted measure in the sense that it targets the participant's worry and fear, regardless of the origin of the emotions. This is a major strength, as restrictive tools for assessing FOB may hamper women's different perspectives on FOB, and thereby some women who do have FOB will not be identified (11,58). Further, the content of women's FOB seems to vary across countries (21,192), which could be an additional incentive for using a flexible tool for screening for FOB.

Also, if screening should be introduced, it is important to apply cost considerations. Such calculations have been performed to some extent, both comparing healthcare costs for women with and without FOB and calculating costs of interventions for women with a FOB (207–209). Nieminen et al. (207) found that the costs for taking care of women during pregnancy, peripartum and postpartum (e.g. the number of healthcare visits during pregnancy and postpartum, hours of sick leave, duration of stay at the maternity ward and birth outcomes) in Sweden was 38% higher among women with severe FOB compared to those with low levels of fear. When interventions, aimed at reducing FOB and cesarean birth rates, were evaluated, the costs for the interventions were compensated for by savings due to a reduced number of cesarean births (208,209). However, considering costs for FOB is a complicated process, as it is difficult to include all the areas relating to FOB. For instance, research has shown that FOB often lingers with the women up to one year after birth and from one pregnancy to the next (44,75), however, it is unknown whether and how FOB affects the woman and her family in the long run.

Another point to take in to consideration is that screening, in contrast to clinical judgement, can raise unnecessary concerns (210). However, because almost all pregnant women in Sweden attend standard antenatal care several times during pregnancy (3), such concerns can be raised either by the expectant parents or by the antenatal midwife and hopefully the woman can then receive the help she needs. If screening is not applied, the detection of FOB only relies on the pregnant woman's (and her partner's) ability to convey her thoughts to the antenatal midwife or on the clinical judgement of that midwife. This can lead to, and probably is already leading to, failure in recognizing women with a FOB and thereby to unequal maternity care. Considering that only 7.8% of the pregnant women in Sweden receive SC for FOB, and the under-representation of foreign-born women among those receiving care for mental illness during pregnancy (89), further strengthens the hypothesis of the

failure to recognize all women with a FOB. On these grounds, routine screening for FOB would be beneficial as it would promote better equality in the provision of antenatal care. Although, to commence screening for FOB, it is essential to also incorporate a suitable evidence-based treatment.

Treatment for fear of birth

In Study III, women with a FOB were randomized to either guided ICBT or SC. FOB decreased in both groups during pregnancy and postpartum. This finding is consistent with the results from the Australian RCT comparing telephone counseling with standard antenatal care, which also showed reduced levels of fear during pregnancy in both the intervention- and SC-group (18). In addition, Hildingsson et al. found, in a sample of both fearful and non-fearful women, that the mean level of FOB decreased from mid- to late pregnancy (172).

The decrease in FOB over time in both groups in the RCT was already observed at the pre-intervention stage. As many as 20% of the women who consented to participate in the RCT, who expressed that they felt fearful at screening, did not score above the cut-off point for FOB five weeks later. The screening ultrasound took place just before the FOB screening. Because most pregnant women attend this ultrasound (211), it seems to be an important event for expectant parents. Although speculative, the medicalization of pregnancy and birth may have influenced parents to put a lot of trust in this examination, which most likely causes both worry and fear for parents. Directly after the examination, the pregnant women completed the screening questionnaires and might therefore have still felt worried and fearful. Thereafter, the positive ultrasound screening result might have sunk in, which could be a possible explanation for the decrease of FOB at the pre-intervention time-point. A few weeks after the screening ultrasound, the research midwives made a telephone call to all the women who scored ≥ 60 on the FOBS at screening. During that conversation, the women often disclosed their thoughts and feelings and asked questions about the impending birth. These conversations may well have relieved some worry and fear among the pregnant women, which also could explain the reduced FOB at pre-intervention.

Regarding the reduced fear levels from mid-pregnancy to one year postpartum, the decrease was a bit larger in the guided ICBT-group compared to the SC-group. This decrease was in accordance with the results of a Finnish RCT, where FOB, measured during pregnancy and three months postpartum, was found to decrease more in the intensive cognitive therapy-group compared with the conventional counseling-group (147). The larger decrease of FOB in the guided ICBT-group at one year postpartum can be a result of learning new ways of managing fear, but it can also be an effect of the fear levels in the SC-

group that have not been resolved beyond the actual birth. In a recent study, where women with a FOB were followed during pregnancy, FOB was shown to be higher in late pregnancy among women who had received SC for FOB compared to women who had not received SC for FOB, however, FOB was not measured postpartum (172).

When it comes to tracking FOB from pregnancy to one year after birth, many aspects can influence FOB along the way. A very important element affecting the postpartum well-being of the mother is the birth experience. For pregnant women in general, specific factors relating to the care provided throughout birth have been identified as influencing birth experiences more than others; a respectful maternity care, effective communication, having birth companions of the woman's own choice, and continuity of care (200). Women with a FOB seem to have higher birth expectations than others when assessing factors such as; support from the midwife, feelings of being in control, and the midwife's presence in the labor room (129). Researchers have suggested that these high birth expectations are beneficial for achieving a positive experience (13). In contrast, those having poor expectations and feelings of fear risk experiencing giving birth as negative as they are more likely to actually experience what they are afraid of (13,133). In such cases, SC for FOB seems beneficial as fearful women who have participated in the SC for FOB report having had their birth expectations fulfilled to a higher extent compared to non-fearful women (151). One reason for this could be that midwives who care for women who have undergone SC for FOB aim at devoting more time to the women during birth (27). Continuous support has been shown to be beneficial for all women who give birth, and for women with a FOB in particular (139,212).

Prioritizing the continuous support of women with a FOB could be an important way forward in utilizing the strengths of the midwifery model and improving the women's birth experiences. In birth facilities where the medical model is central, medical interventions are prioritized. In the best-case scenario in the medical model, continuous support comes second and is applied if there is time (163). If the midwifery model of care dominated, support would come first, as women who receive continuous support are more likely to have a shorter labor, and spontaneous vaginal births (139). Furthermore, women who receive continuous support would be less likely to experience regional analgesia, operative births and a baby with a low Apgar score. Importantly, dissatisfaction with childbirth has also been shown to be less prevalent among women receiving continuous support (139), further implying that all women, especially those with FOB and those not born in the country in which they live, would benefit from continuous support.

The questions about whether we should implement screening for FOB and how to treat women with a FOB in an evidence-based way remain. FOB is not sufficiently defined and there is still no first-choice evidence-based treatment. On the other hand, FOB is a common issue that complicates pregnancy and birth; the FOBS has proven to be a good measure for identifying FOB in the

clinical context, and there is a SC for FOB that is appreciated and well-accepted by pregnant women. Although treatment acceptance was not measured in Study III, it can be assumed that guided ICBT was not a preferred or well-accepted form of treatment. This assumption may depend on different things. The treatment had not been evaluated before in a pregnant population, implying that, although the content of the guided ICBT treatment was tailored for this group of pregnant women with a FOB, the modules in the treatment program may need some adjustments. In addition, several women, when asked about participation, preferred to choose SC for FOB instead of being randomized. This preference for SC is an important area for research in the future. Although the SC has not been proven effective in reducing fear, it does make women feel supported (75,151), which nevertheless should be emphasized.

Methodological considerations

This thesis can be seen as a process in which the first two studies laid the ground for the RCT. To meet the aim of the thesis, both quantitative and qualitative approaches were used. Quantitative approaches were used to investigate prevalence of FOB and the efficacy of guided ICBT for pregnant women with a FOB. A qualitative approach was used to gain a deeper understanding of what pregnant women think about when assessing FOB. In addition, the first study of the thesis included foreign-born women who did not speak Swedish; a group that is rarely invited to participate in research studies. However, there are both methodological strengths and limitations of this thesis to take into account.

Validity and reliability

The quality and adequacy of a quantitative instrument is commonly assessed by its reliability and validity. Validity refers to the extent to which an instrument measures what it is intended to measure and can be divided into: statistical conclusion validity, internal validity, external validity, and construct validity (213). *Statistical conclusion validity* is related to statistical power, and the question about whether there is evidence that a relationship between two variables exists. The power calculation of the RCT indicated that 200 participants needed to be included in the study to achieve sufficient statistical power. Altogether, 258 participants were enrolled, which would imply the detection of true relationships between variables. Still, obvious problems in the RCT were poor adherence to the guided ICBT and losing participants to follow-up. Various reasons for the poor adherence were reported, yet most participants did not respond to any contact. Regarding the SC-group, no information was available on who actually received counseling, how many appointments each participant had, who conducted the counseling, or what it consisted of. The only evidence relating to the SC is the research of Larsson et al. (51), showing that the SC exists nationwide but differs in aspects such as available treatment options for the women and time set aside for the individuals to perform the counseling. In the RCT, there were also quite large amounts of missing data, resulting in the need to combine two post-intervention measures and exclude follow-up data from two months postpartum. Unfortunately, the amount of

missing data was particularly evident in the guided ICBT-group, presumably due to low treatment adherence. Still, because data were missing completely at random, all available data could be used.

Internal validity refers to if whether a treatment truly caused the observed effect (213). In Study III, the randomized controlled design and the equivalence between the guided ICBT-group and the SC-group were important factors in strengthening the internal validity of the study (214). To be able to separate the effect of the intervention and confounding variables, a control group is necessary. However, in this study, the control group received SC for FOB. Because there is a time limit to pregnancy and SC is available for pregnant women with a FOB, this type of control was found to be the most appropriate. It would have been interesting to follow the natural course of FOB during pregnancy without any interventions, but that would not be ethically accepted in Sweden as SC for women with a FOB is already well established. To further strengthen the internal validity, the same instruments were used throughout the data collection process in the RCT, and also in Studies I and II.

External validity concerns the generalizability of the findings to other settings (213). To increase the representativeness of the sample, the RCT was conducted at three different study centers. In addition, few differences were found when the participants were compared with the general birthing population (88). However, inclusion criteria, such as mastery of the Swedish language, meant that the results cannot be generalized to the entire Swedish population.

Construct validity concerns what the instrument really is measuring and whether it measures it in an adequate way (213). Study II made sure that the FOBS question and response anchor words make sense in relation to the known constructs of FOB. Along with that finding, the content of women's FOB did not differ from earlier studies (44,65,66,69,72,215,216), which strengthened the construct validity of the FOBS further (217).

Reliability refers to the consistency with which it measures the attribute it is designed to measure (213). The FOBS was first used in a general pregnant population in a university hospital (Study I) and later in three different clinical settings; the same university hospital as in Study I, and two referral hospitals. In the university hospital setting, the FOB prevalence measured with the FOBS in two different time periods was almost identical (Study I: 22% in the total sample, 18% among the Swedish-born, and Study III: 19.2%), which strengthens the reliability of the measure (213). Furthermore, the questionnaire in Study I was translated to eight different languages. In Sweden, there are no statistics on spoken languages (218), which is why an estimation on the most common spoken languages was conducted according to the country of birth of the women living in the catchment area and according to the clinical staffs' experiences. The translations of the FOBS were carried out by both professional and lay translators, which is a limitation in the study's reliability.

Although the questionnaires were short and tested for accuracy, further research is needed to confirm the stability of the instrument when used in other similar populations.

Trustworthiness

While validity and reliability are used to assess the quality of quantitative research, trustworthiness is used to establish quality in qualitative research. Trustworthiness should be considered at all phases of the analysis and, according to Lincoln and Guba (219), four criteria can be used to confirm trustworthiness: credibility, dependability, conformability, and transferability. *Credibility* concerns the confidence in the truth of the data and in the interpretations of them (213). To enhance credibility, semi-structured interviews were considered to be the most appropriate data-collection method. The participants were pregnant women in gestational weeks 17–20, and their backgrounds varied in terms of age, level of education, country of birth, and levels of FOB. Together with peer review and regular meetings with midwifery researchers, credibility was established (220). Selecting a relevant sample size is also important for ensuring credibility, while *dependability* refers to the stability of the data over time (181,213). This was assured by starting the analysis process after the first 17 interviews were completed. The authors then concluded that more interviews were needed to ensure topical saturation, which led to 14 additional interviews (220). *Conformability* means that the data represent what the participants have stated and that the interpretations of those statements are not invented or biased by the researcher (213). The data analysis was performed primarily by one researcher but discussed in the research group on regular basis in an attempt to achieve conformability. Furthermore, examples of the analysis process and quotes from the interviews were presented to confirm that the categories and sub-categories were grounded in the data. Finally, *transferability* relates to the extent to which the findings can be generalized to other settings, which was assured by providing thorough descriptions of the context and participants, as well as the data collection, and process of analysis and findings (213).

Conclusions and clinical implications

In this thesis, fear of birth was found to be common among pregnant women in Sweden and foreign-born women were identified as a risk population. To help fearful women in need of further support, it is important to use a validated instrument that can identify FOB and is easy to use in clinical practice. The findings from the present studies suggest that the FOBS is a flexible screening instrument that is easy to use for pregnant women from diverse backgrounds. The FOBS showed a good construct and face validity and provided important data on the women's thoughts about worry and fear.

Considering the 20% prevalence of FOB among pregnant women in Sweden, routine screening of FOB would be beneficial. To screen all pregnant women for FOB would probably increase the chance of achieving equitable care especially for women from diverse backgrounds. Furthermore, as screening for FOB is not only about finding those with high levels of FOB, but rather about making all women's thoughts about birth visible, it would also hopefully make the care more individualized and ensure appropriate support for all pregnant women.

Furthermore, the FOBS also had the advantage of being easily introduced in clinical practice and was possible to translate, which made the inclusion of non-Swedish-speaking foreign-born women uncomplicated. A measure with the capacity of being easy to use in a clinical setting as well as being available in various languages is beneficial, as foreign-born women comprise a considerable part of the pregnant women in Sweden and are a vulnerable group who need culturally sensitive and targeted support from healthcare professionals.

In connection with completing the FOBS, a dialogue is suggested to take place between the pregnant woman and her midwife, which, together with the FOBS-result, can help the midwife to become better acquainted with the woman and her feelings towards giving birth. Asking the woman about her assessment on the FOBS may identify the woman's need for additional information, regardless of being fearful or not, and can lead to counseling and referral when necessary.

When comparing guided ICBT with SC for FOB, the fear levels decreased in both groups during pregnancy and postpartum. No significant differences were found in how the levels of FOB changed over time between the guided ICBT-group and the SC-group in late pregnancy, however, when FOB was measured up to one year postpartum, the fear levels decreased more among the participants in the guided ICBT-group. The reasons behind this decrease

are not easily interpreted as it can be a result of the different experiences around birth and postpartum but also because of the different aims of the guided ICBT and the SC for FOB. However, according to the results in this thesis, guided ICBT seems to have a positive effect on FOB. The assumption that the women had a low preference for guided ICBT could probably be improved by including guided ICBT in the well-accepted SC for FOB for further examination.

When advising women with a FOB, these results imply that it is important to talk about the fear continuously throughout pregnancy, as fear in general decreases, but it can still vary between different women. While not suggesting in any way that follow-up and care of women with a FOB is not needed, it could be helpful if midwives informed women about this general decrease of FOB, as women with a FOB may find it reassuring to know that the fear often decreases as they get closer to birth

Suggestions for future research

More research is required to determine which treatments are effective in reducing FOB and should be offered to women with a FOB. Given that Sweden has a well-accepted model of counseling for FOB, further research could explore the effect of interdisciplinary therapies being introduced alongside the SC for FOB or as an alternative treatment with the SC as the initial starting point. To be able to evaluate new forms of treatments, interdisciplinary cooperation is recommended, in collaboration with researchers who are experienced in treatment studies. That way, the pregnant women can continue in the midwife-led counseling and at the same time hopefully gain more effective help in reducing the fear. There is strong evidence for prescribing CBT as a treatment for anxiety, but this needs to be examined more.

If routine screening of FOB is commenced, the effects of the screening must be further evaluated. For example, to investigate what kinds of effects this measure has on patient outcomes and to evaluate the healthcare professionals' experiences of the screening could be valuable.

The changes in FOB over time during pregnancy would also be interesting to investigate further. Foremost, measuring FOB more often during pregnancy among women with both low and high levels of fear would provide more information on how the fear changes in different groups and when treatment should be initiated.

In general, studies on foreign-born women in Sweden and their expectations and experiences of being pregnant and giving birth are lacking. Conducting further qualitative research in the major immigrant groups would provide information on what aspects should be focused on more specifically. Furthermore, the identification of the components of FOB in women from various immigrant groups, both in Sweden and globally, is also desirable.

Sammanfattning på svenska

Förlossningsrädsla innebär att man känner sig rädd, ångestfylld eller orolig inför att vara gravid och/eller att föda barn, även om många andra definitioner av förlossningsrädsla också används, både kliniskt och inom forskning. I världen beräknar man att förekomsten av förlossningsrädsla är 14 %, trots stora påvisade skillnader i olika studier. Dessa skillnader kan bero på att förlossningsrädsla definierats och mätts på många olika sätt, i flera olika populationer och kulturer. Förlossningsrädsla mäts sällan systematiskt under graviditeten. I Sverige är det vanligtvis kvinnan själv som berättar för sin barnmorska i mödravården att hon känner sig rädd inför förlossningen, antingen efter hon blivit tillfrågad om förlossningsrädsla eller efter att ha skattat sin förlossningsrädsla med hjälp av ett instrument. Med hjälp av skalan Fear of Birth Scale (FOBS) skattar deltagaren själv sin oro och rädsla inför förlossningen. Skalan har använts i flertalet studier och har fördelen att den består av två frågor, vilket gör att den även kan vara möjlig att använda i klinisk verksamhet.

Att ta reda på om en gravid kvinna känner sig rädd inför förlossningen är viktigt eftersom förlossningsrädsla sammankopplats med ökat antal planerade kejsarsnitt, akuta kejsarsnitt, födslar assisterade med sugklocka, induktioner, långa födslar samt epiduralbedövningar. Det är också vanligare att kvinnor med förlossningsrädsla får en negativ förlossningsupplevelse. Dessa faktorer gör dessutom att risken för förlossningsrädsla ökar inför kommande graviditeter och födslar.

Vad gäller behandling av olika ångestsjukdomar, samt depression under graviditet och postpartum, är kognitiv beteendeterapi (KBT) det primära behandlingsvalet. Även vid förlossningsrädsla har flera studier funnit att KBT är fördelaktigt för att minska rädslan. Internet-baserad KBT (IKBT) med terapeutstöd, det vill säga KBT som deltagaren tar del av via Internet och samtidigt får stöd av en terapeut via telefon eller e-post, har visat sig vara likvärdigt med vanlig KBT och väl accepterad av deltagare. IKBT med terapeutstöd har också visat sig vara fördelaktigt när det kommer till bekvämlighet och tillgänglighet både för deltagare och terapeuter. Inga randomiserade kontrollerade studier har tidigare genomförts för att utvärdera effekten av IKBT för förlossningsrädsla.

Det övergripande syftet med denna avhandling var att utvärdera den kliniska användbarheten av FOBS för att skatta förlossningsrädsla bland gravida kvinnor, samt att utvärdera effekterna av IKBT jämfört med standardvård på

kvinnors förlossningsrädsla under graviditeten och postpartum. I samtliga studier användes FOBS för att skatta förlossningsrädsla.

I *Studie I* deltog kvinnor i graviditetsvecka 17-20 i en prevalensstudie om förlossningsrädsla. Frågeformuläret som fylldes i fanns tillgängligt på nio olika språk. Av de 606 deltagande gravida kvinnorna var 22,1 % födda utomlands. Förlossningsrädsla förekom bland 22,1 % av deltagarna och var vanligare bland förstföderskor jämfört med omföderskor. När förekomst av förlossningsrädsla jämfördes mellan de svenskfödda och de utlandsfödda kvinnorna var förlossningsrädsla mer än dubbelt så vanligt bland kvinnorna som var utlandsfödda (18 % respektive 36,8 %).

I *Studie II* deltog 31 kvinnor i graviditetsvecka 17-20 i en intervju som fokuserade på hur kvinnorna tänkte när de skattade sin förlossningsrädsla på FOBS. Deltagarna bekräftade att de hade förstått syftet med FOBS och kunde särskilja och beskriva sin oro och rädsla. Oro beskrevs som ospecifika, men ofta negativa, känslor och tankar medan rädsla beskrevs som något starkare och mer specifikt. Deltagarna beskrev även flera faktorer som de relaterade till förlossningsrädsla, så som tidigare förlossningsupplevelser eller tidigare vårderfarenheter. Strategier för att hantera oro och rädsla togs också upp, exempelvis att man litade på vårdpersonalen och att man kände tillit till sin egen förmåga att föda barn.

Studie III var en randomiserad kontrollerad studie där gravida kvinnor med förlossningsrädsla lottades till IKBT med terapeutstöd eller standardvård för förlossningsrädsla. Data samlades in vid fyra mättillfällen under graviditeten samt vid två mättillfällen postpartum. Studien visade att förlossningsrädslan minskade över tid både i gruppen som fick IKBT med terapeutstöd och i gruppen som fick standardvård för förlossningsrädsla. Nivåerna av förlossningsrädsla, och hur de förändrades över tid, varierade mellan deltagarna men inga skillnader kunde ses mellan behandlingsgrupperna när förlossningsrädslan mättes i sen graviditet. Vid mätningen av förlossningsrädsla ett år postpartum visade resultaten att förlossningsrädslan hade minskat mer i gruppen som fått IKBT med terapeutstöd jämfört med gruppen som fått standardvård för förlossningsrädsla. Inga skillnader upptäcktes mellan först- och omföderskor gällande nivå av förlossningsrädsla under graviditet eller postpartum.

Resultaten i denna avhandling visar att förlossningsrädsla är vanligt förekommande bland gravida kvinnor i Sverige. För att kvinnor med förlossningsrädsla ska bli uppmärksammade och få stöd är det viktigt att använda ett validerat instrument för att mäta förlossningsrädsla. Resultaten talar för att FOBS är ett välfungerande flexibelt instrument för att skatta förlossningsrädsla både bland svenskfödda och utlandsfödda gravida kvinnor. Att använda sig av ett sådant mätinstrument för att skatta förlossningsrädsla är värdefullt eftersom utlandsfödda kvinnor kan behöva riktat stöd från sjukvårdspersonal.

Med tanke på att förekomsten av förlossningsrädsla bland de gravida kvinnorna var 20 %, skulle rutinmässig skattning av förlossningsrädsla vara fördelaktig. Det skulle förmodligen öka chansen att uppnå en mer jämställd vård,

speciellt för kvinnor med utländsk bakgrund. Skattningen av förlossningsrädsla på FOBS bör ses som en inledning till ett samtal om kvinnans oro och rädsla inför förlossningen. Dialogen kan förhoppningsvis leda till en djupare förståelse för kvinnans tankar och känslor inför födandet samt till att kvinnan kan få den information och/eller hjälp hon behöver oavsett nivå av rädsla.

När IKBT med terapeutstöd och standardvård för förlossningsrädsla jämfördes, minskade rädslan i båda grupperna under graviditeten. Vid uppföljningen ett år postpartum visade det sig att förlossningsrädslan hade minskat mer i gruppen som fått IKBT, detta trots att deltagandet i IKBT-behandlingen var lågt. Dessa resultat pekar på ett framtida behov av studier som undersöker hur förlossningsrädsla utvecklas över tid utan att behandling initierats. Med tanke på det starka stödet för KBT vid olika ångestsyndrom, bör effekten av KBT på förlossningsrädsla, med utgångspunkt i standardvård, utvärderas vidare.

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Frågor till dig som väntar barn

1. Hur gammal är du?

_____ år

2. Vilket är ditt nuvarande civilstånd?

- Gift eller sammanboende
- Har en partner men vi bor inte ihop
- Ensamstående

3. Vilken utbildning har du?

- Grundskola eller motsvarande
- Gymnasium eller motsvarande
- Högskole- eller universitetsutbildning 1-3 år
- Högskole- eller universitetsutbildning mer än 3 år

4. Var är du född?

- Sverige
- Annat land

Om du är född i ett annat land, vilket land är du född i?

Om du är född i ett annat land, vilket år flyttade du till Sverige?

Var god vänd →

5. Vilken graviditetsvecka är du i?

6. Har du fött barn tidigare?

JA NEJ

Om du fött barn tidigare, hur många barn har du fött?

Om du fött barn tidigare, var vänlig ange förlossningssätt (har du fött flera barn anger du årtal för alla barn):

<input type="checkbox"/> Vaginal förlossning (via slidan)	År _____
<input type="checkbox"/> Planerat kejsarsnitt pga medicinsk orsak	År _____
<input type="checkbox"/> Planerat kejsarsnitt pga mitt önskemål	År _____
<input type="checkbox"/> Akut kejsarsnitt	År _____

7. Hur känner du dig just nu inför förlossningen?

Markera med ett kryss på båda linjerna det som bäst motsvarar din upplevelse.

Lugn _____ Orolig

Ingen rädsla _____ Stark rädsla

Tack för dina svar, om du vill kan du här skriva kommentarer eller funderingar.

Tack för din medverkan!

1. Hur gammal är du?

_____ år

2. Vilken graviditetsvecka är du i?

3. Har du fött barn tidigare?

JA NEJ

4. Har du tillgång till dator och Internetuppkoppling?

JA NEJ

5. Hur känner Du dig just nu inför förlossningen?

Markera med ett kryss på båda linjerna det som bäst motsvarar din upplevelse, ex:

~~X~~ _____
_____ X

Lugn

Orolig

Ingen rädsla

Stark rädsla

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