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# Treatment for childbirth fear with a focus on midwife-led counselling

*A national overview, women's birth preferences and  
experiences of counselling*

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### **Abstract**

Larsson, B. 2017. Treatment for childbirth fear with a focus on midwife-led counselling. A national overview, women's birth preferences and experiences of counselling. *Digital Comprehensive Summaries of Uppsala Dissertations from the Faculty of Medicine* 1341. 77 pp. Uppsala: Acta Universitatis Upsaliensis. ISBN 978-91-513-0003-0.

**Background:** Many women experience childbirth fear to such an extent that it seriously interferes with the woman's daily life and affects her mental well-being.

**Aim:** The overall aim was to conduct an overview of the midwife-led counselling for childbirth fear in Sweden, to investigate women's birth preferences and to describe their experiences of treatment on childbirth fear, with focus on midwife-led counselling.

**Methods:** *Study I* is a cross-sectional study where 43 out of 45 maternity clinics responded to a questionnaire regarding midwife-led counselling. *Study II* is a longitudinal survey where 889 women participated of whom 70 received counselling. Data were collected by questionnaires in mid-pregnancy, two months and finally, one year after birth. *Study III* is a randomised controlled study with 258 participating women assessed with childbirth fear. It compares Internet-based cognitive behaviour therapy (ICBT) with midwife-led counselling. Data were collected by questionnaires twice during pregnancy and two months after birth. *Study IV* is a qualitative interview study using thematic analysis, including 27 women who received midwife-led counselling during pregnancy.

**Results:** Overall, midwife-led counselling was perceived as empowering by the women and increased their confidence when facing birth. The preference for a caesarean section decreased during pregnancy and the majority had a normal vaginal birth but an increase in preference for caesarean section appeared after birth. Half of the women who received treatment for childbirth fear experienced a less than positive birth. Women who had a positive birth experience voiced that the contributing factors were the self-confidence received from counselling and the support from the midwife during birth. Decreased or manageable fear was expressed by the women after counselling and birth, which in turn brought a strengthened confidence for a future pregnancy and birth. Furthermore, major differences exist in counselling for childbirth fear throughout the clinics in Sweden.

**Conclusion:** Midwife-led counselling improved women's confidence toward giving birth and fear was perceived as manageable. Continuous support is crucial to experience birth as positive. Although women's preferences for caesarean section did not change over time, few women gave birth with a caesarean section without medial reason.

*Keywords:* Birth experience, caesarean section, childbirth fear, internet-based cognitive behaviour therapy, midwife-led counselling, treatment

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*To all women*



# List of Papers

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

- I. Larsson B., Karlström A., Rubertsson C., Hildingsson I. (2016) Counseling for childbirth fear – a national survey. *Sexual & Reproductive Healthcare*, 8: 82-87
- II. Larsson B., Karlström A., Rubertsson C., Hildingsson I. (2015) The effects of counseling on fear of childbirth. *Acta Obstetrica et Gynecologica Scandinavica*, 94: 629-636
- III. Larsson B., Karlström A., Rubertsson C., Ternström E., Ekdahl J., Segebladh B., Hildingsson I. (2017) Birth preference in women undergoing treatment for childbirth fear: A randomised controlled study. *Women and Birth*,  
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- IV. Larsson B., Hildingsson I., Ternström E., Rubertsson C., Karlström A. Women's experience of midwife-led counselling and its influence on childbirth fear. Submitted

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# Abbreviations

ANOVA	Analysis of variance
CBT	Cognitive Behaviour Therapy
CI	Confidence interval
FOBS	Fear of Birth Scale
ICBT	Internet based Cognitive Behaviour Therapy
MI	Motivational Interviewing
OR	Odds ratio
RCT	Randomised Controlled Trial
SD	Standard deviation
SFOG	Swedish society of obstetrics and gynecology
SPSS	Statistical Packages of the Social Sciences
U-CARE	Uppsala University Psychosocial Care Program
VAS	Visual Analogue Scale
W-DEQ	Wijma Delivery Expectancy/Experience Questionnaire



# Svensk sammanfattning

## **Bakgrund**

Förlossningsrelaterad rädsla är starkt förknippad med antal barn kvinnor föder, önskemål om kejsarsnitt, upplevelse av förlossning och kvinnors och barns hälsa. Ungefär var femte gravid kvinna har en så svår förlossningsrädsla att den psykiska hälsan och det dagliga livet påverkas.

Kvinnor med förlossningsrädsla har i högre utsträckning en psykisk ohälsa såsom ångest och depression. Det är också vanligare att de har en låg självkänsla och en låg tilltro till den egna förmågan att klara en förlossning. Tidigare övergrepp, dåligt psykosocialt stöd, missnöje med relationen till partnern samt att vara född i ett annat land än Sverige, är också förknippat med en ökad förekomst av förlossningsrädsla. Vanliga orsaker till rädslan är rädsla för smärta, att skadas eller dö, eller att barnet ska skadas eller dö, att tappa kontrollen eller att bli illa bemött av personalen. För omfödskor är den vanligaste orsaken en tidigare negativ förlossningsupplevelse.

Förlossningsrädsla ökar risken för en långdragen förlossning samt risken för akut kejsarsnitt. Dessa kvinnor önskar också i högre utsträckning planerat kejsarsnitt utan medicinsk indikation. Eftersom kejsarsnitt medför en ökad risk för både kvinnan och barnet, på både kort och lång sikt, är det viktigt att försöka undvika kejsarsnitt och stötta kvinnan att våga föda vaginalt.

Vid Sveriges kvinnokliniker bedrivs verksamhet som erbjuder samtalsstöd med en erfaren förlossningsbarnmorska, ofta benämnd Auroramottagning. Behandlingen syftar till att genom stöd, information och förberedelse ge kvinnan ökad trygghet och kunskap samt att hon ska bli stärkt i sin tro på sin förmåga att föda. Auroraverksamheten infördes utan föregående forskning och ännu finns ingen evidens för hur effektiv metoden är. Studier har visat att behandlingen inte påverkade förlossningsrädslan nämnvärt men att kvinnorna var nöjda med stödet. Ett flertal studier har gjorts för att utvärdera olika behandlingsmetoder för förlossningsrädsla men det finns idag ingen evidens för vilken behandling som är bäst.

## **Syfte**

Avhandlingens övergripande syfte var att kartlägga den befintliga verksamheten för stöd till förlossningsrädda kvinnor, undersöka förlossningsrädda kvinnors önskemål om förlossningssätt samt erfarenheter av behandling för förlossningsrädsla med fokus på samtalsstöd av barnmorska.

De fyra delarbetenas specifika syften är:

*Delarbete I.* Att genomföra en nationell kartläggning av den verksamhet som avser stöd till förlossningsrädda kvinnor beträffande verksamhetens omfattning, innehåll och organisation.

*Delarbete II.* Att undersöka förlossningsrädda kvinnors erfarenheter av samtalsstöd och behandlingens effekt över tid.

*Delarbete III.* Att undersöka önskemål om förlossningssätt under graviditet och efter födseln hos kvinnor som randomiserats till internetbaserad kognitiv beteendeterapi (iKBT) alternativt samtalsstöd med barnmorska. Ett andra syfte var att undersöka kvinnornas förlossningsupplevelse samt deras nöjdhet med den givna behandlingsmetoden.

*Delarbete IV.* Att undersöka kvinnors upplevelse av samtalsstöd med barnmorska vid förlossningsrädsla.

## **Metod**

*Delarbete I.* Data för den nationella kartläggningen har insamlats via enkäter från landets 45 kvinnokliniker gällande deras verksamhet för stöd vid förlossningsrädsla. Deskriptiv metod har använts.

*Delarbete II.* Utvalda data från den prospektiva longitudinella studien Föda barn i Västernorrland har använts. De 889 kvinnor som ingår i delarbete II har besvarat frågan om de fått samtalsstöd för förlossningsrädsla under graviditeten varav 70 kvinnor erhållit stöd. Deskriptiv statistik beskriver urvalet. För jämförelse mellan kvinnor med och utan samtalsstöd har oddskvoter och justerade oddskvoter använts.

*Delarbete III.* En randomiserad kontrollerad studie där gravida kvinnor som skattat  $\geq 60$  på Fear of Birth Scale (FOBS) deltog och randomiserades till iKBT eller samtalsstöd med barnmorska. Data från frågeformulär under graviditet och två månader efter förlossningen analyserades med deskriptiv och jämförande statistik där chi 2-test och oddskvoter använts.

*Delarbete IV.* En kvalitativ studie där telefonintervjuer genomförts med 27 kvinnor som i delstudie 3 genomgått samtalsstöd med barnmorska. Data analyserades med tematisk analys.

## **Resultat**

*Delarbete I.* Av de 43 kvinnokliniker som svarade erbjöd alla samtalsstöd med barnmorska vid förlossningsrädsla. Stora skillnader mellan klinikerna fanns gällande den tid som barnmorskorna hade avsatt för samtalsstöd med en variation på mellan 5,7 – 47,6 minuter/förlossningar per år. Kompletterande utbildning inom området för barnmorskorna samt möjlighet till andra behandlingsmetoder, som till exempel KBT eller psykoterapi, varierade mellan klinikerna och kunde inte relateras till klinikens storlek.

*Delarbete II.* Ett år efter förlossningen var det fem gånger mer förekommande att kvinnorna som fått samtalsstöd uppgav förlossningsrädsla jämfört med kontrollgruppen. Kvinnorna som fått samtalsstöd beskrev också dubbelt

så ofta att de hade en negativ förlossningsupplevelse. Det var fyra gånger mer förekommande att dessa kvinnor hade fött med planerat kejsarsnitt. Oddsen föra att kvinnorna i samtalsgruppen önskade föda med planerat kejsarsnitt vid en eventuellt kommande förlossning var 12 gånger högre jämfört med kontrollgruppen. Dock var 80% nöjda eller mycket nöjda med samtalsstödet.

*Delarbete III.* Önskan om kejsarsnitt utan medicinsk indikation minskade från 24% till 20% i samtalsstödsgruppen och från 34% till 12% i iKBT-gruppen under graviditeten. Två månader efter födseln hade önskan om kejsarsnitt ökat till 29% i gruppen som fått samtalsstöd och till 20% i iKBT-gruppen. Förändringen över tid var inte statistiskt signifikant. Det var nästan fem gånger mer förekommande att kvinnorna i iKBT-gruppen var mindre nöjda med behandlingen jämfört med de som haft samtalsstöd med barnmorska (OR 4.5). De upplevde också att behandlingen inte påverkade, eller förvärrade, deras rädsla (OR 5.5). Det fanns inga skillnader mellan grupperna gällande förlossningsupplevelse.

*Delarbete IV.* Kvinnorna upplevde ett ökat lugn och en förberedelse efter att ha fått samtalsstöd med barnmorska vilket förbättrade deras självförtroende inför förlossningen. Tillsammans med kontinuerligt stöd under förlossningen så påverkade detta förlossningsupplevelsen positivt och kvinnorna upplevde sig stärkta. Inför en eventuellt kommande graviditet och förlossning så beskrev kvinnorna att rädslan minskat eller att den nu var hanterbar. Några kvinnor ansåg sig inte hjälpta av samtalsstödet och hade önskat en annan typ av behandling för sin rädsla inför förlossningen och för sin grundproblematik.

## **Slutsatser**

Samtalsstöd vid förlossningsrädsla fanns att tillgå vid landets alla kvinnokliniker. Stora olikheter kunde dock ses gällande omfattning och organisation.

Förlossningsrädda kvinnor var överlag nöjda med samtalsstödet. Barnmorskans lugn och förmåga att lyssna, informera och bekräfta, ökade kvinnornas självkänsla inför födandet. Kvinnorna upplevde en ökad förmåga att hantera rädslan och den kommande förlossningen, vilket påverkade rädslan positivt.

Ingen skillnad mellan de båda behandlingsgrupperna kunde ses gällande uppmätt rädsla två månader efter förlossningen. Dock var kvinnorna i samtalsgruppen mer nöjda med behandlingen och beskrev att de blev hjälpta i högre utsträckning jämfört med kvinnorna i iKBT-gruppen.

Kvinnornas önskemål om kejsarsnitt förändrades inte från graviditeten till efter förlossningen dock var det få kvinnor som födde med planerat kejsarsnitt utan medicinsk indikation.

Kvinnor med förlossningsrädsla hade i högre uträkning en negativ förlossningsupplevelse. De som upplevt en positiv förlossning underströk vikten av

kontinuerligt stöd under förlossningen samt fortlöpande information och bekräftelse från barnmorskan.

Samtalsstöd av barnmorska stärkte kvinnorna vilket ökade toleransen för den ovisshet de upplevde inför förlossningen. Detta, tillsammans med en positiv förlossningsupplevelse, gjorde rädslan hanterbar samt gav en känsla av trygghet inför en framtida förlossning.

### **Kliniska implikationer och framtida forskning**

Att utarbeta ett nationellt vårdprogram gällande förlossningsrädsla skulle öka förutsättningarna för en likvärdig vård i landet, vilket också möjliggör utvärdering av verksamheten i högre utsträckning. Att främja införandet av mottagningar för psykosocial obstetrik med tvärvetenskaplig kompetens och teamarbete, skulle främja kvinnor med förlossningsrädsla likväl som kvinnor med annan psykisk ohälsa.

För att kunna förbättra vården för kvinnor med förlossningsrädsla, med eller utan annan psykisk ohälsa, behövs ytterligare utvärdering av behandlingsalternativ. iKBT kan vara ett bra alternativ för välmotiverade kvinnor men vidare forskning behövs.

Barnmorskor som arbetar med samtalsstöd har en viktig roll för kvinnor med förlossningsrädsla. Det är därför av vikt att deras arbete värdesätts och att det säkerställs att de får adekvat vidareutbildning samt kontinuerlig handledning. Vilken utbildning som bäst ger barnmorskorna goda förutsättningar att ge ett optimalt stöd behöver undersökas ytterligare.

Kontinuerligt stöd av en barnmorska under förlossningen är mycket betydelsefullt för kvinnor och ökar chansen till en positiv förlossningsupplevelse. Dessutom så visar forskning att vårdmodeller med barnmorskekontinuitet genom graviditet, förlossning och eftervård, har stora fördelar. Det är dags att våra beslutsfattare ser över det svenska vårdssystemet för att möjliggöra en evidensbaserad vård som optimerar kvinnors förutsättningar till att skapa en trygg relation med barnmorskan. Detta skulle kunna minska eller förebygga förlossningsrädsla samt önskemål om kejsarsnitt. Med anledning av den kunskap som finns om fördelarna med kontinuitet med samma barnmorska genom hela vårdkedjan, så är det av vikt att undersöka modellen i en svensk kontext. Vidare så är det av intresse att få veta hur en sådan vårdmodell påverkar kvinnors förlossningsupplevelser, önskemål om kejsarsnitt och snittfrekvens och förekomst av förlossningsrädsla.

# Introduction

For nearly three decades, women with childbirth fear have been offered midwife-led counselling in order to cope with their fear or manage to give birth vaginally. This counselling was introduced by midwives working at a labour ward in the south of Sweden, who acknowledged that some women needed supplemental support due to their worries (1). The counselling was not preceded by any research and to date, there is no evidence as to its effectiveness. As far as it is known, midwife-led counselling is offered in all parts of Sweden. How the counselling is organised and to what extent it is conducted in the different parts of Sweden is not known, as there is no national health care program to follow such data. Neither has the counselling been widely evaluated. However, a study by Ryding (2) found that women were satisfied with midwife-led counselling, but they reported a more negative birth experience and more symptoms of post-traumatic stress. In addition, an evaluation of the counselling at one hospital in Sweden (3) showed also that the participating women were satisfied and half of the women stated that their fear had decreased. Three out of four experienced a positive or acceptable birth.

Many women (4) experience childbirth fear to such an extent that it seriously interferes with the woman's daily life and affects her mental well-being (5). Moreover, women with childbirth fear are more often exposed to adverse birth outcomes, such as prolonged labour and caesarean section, as well as negative birth experiences, post-traumatic stress (6–9) and attachment difficulties with their baby (10). In addition, a recent study (11) reported that women with childbirth fear access more health care during and after pregnancy and considering the more complicated births, this results in a 38% higher cost than for women without childbirth fear. This indicates that for both the individual woman's well-being as well as for the economy of the healthcare, it is necessary to further evaluate midwife-led counselling in order to improve and further develop the care based on evidence as well as women's experiences and needs. Additional treatment options need to be evaluated, since counselling might not meet the needs of all women with childbirth fear.

# Background

## Pregnancy, a period of transition

Apprehension during pregnancy, e.g., worrying about the baby's well-being, the upcoming birth and new life as a family, is somewhat normal and something that most pregnant women experience.

Pregnancy is described as a transition in life. The woman goes through different phases in pregnancy and during the first trimester worries concerning a miscarriage or the baby's health are common. She becomes more sensitive as the psychological defence gets weaker, resulting in an awareness of prior unconscious memories and feelings. This emotional change can be perceived as frightening for some women while others find it liberating (10). During the second trimester when the woman starts to feel the movements of the baby, she begins to differentiate the baby from herself and starts to form a relationship with the baby. This phase is also characterised by reflections about the relation to her own mother and how to handle the new identity as a mother as well as how to form her own role of motherhood (10). In the last trimester, the woman starts to feel impatient and longs to meet the baby. She starts to worry about the birth and if or how she has the capacity to manage giving birth. Concerns about the baby getting injured or dying during birth recur and she also starts to worry about the lifelong commitment ahead (10). These processes contribute to a functional attachment between mother and baby. Psychological problems, such as depression, anxiety, post-traumatic stress and childbirth fear during pregnancy, might affect the mother-baby attachment (10).

## Childbirth fear

Research in the area of childbirth fear has been conducted since the early 1980s when Swedish researchers found that 6% of women in late pregnancy suffered from fear of childbirth (12). Before this first publication, the concept of childbirth fear was unknown. Nevertheless, pregnant and birthing women probably always have, and always will feel worry and fear for various reasons when facing birth (13).

## Definitions of childbirth fear

Childbirth fear has been described as a continuum, from a low level of worry or fear to a phobia-like fear (14,15). In clinical practice, levels of fear are commonly divided into ‘low fear’, ‘moderate fear’, ‘severe fear’ and phobic fear’ where severe and phobic fear are clinically relevant. The Swedish Society of Gynaecologists and Obstetricians (SFOG) (1) defines in their report ‘Childbirth Fear’ from 2004 these four levels: *Low fear* means a worry that the woman can manage and that will give her the possibility to prepare for birth. *Moderate fear* implies a worry that may cause the woman problem to manage the fear on her own, but it does not contribute to ongoing mental ill-health. *Severe fear* causes mental ill-health that considerably interferes with the woman’s daily life or her attachment to the baby. *Phobic fear* can result in a woman who does not dare get pregnant or give birth vaginally. Further distinctions include primary fear, meaning women who have not previously given birth, and secondary fear, which refers to women whose fear comes after a previous traumatic birth experience (1,16). These descriptions are also used in some research (8,14,17,18). Furthermore, there are several labels of childbirth fear that are used synonymously. Fear of childbirth is the most frequently used (2,12,19–24). Childbirth fear, as in the present thesis (17,25) and childbirth-related fear (18,26) have also been used. Tocophobia (4,27) is a commonly used term for severe or phobic childbirth fear. Childbirth fear has also been labelled as pregnancy anxiety and was later defined as a distinctive psychological domain of its own (28).

## Measurements of childbirth fear

Measurements of childbirth fear and cut-off points differ in the literature and there is no national or international standard. The most widely used instrument for measuring childbirth fear in both research and clinical practice is the Wijma Delivery Expectancy/Experience Questionnaire (W-DEQ) (19). W-DEQ consists of 33 questions in which women are asked about their feelings and thoughts about the upcoming birth (Version A) or their feelings and thoughts after birth (Version B). On a 6-point rating scale ranging from ‘extremely’ to ‘not at all’, the woman marks to what extent she agrees with the question. The minimum score is 0 and the maximum score is 165. A low score indicates a low level of fear and a higher score reveals a higher level of childbirth fear. The most frequently used cut-off point for severe fear is  $\geq 85$ . This was initially used by Ryding (29) in 1998 as the limit for serious fear, which occurred among 10% of the 1,981 pregnant women tested in pregnancy week 32 in a national sample. Other cut-off points for high or severe childbirth fear have been used in the literature with levels between  $>66$  and  $\geq 100$  (14,17,25,30,31). The W-DEQ has been criticised for being comprehensive and time consuming with its 33 items, particularly in clinical use (23,31). The

cultural transferability of some items has also been questioned (25,32) as well as the multifactorial dimension that has been shown in previous studies (24,25,32–34).

A Visual Analogue Scale (VAS), with a score from 0 – 10 where the higher score corresponds to a higher level of fear, was tested against the W-DEQ (31) to evaluate an easy method of screening childbirth fear in clinical practice. With a cut-off point at 5, the VAS scale showed high sensitivity against the W-DEQ for severe fear ( $W-DEQ \geq 100$ ) and was found to be easy to use clinically.

The Fear of Birth Scale (FOBS) was developed using two VAS-scales to enable assessment of the internal consistency and was tested in a Swedish and Australian population-based setting (18). Women responded to the question ‘How do you feel right now about the approaching birth’ by making a mark on the two VAS-scales with the anchor words calm/worried and no fear/strong fear. The values on the scales, ranging from 0 to 100, were averaged to give a total score with high scores indicating higher levels of fear. The cut-off point for childbirth fear was set at 50, based on Rouhe’s (31) research, whereas the cut-off was set at 5 on the VAS-scale (18). A comparison of the FOBS and the W-DEQ in an Australian setting with 1410 pregnant women, determined a strong correlation between the instruments (Spearman correlation coefficient 0.66). Compared to the  $W-DEQ \geq 85$ , a cut-off point of 54 showed high sensitivity and specificity in identifying women with childbirth fear (35). A cut-off point of  $\geq 60$  has been used in recent studies (36,37). The FOBS has also been validated in a qualitative study, using think-aloud technique, showing that women could clearly assess, describe and discuss childbirth fear using this gauge. This allowed for its use in clinical settings as a start for a dialogue about the woman’s fear (38).

Likert scales were used to measure childbirth fear in a national Swedish population-based study with 2662 participants (39). The question regarding childbirth fear was worded: ‘How do you feel when thinking of labour and birth?’ with the response alternatives ‘Very positive’, ‘Fairly positive’, ‘Mixed feelings’, ‘Rather negative’ and ‘Very negative’. Very negative indicated childbirth fear. A four-point Likert scale has also been used in a regional Swedish population-based study (26) posing the question: ‘Worries and fears are common feelings among women and men when facing childbirth. To what extent to you experience worry and fear?’ The response alternatives were: ‘Not at all’, ‘Somewhat’, ‘A great deal’ and ‘Very much’, and the two latter responses indicate childbirth fear. In a regional Swedish cross-sectional study, a six-point scale was used. Both women and men were asked to assess their experience of fear of birth on a scale ranging from ‘no fear at all’ to ‘very high fear’ (40).

Other scales used to measure/evaluate childbirth fear in research are, for example, the Childbirth Attitude Questionnaire (CAQ) (41) and the Pregnancy Related Anxieties Questionnaire – revised (PRAQ-R) (28). Interviews (12,22)

and diagnose codes (42) have also been used. A scale to assess women's fear during labour is the Delivery Fear Scale (DFS) (43).

## Prevalence of childbirth fear

The absence of consensus of measurements and cut-off points to define childbirth fear led to a variation in prevalence reports. In addition, differences in study settings, parity, and when the measure was made, also complicated comparisons and conclusions. However, a recent systematic review (4) where 29 studies were included from 18 countries and 853 988 women, showed an overall prevalence of tocophobia (severe childbirth fear) of 14%. In Australian settings, the prevalence was 23% (4.9% - 31.1%); in American studies, 11% (9.1% - 24.9%); and in Asian studies, there was a prevalence of 25% (0% - 42.9%). In the European countries the prevalence was 8%, ranging from 4.5% to 15.7%. For the Scandinavian countries, the prevalence was 12% with a range from 6.5% to 25%. Recent reports from Swedish settings showed a prevalence of 14.8% in the Bidens study (24), including 958 Swedish women using the W-DEQ with a cut-off point of  $\geq 85$ . In a regional setting of 606 Swedish and foreign born women (36), the prevalence was 22% in mid-pregnancy (Swedish born 18%, foreign born 37%) using the FOBS measurement with a cut-off point of  $\geq 60$ . Another study setting from the north of Sweden comprising 1212 Swedish women (37), using the FOBS with the same cut-off point, showed a prevalence of 22% in mid-pregnancy.

## Risk factors for experiencing childbirth fear

Psychological factors, such as history of anxiety or depression disorders, expose a woman to a greater risk of suffering from childbirth fear. These associations have been found in several studies in different settings in the Scandinavian countries, Canada and Australia. The study designs and numbers of participants varied from one small intervention study with 86 participants to a large register study consisting of over 780 000 births over 14 years (17,20,22,23,42,44-47). Associations with psychiatric diagnosis and psychiatric care or medication have been found in two Scandinavian studies where approximately 2000 women with childbirth fear were included in each study (45,48). Childbirth fear is also associated with a low self-efficacy expectancy, i.e. women had lower confidence in their own capacity to manage birth (41,49,50). Women with childbirth fear have also been described as more vulnerable and anxiety-prone in general (20,51,52).

Previous abuse during childhood or overall, sexual and other, are more common among women with childbirth fear (24,30,44,53,54). Psychosocial aspects, such as a lack of social support or network (20,22,24) and a lack of partner or dissatisfaction with partnership (20,42,55), have been found to be associated with childbirth fear. Unemployment and a low educational level

have been found as risk factors (22), while high or unspecified economic status was found as a risk factor in a Finnish study (42). Maternal age has also shown a diverse association with childbirth fear with both low age as a risk factor (22) as well as high maternal age (42). Women who not speak the native language are commonly excluded from scientific research for practical reasons. However, in a Swedish study, foreign-born women were included and responded to a translated questionnaire. The foreign-born women were found to be at higher risk for childbirth fear (36). Furthermore, it was described that women listening to horror stories regarding complicated pregnancies and births, can develop childbirth fear (55,56).

For parous women, the most underlying reason for childbirth fear is a previous negative or traumatic birth experience (24,57), instrumental vaginal birth (24,31) or an emergency caesarean section (24,29,31,57).

### Reasons for childbirth fear

The reasons for childbirth fear vary and are connected to both physiological and psychological factors. The fears are related to how to cope with labour and birth, the baby's and the woman's own health and the healthcare staff's competence and how they will be treated (58,59). More specifically, fear of pain is described as the most commonly described reason for childbirth fear (21,55,58–60). Other commonly described reasons for fear are that the baby or the woman herself will die or be harmed, fear of losing control, fear of not being informed and being a part of decision making, the lack of trust in one's own body to manage birth and fear of the unknown (21,56,58,61). Fear of interventions such as instrumental birth, caesarean section and episiotomy, are also common (21,55). Some women with childbirth fear find it hard to define their fear and the whole situation feels frightening (62).

### Consequences of childbirth fear

The immediate consequence of fearing birth is psychological suffering with anxiety, sleeping issues and fatigue (17). Moreover, a qualitative interview study of 26 women found that childbirth fear can cause women to delay or avoid pregnancy or even terminate a pregnancy (27). Childbirth fear might also prolong the interval between pregnancies (62,63). In a qualitative study (64), women with childbirth fear described difficulties talking about their fear according to the perception of other's judgments. An understanding midwife was crucial to the communication process.

During labour and birth, fearful women experienced more pain (65) and used more medication for pain relief (43,61). Childbirth fear has also been associated with adverse obstetrical outcomes such as prolonged labour, (6,63,66) and caesarean sections, both planned and emergency deliveries (6,7,29,42,66,67). In addition, women fearing birth had an increased risk of

having a negative birth experience (8,68). Childbirth fear has also been shown to be a predictor of post-partum depression among first-time mothers (69) and mothers had an increased need for psychiatric care after birth (45).

Women fearing birth have an increased risk of a more negative birth experience and require more caesarean sections. As a vicious circle, these factors increase the risk of a remaining childbirth fear and a preference for a caesarean section in a future birth.

## Caesarean section and childbirth fear

Childbirth fear is closely connected to caesarean section. Previous studies from Scandinavia, northern Europe and Israel showed an association with emergency caesarean section (7,29,66,67,70). In contrast, two other large studies from Sweden and Denmark found no association between childbirth fear and emergency caesarean section (39,71). Childbirth fear is also the most common underlying reason for requesting or preferring a caesarean section without a medical reason (39,72–77). For parous women, a previous negative birth experience or a previous caesarean section, planned or emergency, was the most common reason for preferring a caesarean section in a forthcoming birth (39,75). Control and safety were additional reasons for preferring a caesarean section without medical reason among first-time mothers (74). However, women who preferred and underwent a caesarean without medical reason were less satisfied with the decision process and with the antenatal care and had a more negative birth experience than women who had given birth vaginally (78).

Caesarean section rates in 2015 in Sweden were almost 18% with regional differences between 12% and 22%. This can be compared to a level of 5% in the 1970s (79). A caesarean section rate above 9 – 16% does not appear to improve the outcome for the mother or the baby (80). A recent study including women from six countries in northern Europe, found that 3.5% of the primiparous and 8.7% of the multiparous women preferred a caesarean section during pregnancy. Of those 404 women, 70% actually had a caesarean section, mostly for medical reasons. Only 26 women had a caesarean without a medical reason (77).

Caesarean sections are associated with adverse maternal outcomes and affect the children's health in both the short- and long-term. A large Canadian register study (81) compared elective caesarean sections performed for breech presentation (as a substitute for planned caesareans) with vaginal births and found that the overall rates for severe maternal morbidity (cardiac arrest, hysterectomy, major infection, wound complications, thromboembolism, haemorrhage, anaesthetic complications) were 27/1000 for the planned caesarean section group and 9/1000 in the planned vaginal birth group. A Swedish register study (82) comparing caesarean sections without medical reasons with

spontaneous onset of labour, reported an increased risk of bleeding complications, infections and breastfeeding complications in the caesarean section group. The most severe long-term maternal consequences, reported in a review article (83) of caesarean section on maternal request, showed an increased risk of stillbirths before 34 weeks of pregnancy, uterus rupture and abnormalities of placentation, which increase for each caesarean section. The short-term effects for the infants showed a higher incidence of respiratory distress, hypoglycaemia (82,84) and low temperature (85). The most evident long-term consequences for the child described in three different meta-analysis, are an increased risk of developing type 1 diabetes (86), asthma (87) and overweight and obesity (88). Also, an increased risk of hospital care for asthma and/or gastroenteritis has been described in a Swedish register study (89).

## Birth experience

The birth experience is defined as an important life event, complex and unique for each woman, influenced by social, environmental, organisational and policy contexts (90). The experience has long-term effects for women's health and well-being, and women report vivid memories after 15-20 years (91). A positive birth experience has been associated with both internal factors, such as own capacity and strength, and external factors, such as a trusting relationship with the midwife, support and a sense of safety and control (92). In addition, women with continuous support during labour and birth were less likely to report dissatisfaction (93). A Cochrane review (94) of midwife-led continuity models of care during pregnancy and labour, showed positive results regarding women's satisfaction with care. In addition, fewer interventions were performed and women were more likely to experience a spontaneous vaginal birth.

The prevalence of having experienced a negative birth was 7% in a Swedish cohort study (95), assessed one year after birth on a seven-point scale where 'very negative' and 'negative' were considered a negative birth experience. A recent study in a Norwegian setting (96) showed that 21% of the women experienced a negative birth. The women were asked to rate their experience after an average time of 3.5 years had passed since birth, using a four-point scale where 'very negative' and 'mostly negative' were considered to be a negative experience. Among those with high levels of childbirth fear, the prevalence was 30% when measured one month after birth, assessed by the mean score using the Birth Experience Scale (8). A negative birth experience is associated with complications during labour, not being seen or heard, experiences of pain and loss of control (95,96), lack of support during labour, unwanted pregnancy and lack of support from a partner (95). A very negative or

traumatic birth experience can cause post-traumatic stress symptoms which affect both the woman and her relation to her partner and children (97).

## Support and treatment of women with childbirth fear

Several methods of treating childbirth fear have been studied, and to date, no evidence for the best treatment has been found. Different study designs and varying outcome measures complicate comparisons. However, in a Norwegian interventional study (44), 86% of the women with childbirth fear who had requested caesarean section, changed their birth preferences after receiving crisis-orientated counselling. Of these women, 69% gave birth vaginally and 31% had a caesarean section for medical reasons. The follow-up study found that 93% of the women who changed their preference and gave birth vaginally, stated that they would prefer a vaginal birth in the future (44).

A few randomised controlled trials (RCT) have been conducted. Saisto et al. (98) compared cognitive therapy with standard care. The intervention contained five sessions with an obstetrician educated in cognitive therapy and one session with a midwife in addition to standard care. Standard care included routine obstetric check-ups, standard information regarding the approaching birth and written information about the pros and cons of caesarean section vs. vaginal birth. They found that both methods reduced caesarean sections on request and a reduction in birth-related concerns were seen in the intervention group. Two studies by Rouhe et al. (99,100) compared psycho-educative group therapy with standard care. The study group received six two-hour group sessions by a psychologist, consisting of guided relaxation and information about fear, the birth process, hospital routines, parent- and motherhood. Women receiving standard care were given support related to childbirth fear by the antenatal midwife if necessary. The intervention group had lower caesarean section rates, a more positive birth experience and fewer postnatal depression symptoms. In two Australian studies (101,102), individual telephone psychoeducation was compared to standard care. The intervention included two counselling sessions via telephone conducted by a midwife using the programme 'Promoting Resilience in Mothers' Emotions' (PRIME), which aims to develop coping strategies, reduce emotional stress and facilitate recovery. Standard care included midwifery care, shared care with the general practitioner and a midwife or hospital-based antenatal care with obstetricians and/or midwives depending on the assessment of the woman's health and birth preferences. Both groups received an information booklet on preparation for childbirth. Clinical differences in caesarean section rates were seen and significantly, fewer women in the study group preferred a caesarean section for future birth.

A feasibility study (103) using Internet-based cognitive behaviour therapy (ICBT) for nulliparous women with childbirth fear reported a significant decrease in fear and suggest that this may be a potential treatment for severe childbirth fear during pregnancy.

ICBT is a growing option for treatment of psychological disorders. Several RCTs confirm that effectiveness in treating different types of anxiety and mood disorders over the Internet is similar to face-to-face treatment (104,105). Since childbirth fear is described as a relatively distinctive anxiety syndrome (28) and anxiety and mood disorders are more frequent among women with childbirth fear (45,106), ICBT would be suitable as a treatment option.

Population-based studies comparing various types of childbirth group education with standard care have all shown a decrease in childbirth fear when assessed before the education and after birth (107–111).

## Midwife-led counselling in Sweden

In Sweden, women with childbirth fear have been offered counselling by midwives experienced in intrapartum care in most hospitals as support for their fear since the mid-1990s. In 2004, SFOG (1) published a report aimed at improving knowledge of childbirth fear and included suggestions regarding treatment options for different severities of this fear. Severity levels of low, moderate, severe and phobic were assigned, and the following support for the different levels of fear was suggested. It was recommended that women with low to moderate childbirth fear should be supported by the antenatal midwife and offered prenatal classes with information and preparation for birth. Women with moderate to severe fear should be referred to midwife-led counselling, commonly within the hospital-based maternity care. When other mental ill health issues were present, a referral to a psychologist was recommended. Women with severe to phobic fear were recommended for psychological treatment following an assessment by the obstetrician (1,16). According to the SFOG report, the composition of the counselling group should consist of midwives experienced in intrapartum care and obstetricians, with recourse from social workers, psychologists and psychiatrists.

The goal of the counselling is to reduce childbirth fear and make the birth experience as positive as possible, regardless of the mode of birth. Through support, information and preparation for childbirth, the woman's self-confidence in her ability to give birth could be strengthened. Women with a previous negative birth experience are offered a review of the past birth record in order to understand and to reconcile their previous birth (1). Women with a preference for a caesarean section without medical reason are often offered counselling in order to provide individually designed information and a birth plan (16).

## Context of maternity health care in Sweden

The annual birth rate in Sweden for the last decade has been around 110 000 (79). Maternity care in Sweden is funded by taxes and reaches almost 100% of pregnant women. Antenatal and intrapartum care operate within different organisations, primary health care vs hospital-based care, and continuity of care through both antenatal care and intrapartum care is rare.

Midwives in Sweden have an independent role and are the primary caregivers during normal pregnancy, labour and birth. If complications occur, midwives work in collaboration with obstetricians (112).

For healthy women with a normal pregnancy, the antenatal care consists of two visits to the midwife for registration and information in the first trimester, one routine ultrasound examination in pregnancy week 18 and thereafter 7 – 8 visits from pregnancy week 24. The antenatal care and the midwives' commitment includes support in parenting with classes for parental preparedness, as well as public health work with information and conversations about health issues (113).

Care during labour and birth is conducted in obstetrician-led maternity wards in hospitals and there are no alternatives, such as midwife-led units or along-side midwifery units. Homebirths are rare and only 0.06% of all births in 2011 were registered as homebirths (114).

## Theoretical framework

Since this thesis focuses on midwife-led counseling and the midwife is the primary caregiver throughout pregnancy and birth, the 'Theory of the Good Midwife in Midwifery Services: An Evolving Theory of Professionalism in Midwifery' by Halldorsdottir and Karlsdottir (115) was used as the theoretical framework. Furthermore, Bandura's theory of self-efficacy (116) was used to gain a more thorough understanding of women's experiences in counseling and childbirth.

According to the *Theory of the Good Midwife*, the midwife's professionalism is constructed from five main aspects: (1) *Professional caring* refers to that the midwife genuinely cares for the woman and her family, and is warm, open and sensitive within the professional domain. The midwife is understanding and not afraid of a woman's difficult feelings and can offer support. (2) *Professional wisdom* refers to the midwife's ability to integrate knowledge with procedure. This entails knowing how to create a peaceful environment around the woman and being receptive to her needs and conducive in helping her achieve her objectives. (3) *Professional competence* involves creating a safe environment for mother and baby, one that is conducive to their health. The midwife educates and empowers the woman and her family, assesses the conditions, needs and responses of the woman and provides the appropriate

care and treatment. (4) *Interpersonal competence* refers to the midwife's ability of empowering communication, and to connect and develop a partnership with the woman and her family. The midwife knows how to provide information and instructions so the woman understands. (5) *Personal and professional development* indicates that the midwife develops both personally and professionally and recognises her own attitudes, feelings, strengths and limits.

Overall, the good midwife leads the woman and her family through the childbearing process and adapts the guidance to the needs of each woman and her family. The midwife utilises all communications to empower the woman, for instance, by providing information and appropriate knowledge. The influence of the interaction with a good midwife is described as empowerment. In other words, the midwife strengthens a woman's confidence, facilitating recognition of her own strengths and capacities. When the midwife's professionalism is lacking, this has a discouraging and even disempowering effect upon the woman (115).

If the midwife enables the empowerment of the woman during pregnancy and birth, as described in the theory above, this might influence her self-efficacy. In previous research, prenatal childbirth education for pregnant women (108,109,117), showed increased self-efficacy assessed using the Childbirth Self-Efficacy Inventory (CBSEI). For women with childbirth fear, midwife-led psychoeducation (101) led to improved childbirth self-efficacy.

Self-efficacy can be described as an individual's confidence in or her ability to cope with a specific stressful situation (116). An individual's self-efficacy has two dimensions. The first, outcome expectancy, refers to the individual's belief that a given behaviour will lead to a given outcome. The second dimension, efficacy expectancy, signifies the belief in one's own ability to carry out this behaviour (116). Bandura (118) specifies four sources of self-efficacy beliefs, the most important of which is enactive mastery experience. This refers to past experiences of mastering a specific situation. Additional sources are vicarious experience that alter efficacy beliefs through experiences provided by others. Verbal persuasion or social persuasion is also influential. Physiological and affective states from which people partly judge their ability, strength and vulnerability to dysfunction.

# Aims

The overall aim of this thesis was to conduct an overview of the midwife-led counselling for childbirth fear in Sweden, to investigate women's birth preferences and to describe their experiences of treatment on childbirth fear, with focus on midwife-led counselling.

The specific aims for each study were:

- To conduct a national overview of the midwife-led counselling for childbirth fear available in maternity clinics in Sweden in terms of comprehensiveness, content and organisation
- To investigate women's experiences of attending midwife-led counselling for childbirth fear and its effect over time
- To investigate birth preferences during pregnancy and after birth in women randomised to treatment with ICBT or midwife-led counselling for childbirth fear, and to study the birth experience and satisfaction with the allocated treatment
- To explore women's experiences of midwife-led counselling for childbirth fear

# Methods

This thesis is comprised of four papers with different study designs. Study I is a cross-sectional study, which is a national overview of midwife-led counselling for childbirth fear in Sweden. Study II is a population-based study with a longitudinal design that explores women's experiences with midwife-led counselling and the effect over time. The third study is a randomised controlled study, which aims to investigate whether fearful women's preference for caesarean section differs after treatment for childbirth fear with midwife-led counselling or Internet-based cognitive behaviour therapy. Finally, Study IV is a qualitative interview study, which was conducted to assess women's views on midwife-led counselling and their perceptions of how it might have influenced them and their childbirth fear.

Table 1. Schematic description of the research studies

Study	Design	Participants	Data collection	Data Analysis
I	Cross-sectional survey	43 maternity clinics in Sweden	Questionnaire	Descriptive statistics ANOVA
II	Prospective longitudinal study	889 women from three hospitals in mid-Sweden	Questionnaires during pregnancy and after birth	Descriptive statistics Crude and adjusted Odds Ratios Friedman's test
III	Randomised controlled study	258 women with childbirth fear from three hospitals in Sweden	Questionnaires during pregnancy and after birth	Descriptive statistics Chi 2-test Odds Ratios Cochran's Q-test
IV	Qualitative interview study	27 women with childbirth fear from three hospitals in Sweden	Individual telephone interviews	Thematic analysis

# Study I

## Design

For Study I, a cross-sectional survey was conducted where all maternity clinics in Sweden were invited to answer a questionnaire regarding the provision of counselling for childbirth fear.

## Procedure

The questionnaire was designed by the research group based on the report 'Childbirth Fear' by SFOG (113) and our clinical experiences of midwife-led counselling. The questionnaires were addressed to the person in charge of the counselling at each clinic, usually a midwife working with counselling for childbirth fear. The non-respondents received reminder letters after two and four weeks.

## Data collection

The questionnaire included 19 questions regarding counselling for childbirth fear, opening with, 'Is there a special counselling service for women with childbirth fear at your clinic?' The following questions were open ended and dealt with issues related to the extent of the counselling, the number of women who received counselling and what options the clinic had concerning the time allocated for the counselling midwives. Questions were also asked regarding the procedure: the identification of women with childbirth fear, the point in pregnancy at which counselling started, whether the clinic had guidelines regarding the counselling, whether the clinic had access to an interpreter if needed and the possibility of obtaining supervision for the midwives and obstetricians. Questions concerning the counselling team concerned the number of midwives who worked with counselling, whether other professions were involved in the team and the number of caesarean sections on maternal request. The content of the counselling included eleven proposed approaches based on the report from SFOG (1), with the option to add methods that were not mentioned. The approaches were as follows: review of past medical record (when appropriate), written plan of the birth, visit to the labour ward, strengthening the woman in her belief in herself and her ability to give birth, relaxation/breathing techniques, pros and cons of caesarean section vs. vaginal birth, information about the birth process, encouragement to give birth vaginally, a plan for early pain relief, such as epidural analgesia, induction of labour on the mother's request and reassurance of caesarean section on request during labour.

Additional questions concerned the midwives' supplementary education, treatment options, working methods, evaluations of the program and the midwives' thoughts regarding development of the counselling. These were sent by e-mail to the person who was named as the contact person for the clinic.

## Data management and analysis

The clinics were divided into four groups according to the annual birth rate, based on national statistics (79), to make comparative analysis possible. Group 1 included clinics with 200 – 999 births/year (10 clinics). Group 2 included clinics with 1000 – 1999 births/year (13 clinics). Group 3 included clinics with 2000 – 3399 births/year (11 clinics) and Group 4 included large clinics with >3400 births/year (9 clinics).

The number of midwives working with counselling differed and was not fully correlated to the annual birth rate at the clinics due to the organisation of the counselling. To make it possible to compare the time midwives had scheduled for counselling at different clinics, a comparative figure was generated. By dividing the total minutes per year that the midwives at each clinic had allocated for counselling by the total number of births per year in the clinic, we could compare the time spent regardless of the number of midwives working with counselling at the different clinics.

Descriptive statistics, sample frequencies, percentages and means with standard deviation (SD), were used. Comparisons of means between groups were conducted using one-way ANOVA. Statistical analyses were conducted using the Statistical Package for Social Sciences (SPSS), version 21.

The design of the open questions allowed for short answers from respondents. All statements were read through several times and the manifest content of the sentences were inductively derived from the data. The first coding was done manually. Thereafter, a binary index (presence or absence) was created to systematically facilitate the development of categories. The midwives' responses were based on similarities and differences (119,120).

## Study II

### Design

Selected data from a regional longitudinal survey of women's expectations and experiences of pregnancy, childbirth and the first year after giving birth, were used for the second paper. The survey consisted of four questionnaires distributed at the following times: mid-pregnancy, late pregnancy (not used for Paper II), two months after birth and one year after birth.

## Recruitment and participants

Recruitment was conducted after the routine ultrasound examination in pregnancy week 17 – 18 in three hospitals in the county of Västernorrland, Sweden, during 2007 – 2008. An information and invitation letter was sent two weeks prior to the examination. Swedish speaking women with a normal ultrasound examination were approached by the recruiting midwife and asked to participate in the study. Women who consented to participate signed a consent form and responded to the first questionnaire directly after the examination or completed it at home and returned it in a prepaid envelope. The following questionnaires were sent to the women's home addresses.

A total of 2512 women completed the ultrasound examination of whom 2347 completed the inclusion criteria and 1506 consented to participate. See Figure 1 for details on recruitment and participation.

The participants for Paper II included 889 women who responded to the question 'Did you receive counselling for childbirth fear?' in the questionnaire two months after birth. Of the 889 women, 70 stated that they had received counselling. In the questionnaire one year after birth, 59 women out of 763 respondents stated that they had received counselling for childbirth fear.

## Data collection and measurements

Data were collected from three questionnaires; one during pregnancy, gestational week 17 – 18, and two questionnaires after giving birth: two months after birth and one year after birth.

Background data were collected from the questionnaire in mid-pregnancy and the women were asked to respond to sociodemographic status (age, civil status, country of birth, level of education, smoking status) and their obstetric background: parity, previous birth modes and infertility problems. It was possible to mark several birth modes for multiparous women. In addition, women's self-rated childbirth fear and preference for mode of birth were collected from this first questionnaire. The question regarding childbirth fear was worded: 'Worries and fears are common feelings among women when facing childbirth. To what extent do you experience worry and fear at present?' measured on a four-point rating scale ranging from 'a great deal' to 'not at all'. In the analysis, the variables were dichotomised into 'a great deal/very much' and 'somewhat/not at all'. The question about preferred mode of birth was worded: 'If you had the possibility to choose, how would you prefer to give birth to your baby?' The response alternatives were 'vaginal birth' and 'caesarean section.'

Two months after birth, information about the actual birth was collected including questions concerning mode of birth, counselling and the women's birth experience. The mode of birth was checked for accuracy in the birth rec-

ords. The question about counselling was worded: 'Did you receive counselling due to fear of giving birth' with the response alternatives 'yes' and 'no'. If the women answered 'yes', additional questions about who performed the counselling were given and the women's level of satisfaction with the counselling, ranging from 'very satisfied' to 'very dissatisfied'. The birth experience was assessed on a five-point scale ranging from 'very positive' to 'very negative.' The variable was dichotomised in the analysis into 'very positive/positive' and 'mixed feelings/negative/very negative.' The level of satisfaction was dichotomised similarly to the birth experience.

In the questionnaire given one year after birth, data regarding childbirth fear, preference for mode of birth and birth experience were collected. The questions about childbirth fear and preference for mode of birth was slightly rephrased compared to the first questionnaire: 'Worries and fears are common feelings among women when facing childbirth. To what extent do you experience worry and fear when thinking of a future birth?' and 'If you consider having more children, which mode of birth would you prefer?' with the option 'I cannot think of having more children' added to the response alternatives. The birth experience was worded as above.

The dichotomisation of the variables was based on the skewed nature of the data with very few women indicating that they had experienced fear to 'a great deal', had experienced a 'very negative' birth or describing their satisfaction with counselling as 'very negative'.

## Data analysis

Descriptive statistics were used to describe the sample. For comparisons between women with or without counselling regarding sociodemographic and obstetric background, odds ratios (OR) with 95% confidence interval (CI) were calculated. Crude and adjusted OR were applied to assess possible associations between women who received counselling during pregnancy and childbirth experience, childbirth fear and preference for mode of birth in an eventual forthcoming birth. Adjustments were made for the variables where statistically significant background differences were found between the groups, i.e. parity, country of origin and mode of birth. A p-value <0.05 was interpreted as significant. Friedman's test was used before dichotomisation to investigate change over time in childbirth fear (121). Statistical analyses were conducted using SPSS, version 20.0.

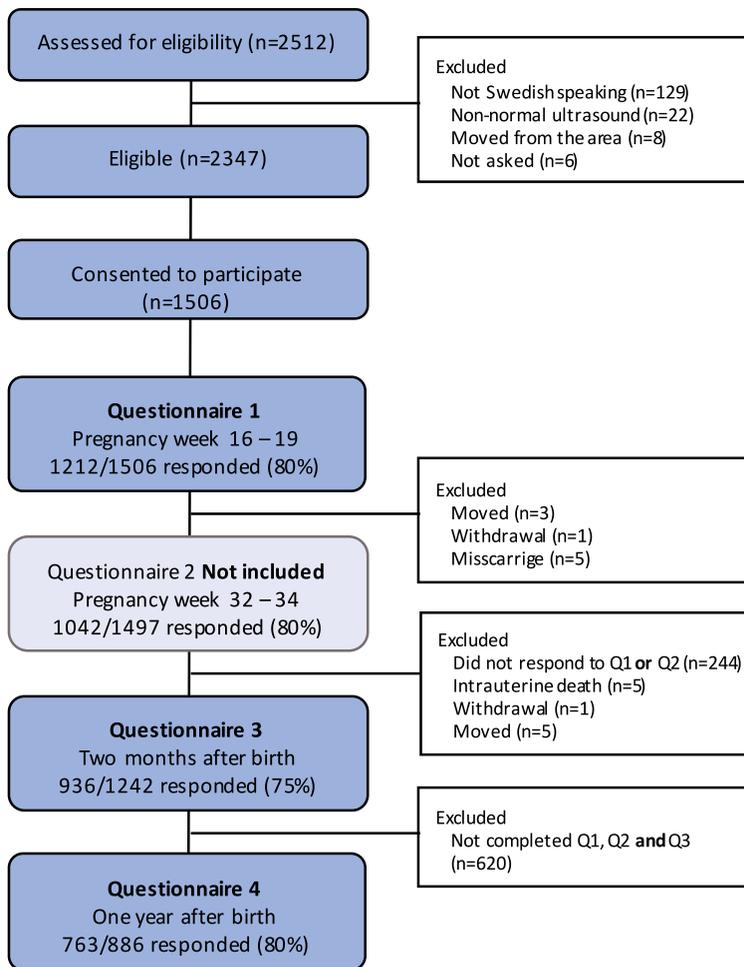


Figure 1. Flow-chart of recruitment and participation for study II

## Study III

### Design

Study III presents a secondary outcome (women's preferences for caesarean section) for a two-armed, non-blinded randomised controlled trial with a multi-centre design comparing ICBT (intervention) with midwife-led counselling (standard care). The primary outcome of the RCT is the level of child-birth fear at 36 weeks of pregnancy.

The study is one part of the Uppsala University Psychosocial Care Program (U-CARE), a government funded project using Internet-based cognitive therapy for preventing and reducing emotional distress (122). The program developed an Internet platform: The U-CARE portal ([www.u-care.se](http://www.u-care.se)). The portal

is used for randomisation, data collection and interventions undertaken within the U-CARE program. This study was one part of the U-CARE program entitled U-CARE Pregnancy (123).

## Recruitment and participants

Women in pregnancy week 17-20 with a normal ultrasound screening result scored  $\geq 60$  on the Fear of Birth Scale (FOBS) indicating those with childbirth fear were invited to participate. Further inclusion criteria included mastery of the Swedish language, access to the Internet and a mobile phone.

Recruitment was performed from February 2014 to February 2015 in three hospitals in Sweden, one university hospital and two regional hospitals with an annual birth rate of 4200, 2600 and 1600 respectively.

The recruitment was done stepwise. Initially, the ultrasound midwives or a research assistant nurse asked all women who attended their routine ultrasound examination and fulfilled the initial inclusion criteria to fill out the FOBS screening form; 4502 women responded. Of these women, 864 (19.2%) reported childbirth fear, which was defined as a score of  $\geq 60$  on the FOBS (Figure 2).

In the second step, 712 women who were reached by telephone by the two research midwives were invited to participate in the study after receiving oral information about the RCT design and the two treatment methods; 258 women consented to participate and were sent a letter with additional information and an informed consent form. After returning the signed consent, the women were given login details to the U-CARE portal where they completed the baseline questionnaire and were subsequently randomised.

## Randomisation

After completion of the baseline questionnaire, the participants were randomised (1:1) by the U-CARE portal into ICBT (intervention) ( $n=127$ ) or midwife-led counselling (standard care) ( $n=131$ ). After randomisation, the participants received information on how to proceed and navigate the portal depending on the allocated treatment.

## Intervention

Women randomised to ICBT were contacted by one of the two psychologists responsible for the treatment. After the introduction, the participants could access the first treatment module.

There were eight treatment modules in the program exclusively designed for this study, which addressed fear. The modules consisted of text material and assignments closely related to the content for each specific module. The

participants followed the given order of the modules. When the required assignment was completed for the active module, the psychologist provided written feedback to the women via the portal. The next module could then be activated. In addition to this feedback system, women in the intervention group could communicate with their psychologist through the portal at any time for support.

## Standard care

The research midwives contacted each study centre for referral of the women who were randomised to midwife-led counselling. Each study centre followed their standard procedure for making counselling appointments and the following treatment. At the university hospital, the antenatal midwife initiated the counselling with the fearful woman. If the midwife found that the woman was in need of more specific counselling, she referred her to the counselling team. For medical decisions, the woman met with an obstetrician as well. A referral to a psychologist was possible if required. At the larger of the two regional hospitals, the counselling team, consisting of midwives experienced in intrapartum care, obstetricians, a psychologist and a social worker, had a referral briefing and the woman usually met with a midwife for counselling thereafter. When comorbidity with other mental ill-health occur, the woman could meet one of the other professionals as well. At the third, and smallest, hospital, the counselling midwives distributed the referrals among themselves based on each midwife's current workload. When medical questions arose, the woman also met with an obstetrician. There was a possibility for the midwife to refer the woman to a psychologist if needed. At all three hospitals, midwife-led counselling was very limited during summer holidays.

## Data collection and measurements

Data in the U-CARE pregnancy study were collected via questionnaires in the U-CARE portal three times during pregnancy: pregnancy week 20 – 25 (baseline), week 30 and week 36. Information was also collected twice after giving birth: two months after birth and one year after birth. Platform-generated text-messages and e-mail reminders were sent to each participant after 6, 12, 30 and 38 days if they had not responded. The non-responders for the questionnaire two months after birth were also contacted by telephone by the research midwives and asked to complete the questionnaire. If a participant was not willing to log into the portal, she was asked to answer a selection of questions from the questionnaire through the telephone interview. Women who did not respond after the reminders were considered lost at follow-up.

For Study III, data from the baseline questionnaire in pregnancy week 20 – 25 were used for socio-demographic background, obstetric history and preferred mode of birth. The question concerning women's preferences for mode

of birth was worded: 'If you were able to choose, which mode of birth would you prefer' with the response alternatives 'vaginal birth' or 'caesarean section'.

Women's birth preferences were collected from the questionnaire in pregnancy week 36.

Information about the birth was collected from the questionnaire two months after birth. This data included questions concerning mode of birth, the women's comments on the reason for caesarean section (when applicable), evaluation of birth experience, and preferences for birth mode in the future. Questions about satisfaction and perceived effects of the treatment were explored.

The birth experience was evaluated on a five-point scale ranging from very positive to very negative. The variable was dichotomised into 'positive' (very positive/positive) and 'less than positive' (mixed feelings/negative/very negative). This dichotomisation was based on the skewed nature of the data, with very few women reporting negative birth experiences. The question about a future birth was worded: 'If you plan to have more children, which mode of birth would you prefer?' The response alternatives were: 'vaginal birth', 'caesarean section' or 'I cannot think of having more children'. Satisfaction with the treatment was assessed with response alternatives on a five-point scale ranging from 'very satisfied' to 'very dissatisfied' and were dichotomised similarly to the birth experience. The women's perceived effect of the treatment in reducing fear was also investigated, and the four options were: 'my childbirth fear disappeared', 'my childbirth fear decreased', 'my childbirth fear increased' and 'the treatment did not affect my childbirth fear'. The perceived effect of treatment was dichotomised into 'fear disappeared/fear decreased' and 'fear increased/did not affect the fear'.

The questionnaires included previously used questions from national and regional surveys of Swedish childbearing populations (26,39).

## Data analysis

Descriptive statistics were used to describe the sample, and an intention-to-treat analysis was performed. Single imputation analysis, with the last observation carried forward, and a multiple imputation analysis (124) was made for the missing values of the outcome variables to examine if outcome measures had lost significance. For comparisons between the treatment groups, a  $\chi^2$  test for independence, and odds ratios with a 95% confidence interval were calculated for the various explanatory variables. To assess if women's birth preferences changed over time, a Cochran's Q -test was used (121). A  $p$ -value of  $<0.05$  was interpreted to be statistically significant.

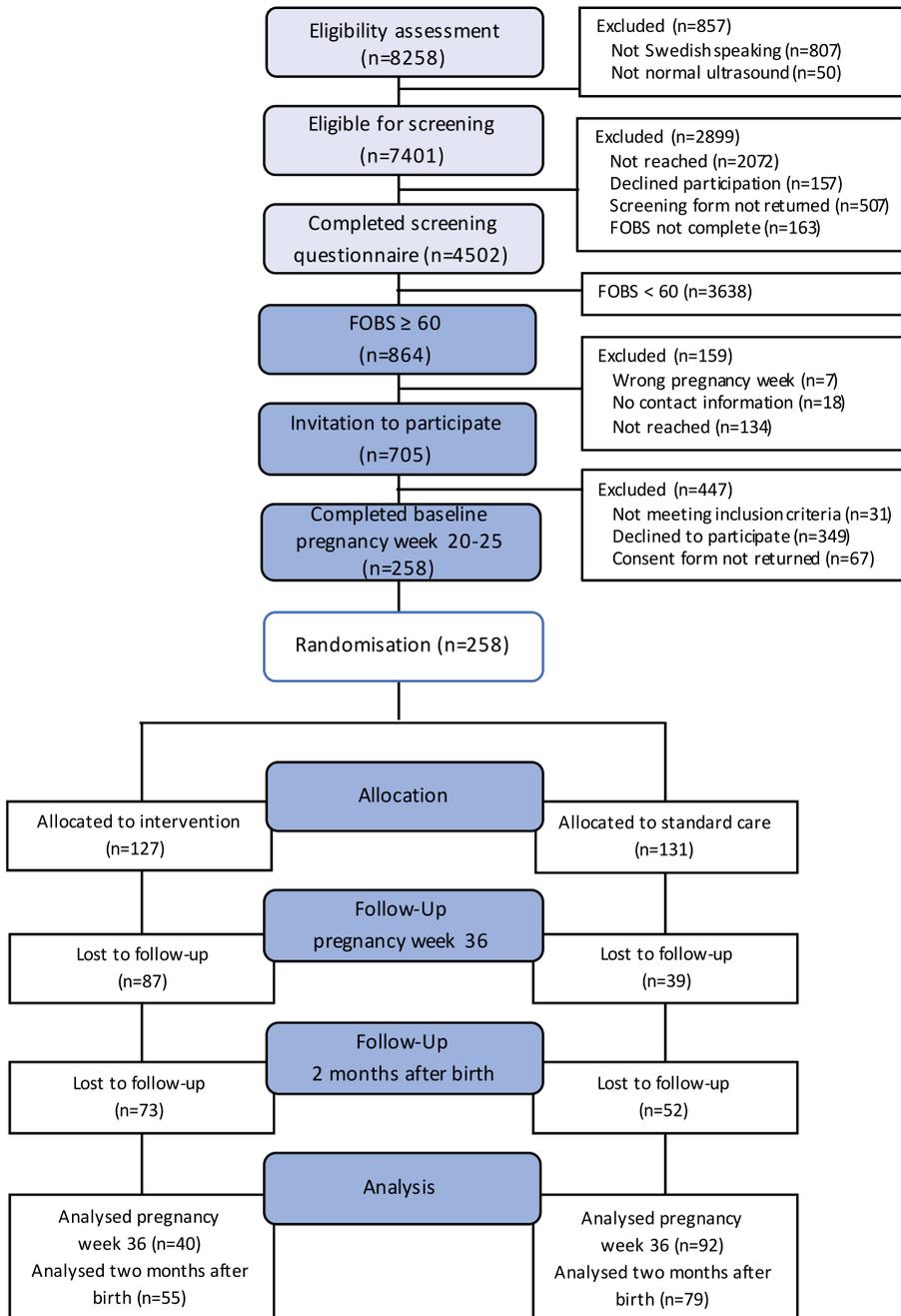


Figure 2. Flow-chart for recruitment and participation

## Study IV

### Design

Study IV is a qualitative interview study with women who received midwife-led counselling in the randomised controlled study (Study III).

### Recruitment and participants

The women who participated in the RCT were asked in the questionnaire two months after birth if they were willing to be contacted for an interview. The question was worded: 'May we contact you for a follow-up interview?' Out of the 79 women in the counselling group who responded to the questionnaire, 66 consented to participate and left their mobile phone number in the questionnaire. Thereafter, a consecutive sample were invited to participate in an interview.

### Data collection

The interviews were conducted by the first author between September 1 and December 21, 2016. The first contact with the women was made by sending a text message with some basic information and a proposed date and time for a telephone interview regarding the received counselling and the birth. All interviews were conducted by telephone and digitally recorded after a consent was received from the woman. An interview guide with open ended questions was used and the opening question was worded: 'Can you please tell me about your fear of giving birth?' The following questions were related to the counselling and fear during pregnancy, their thoughts and experiences about their birth and finally the feelings regarding an eventual upcoming pregnancy and birth. The average time for the interviews was 30 minutes with a range between 19 and 47 minutes. The interviews were transcribed verbatim consecutively by the first author. The data collection was completed after 27 interviews when no new information appeared.

### Data analysis

Thematic analysis as described by Braun & Clark (125) was used to analyse the interview data. An inductive data driven approach was used focusing on the semantic content, meaning the themes were identified within the explicit meanings of the data. The analysis process followed Braun & Clark's phases of analysis and familiarisation with the data began during transcription when a first understanding appeared. The text was reread, and thereafter initial codes were generated manually through the entire data set and organised into meaningful groups and patterns. Initial themes were identified and a thematic map

was created to find relationships between the themes. The coding and the preliminary themes were then discussed and refined, initially by the first and the last author. Thereafter all authors reviewed the themes and additional refinement was undertaken.

All authors are midwives with clinical experience in counselling for childbirth fear. Throughout the interviews and analysis, the authors paid careful attention to the preunderstanding that inevitably would influence the interpretation of the women's stories.

## Ethical considerations

All studies were conducted in accordance to the Declaration of Helsinki (126). The ethical principles promote respect for all human beings and protect their health and rights. Some populations are more vulnerable and need special protection. The study subjects must be volunteers and informed. They were able to withdraw their participation at any time without reprisal. Furthermore, precautions were taken to protect the subjects' integrity, privacy, and the confidentiality.

Study I addressed members of the staff at the maternity clinics, preferably midwives, which does not require approval from the ethics committee according to the Swedish law on ethical review of research involving humans (2003:460). The participants received written information regarding the purpose of the study and could choose to participate or not. They also chose the information they wanted to share.

Study II was approved by the Regional Research and Ethics committee at Umeå University, Sweden (Dnr 05-134 Ö). The women were sent written information prior to consenting to participate. Information was given about the voluntary nature of the participation. In addition, anonymity and confidentiality were assured to protect their privacy rights.

Studies III and IV were approved by the Regional Ethical Review Board in Uppsala (Dnr:2013/209). Before the women gave their consent to participate, they were given oral and written information indicating that they were free to leave the study at any time without providing a reason. To minimise the risk of sending questionnaires to women who had lost their baby or had a baby who was seriously ill, the baby's health was checked in the birth records before the questionnaire was sent out two months after birth.

When the women were contacted for the interview study, they were given information about the recording and that the information would be treated confidentially.

# Results

The main results for each study are presented in this section. Thereafter a summary of all four studies is presented.

## Counselling for childbirth fear – a national survey

The aim was to conduct an overview of the existing midwife-led counselling in Sweden in terms of comprehensiveness, content and organisation.

Of the 45 maternity clinics in Sweden, 43 responded to the main questionnaire and 34 clinics answered the supplemental questions. All responding clinics provided counselling for childbirth fear. The two clinics that did not respond to the questionnaire were mid-sized clinics and, according to personal communication, they also provided midwife-led counselling.

*The organisation* of midwife-led counselling differed among the clinics. However, all clinics reported that they engaged midwives experienced in intrapartum care to provide counselling for childbirth fear. All clinics except three had at least one obstetrician involved in the counselling. Twenty-six clinics out of 43 (60%) included professions other than midwives and obstetricians, commonly social workers and psychologists. Furthermore, the midwife commonly worked independently. She met the woman individually and consulted obstetricians about medical questions and decisions. Other professionals, such as psychologists and social workers, could be consulted when necessary. This approach was reported by 23 of 34 responding clinics (68%). Four clinics stated that they worked as a team comprised of midwives, obstetricians and sometimes a psychologist and social worker. Such teams had regular meetings with referral briefings and distributed the referrals to the profession that was best suited to treat the woman's problem. A combination of individual meetings and teamwork were described by five clinics, and four clinics mentioned that they had regular meetings with referral reviews.

*The extent of the counselling* varied among the clinics. The average time midwives had allocated to counselling was 17 hours per week, with a range from 2 to 80 hours per week. Due to the different size of the clinics, the scheduled time of midwives can be expressed in minutes per birth a year to make this information comparable. The allocated time varied from 5.7 to 47.6 minutes. At 6 of the 43 clinics, the midwives did not have extra time set aside for counselling. At these clinics, appointments were made before or after the

midwives' ordinary working shifts at the clinic (Table 2). Figure 3 illustrates the differences among the clinics.

*The midwives' supplementary education* regarding childbirth fear and counselling techniques differed. The most common types of education were motivational interviewing, according to 17 of 34 responding clinics (50%) and other types of interview methods for basic and advanced counselling skills (15 clinics, 44%). Ten clinics had a team member who was educated in CBT or psychotherapy. Other short courses such as Mindfulness and Introduction to CBT were also mentioned. Two clinics reported that the team staff did not have any special education regarding childbirth fear.

*Other types of treatment* were offered in addition to midwife-led counselling in 18 clinics (53%). The most common treatments were CBT (8 clinics) and psychotherapy (5 clinics). Sixteen clinics (47%) stated that they could refer the woman to a psychologist, social worker or psychiatrist if necessary, and 8 clinics (24%) stated that they had no other treatment options (34 clinics answered the relevant question).

*The referral procedure* from the antenatal clinic to the counselling team differed. At the majority of clinics, 24 of 43 (56%), the antenatal midwife approached the woman and asked about childbirth fear or the woman self-identified with childbirth fear. Eleven clinics (26%) used a screening instrument for childbirth fear, and four clinics expressed that fear was assessed based on existing guidelines before referral. Four clinics did not have a referral system, and the woman contacted the counselling team herself.

*The content of the counselling* was similar at all 43 clinics and the following six approaches were used by the midwives at all responding clinics: strengthening the woman in her belief in herself and her ability to give birth, information about the birth process, promise of early pain relief, such as epidural analgesia, information about pros and cons of vaginal birth vs. caesarean section, a written birth plan and a review of the past birth record (when applicable) through joint discussion between the individual woman and the midwife. Women were encouraged to give birth vaginally, and a visit to the labour ward was included in the counselling meetings at 42 of the 43 clinics (98%). Twenty-nine clinics (67%) taught the woman relaxation and breathing techniques. Women with an initial wish for caesarean section could sometimes give birth vaginally if they were assured that a conversion to a caesarean section on maternal request was an option during labour if labour was perceived as too traumatic and a caesarean section was medically safe. This approach was possible at 32 (74%) of the clinics in Sweden. In addition, the possibility of inducing birth on maternal request also made it possible for some women to be able to confront a vaginal birth. This approach was used at 41 of 43 clinics (95%).

The number of sessions ranged from 1 to 10, but the averages were two or fewer at 22 clinics (51%) and more than two at 20 clinics (47%) (Table 2).

Table 2. Number of women in treatment, scheduled time, and number of sessions.

Group	Women in treatment				Scheduled time for counselling				Number of sessions			
	Number /births a year (%)	Mean	SD	p-value	Minutes /birth a year	Mean	SD	p-value	Average	Mean	SD	p-value
				0.028				0.039				0.489
1	2.5 - 10.6	6.9	2.7		16.3 - 47.6 <sup>a</sup>	23.9	11.0		1.5 - 4.5	2.3	0.8	
2	5.4 - 11.0	8.0	1.7		12.5 - 47.5 <sup>b</sup>	27.1	10.1		1.8 - 5.5	2.7	1.0	
3	3.6 - 8.5	5.4	1.6		5.7 - 27.7 <sup>c</sup>	15.5	7.8		2.0 - 4.0	2.5	0.6	
4	5.7 - 9.8	8.0	1.8		7.2 - 30.8	18.7	8.6		1.5 - 2.8	2.2	0.4	

<sup>a</sup> Three clinics did not have time set aside for counselling, not included

<sup>b</sup> Two clinics did not have time set aside for counselling, not included

<sup>c</sup> One clinic did not have time set aside for counselling, not included

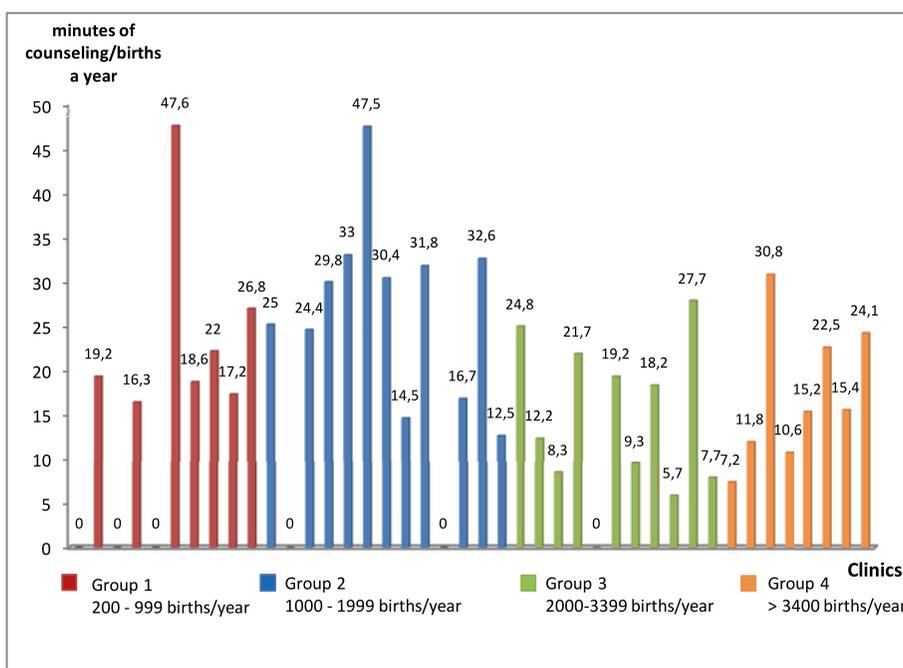


Figure 3. The time midwives had scheduled for counselling at the 43 hospitals, expressed in minutes per birth per year.

## The effects of counselling on fear of childbirth

The aim was to investigate women's experiences of midwife-led counselling and the effect over time.

Of the 889 women who responded to the question if they received counselling for childbirth fear, 7.9% (n=70) reported that they received counselling during pregnancy. A majority, 57% (n=40), were counselled by a midwife experienced in intrapartum care and 40% by the antenatal midwife, an obstetrician, social worker or a psychologist. Satisfaction with the given support was high; 80% (n=56) of the women reported on a five-point rating scale, that they were satisfied or very satisfied.

Parous women who received counselling were five times more likely to have had a previous emergency caesarean section (OR 5.0 CI: 2.4-10.5). In mid-pregnancy, the women in the counselling group had a stronger preference for a caesarean section than the control group, 31% vs. 4% (Table 3).

In all, 21% of the women who received counselling were delivered by planned caesarean section, compared to 5% in the control group (Table 3). When dividing the planned caesarean sections into with or without medical reason (self-reported), there were in total 10 out of 62 (16%) caesarean sections without medical reason, eight in the counselling group and two in the control group. There were no differences between the groups regarding instrumental vaginal birth or emergency caesarean section (Table 3).

One year after birth, childbirth fear was greater among women who received counselling compared to those who did not receive counselling, 40.7% and 13% respectively (Table 3). There was no statistically significant change in fear from mid-pregnancy to one year after birth ( $p=0.198$ ). In addition, 51% of the women who received counselling expressed that their birth experience was less than positive, compared to the group without counselling where 35% had a birth experience less than positive. Furthermore, women in the counselling group preferred a caesarean section to a greater extent in case of a future birth (31% vs. 7%). Women in the counselling group were three times more likely not to want to have more children (Table 3). The differences between the groups were statistically significant. The associations remained significant after adjusting for parity, mode of birth and country of birth.

Table 3. Comparisons between study groups regarding childbirth fear and preferred mode of birth in mid-pregnancy and one year after birth.

	No counselling		Crude OR	95% CI	Adjusted	
	Counselling	n (%)			OR	95% CI
<b>Childbirth fear in mid-pregnancy <sup>a</sup></b>	<b>n=70</b>	<b>n=819</b>				
Somewhat/not at all	21 (30.9)	742 (92.2)	1.0	ref.	1.0	ref.
Great deal/very much	47 (69.1)	63 (7.8)	26.4***	14.8-46.9	30.1***	16.5-54.9
<b>Preferred mode of birth in mid-pregnancy <sup>a</sup></b>						
Vaginal	46 (68.7)	757 (95.6)	1.0	ref.	1.0	ref.
Planned caesarean section	21 (30.9)	35 (4.4)	9.9***	5.3-18.3	9.3***	4.9-17.7
<b>Actual mode of birth <sup>a</sup></b>						
Normal vaginal birth	41 (58.6)	603 (73.8)	1.0	ref.	1.0	ref.
Instrumental birth	4 (5.7)	79 (9.7)	0.7	0.3-2.1	0.9	0.3-2.6
Planned caesarean section	15 (21.4)	47 (5.8)	4.7***	2.4-9.1	4.2***	2.1-8.3
Emergency caesarean section	10 (14.3)	88 (10.8)	1.7	0.8-3.5	1.9	0.9-3.9
<b>Childbirth fear 1 year after birth <sup>b</sup></b>	<b>n=59</b>	<b>n=704</b>				
Somewhat/not at all	35 (59.3)	577 (87.0)	1.0	ref.	1.0	ref.
Great deal/very much	24 (40.7)	86 (13.0)	4.6***	2.6-8.1	5.0***	2.6-9.3
<b>Birth experience <sup>b</sup></b>						
Very positive/positive	29 (49.2)	434 (65.5)	1.0	ref.	1.0	ref.
mixed feelings/negative/very negative	30 (50.8)	229 (34.5)	2.0*	1.1-3.3	2.1*	1.2-3.9
<b>Preferred mode of birth in a future birth <sup>b</sup></b>						
Vaginal	26 (44.1)	557 (84.0)	1.0	ref.	1.0	ref.
Planned caesarean section	21 (30.9)	48 (7.2)	9.3***	4.9-17.8	12.0***	5.1-28.1
I cannot think of having more children	11 (19)	58 (8.8)	4.0***	1.9-8.6	3.3**	1.5-7.4

\*p< 0.05 \*\*p< 0.01 \*\*\*p< 0.001

<sup>a</sup> Adjusted for parity, country of birth

<sup>b</sup> Data collected 1 year after birth. Adjusted for parity, country of birth and birth mode

## Birth preference in women undergoing treatment for childbirth fear: a randomised controlled study

The aim was to investigate birth preferences in women undergoing treatment for childbirth fear, and to investigate birth experience and satisfaction with the allocated treatment. For randomisation and participation, see Figure 2.

Women's birth preferences were assessed twice during pregnancy and at two months after birth. There was a decrease in the percentages of caesarean section preference in both treatment groups from baseline to pregnancy week 36. This dropped from 34% to 12% in the ICBT group and 24% to 20% in the standard care group. Two months after birth, the preference for caesarean section increased again, to 20% in the ICBT group and to 29% in the counselling

group (Figure 4). There was no statistically significant change over time in birth preference (Cochran's Q test  $p$  0.31 and 0.16, respectively). Neither was the decrease during pregnancy statistically significant (McNemar's test  $p$  0.07 and 0.55 respectively). In total, 42 women (32%) in the sample responded that they could not consider having another child and were excluded from further analysis.

The actual mode of birth did not differ between the groups. The majority, 87 women (65%), had a normal vaginal birth, 12 (9%) had an instrumental vaginal birth, and 10 (7%) had a planned caesarean section, eight for obstetrical reasons and two at the woman's request. Twenty-five women (19%) had an emergency caesarean section, one on the woman's request and 24 for diverse obstetrical reasons.

The birth experience was similar in both groups – 50% had a positive birth experience and 50% had a less than positive experience.

There was a significant difference between the groups concerning satisfaction and perceived impact of the treatment. In the ICBT group, 39% ( $n=17$ ) were satisfied with the treatment versus 74% ( $n=57$ ) in the standard care group. In addition, 43% ( $n=19$ ) in the ICBT group stated that the treatment made the fear disappear or decrease versus 81% ( $n=63$ ) of the women who received standard care. However, 71% and 73% respectively, scored  $<60$  on the FOBS (Table 4).

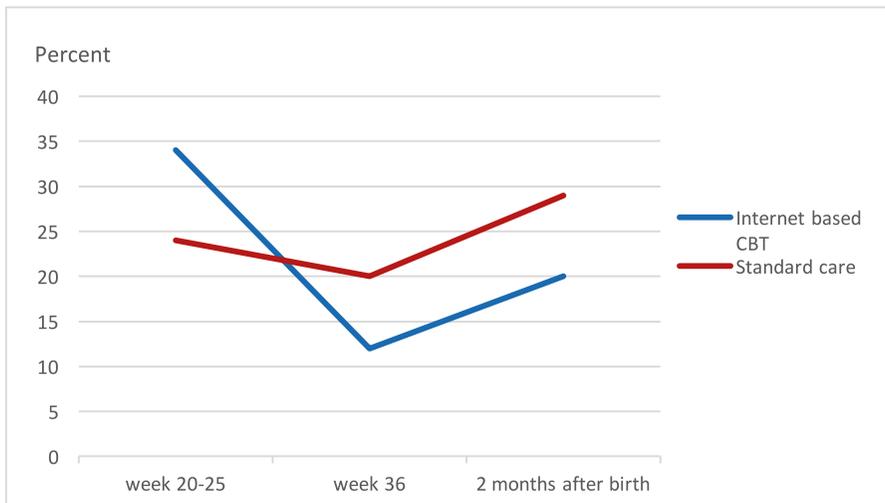


Figure 4. Preference for caesarean section over time

Table 4. Satisfaction with treatment, perceived effect of treatment and FOBS score

	ICBT <sup>a</sup> n=54 (%)	Standard care n= 80 (%)	OR	95% CI
<b>Satisfaction with treatment</b>				
Satisfied	17 (38.6)	57 (74.0)	1.0	ref.
Less than satisfied	27 (61.4)	20 (26.0)	4.5***	2.0-10.0
<b>Perceived effect of treatment</b>				
Fear disappeared/fear decreased	19 (43.2)	63 (80.8)	1.0	ref.
Fear increased/did not affect fear	25 (56.8)	15 (19.2)	5.5***	2.4-12.6
<b>FOBS &lt;60</b>	31 (70.5)	53 (72.6)	1.1	0.5-2.5

<sup>a</sup> Internet-based cognitive behaviour therapy

\*\*\*p<0.001

## Women's experience of midwife-led counselling and its influence on childbirth fear

The aim was to explore women's experiences of midwife-led counselling for childbirth fear.

Of the 27 participating women, there were 18 first-time mothers and 9 women who were giving birth to their second or third baby. They were aged between 24 and 38 at the time of counselling. The majority, 16 women, had a normal vaginal birth; three had an instrumental vaginal birth; two had a planned caesarean section for medical reasons; and six had an emergency caesarean section (Table 5). At the time of the interview, between 14 months and 27 months had passed since the birth.

The overarching theme '*Midwife-led counselling brought positive feelings and improved confidence in birth*' consisted of four themes, and sub-themes were defined within each theme (Figure 5).

The two themes '*The importance of the midwife*' and '*A mutual and strengthening dialogue*' represented the women's experiences of counselling during pregnancy.

Many women indicated that the midwife's counselling was crucial. Her serenity was described as an essential part of feeling safe and the woman felt confirmed when the midwife listened and saw her as an individual. In addition, the midwife's expertise in intrapartum care made her trustworthy and reliable.

The possibility of verbalising the fear and receiving information about the birth process combined with a written birth plan constituted the most important issues. These issues created a sense of confidence and the women felt that the fear decreased. In addition, the tools provided, such as relaxing exercises, breathing techniques, methods for visualising positive scenarios and methods of positive thinking, helped many women manage the worry and anxiety. For women with a previous negative birth experience, the possibility of

talking about their experiences with the midwife who had knowledge of intrapartum care, provided an opportunity to reconcile and then prepare for the upcoming birth. An important part of the counselling was the visit to the labour ward to introduce the woman to the area and let her become familiar with the premises. The women described this visit as difficult yet helpful and something that defused their negative beliefs.

The theme '*Coping strategies and support enabled a positive birth*' refers to the women's experiences during birth. When women talked about their birth and what influenced the birth experience, they mentioned their self-capacity and how they had a sense of control during birth. As a result of counselling, the women felt aware and present and could cope with birth in an acceptable way. An important aspect of having experienced a positive birth was the midwives' and other staff's ability to listen and provide continuous information. The women talked about the importance of being a part of one's own birth and taking an active part in decision making. When these aspects were realised, they had a feeling of affirmation. To feel safe and calm was often linked to the presence of the staff during labour, usually the midwife's presence and support. In contrast, women stated that the absence of the staff in the labour room made them feel alone and insecure.

The theme '*Being prepared for a future birth*' describes women's perceptions of how counselling and the birth experience influenced their childbirth fear and their thoughts on a potential future pregnancy and birth. A majority of the women expressed that counselling and the birth experience contributed to a less troublesome level of fear or that they gained the capacity to manage their fear. A few women stated that they had no worries or fears at all after the counselling and birth. An improved attitude toward giving birth resulting from information and preparation during counselling was described as an important part of a positive birth. The positive birth experience by itself reduced fear for some women and the coping tools made women more confident when thinking of a future birth. They did not consider further counselling necessary for forthcoming pregnancy. In addition, there were a few women who would prefer another type of treatment, for example CBT, which could help them with their main problem such as generalised anxiety.

Table 5. Characteristics of women interviewed in study IV.

Identity code	Parity	Age	FOBS	Mode of birth
1	Multiparous	34	63	Emergency CS
2	Primiparous	24	69	Normal vaginal
3	Multiparous	29	63	Normal vaginal
4	Primiparous	33	87	Normal vaginal
5	Primiparous	30	64	Instrumental vaginal
6	Multiparous	27	61	Normal vaginal
7	Primiparous	27	96	Normal vaginal
8	Multiparous	33	91	Normal vaginal
9	Primiparous	29	62	Normal vaginal
10	Multiparous	31	78	Normal vaginal
11	Primiparous	30	67	Emergency CS
12	Primiparous	27	69	Normal vaginal
13	Primiparous	27	73	Normal vaginal
14	Primiparous	28	65	Normal vaginal
15	Primiparous	29	70	Instrumental vaginal
16	Primiparous	28	80	Normal vaginal
17	Primiparous	38	66	Emergency CS
18	Multiparous	31	77	Normal vaginal
19	Primiparous	28	83	Emergency CS
20	Primiparous	34	84	Instrumental vaginal
21	Primiparous	28	65	Emergency CS
22	Primiparous	24	88	Planned CS
23	Primiparous	33	79	Emergency CS
24	Primiparous	36	63	Normal vaginal
25	Multiparous	34	97	Planned CS
26	Multiparous	38	72	Normal vaginal
27	Multiparous	37	79	Normal vaginal

MIDWIFE-LED COUNSELLING BROUGHT POSITIVE FEELINGS AND IMPROVED CONFIDENCE IN BIRTH

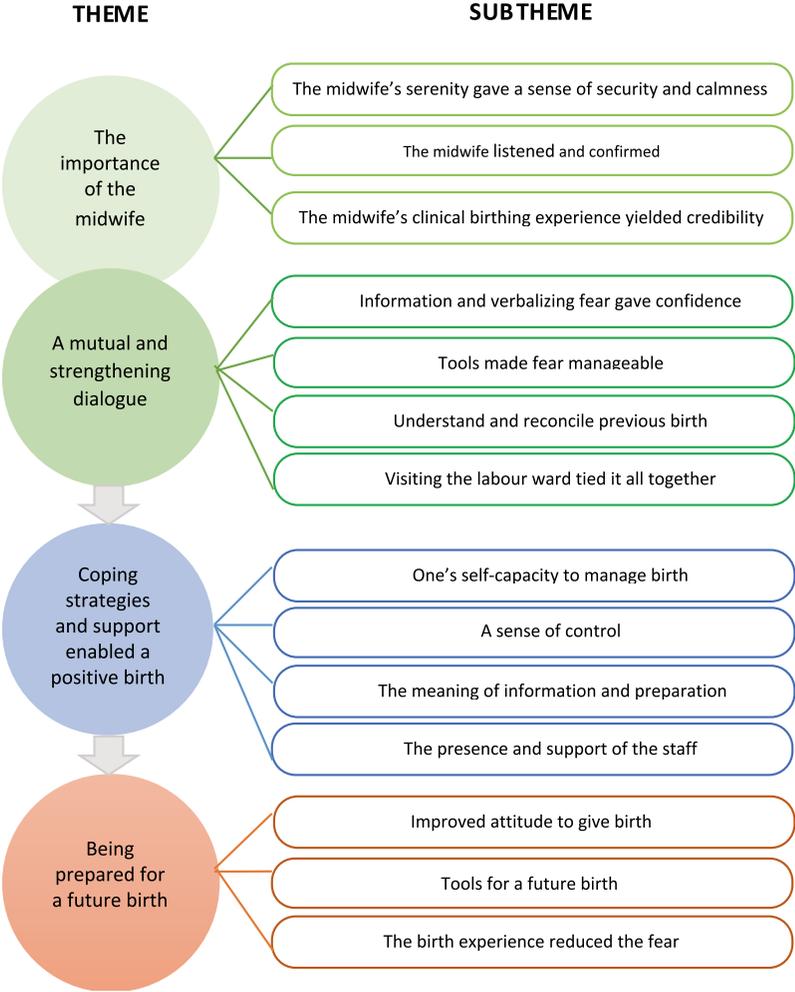


Figure 5. Overarching theme with themes and sub themes

## Summary of the results

The overall aim was to conduct an overview of the midwife-led counselling in Sweden, to investigate women's birth preferences and to describe their experiences of treatment on childbirth fear, with focus on midwife-led counselling.

The experience of counselling was assessed as positive or very positive by 74% and 80% of the women (II, III). Women described the importance of the midwife during counselling, using terms, such as "calm" and "confirming". They further described the midwife as professional and skilled in intrapartum care. Furthermore, the women described that the information provided, the opportunity to verbalise their fear and understand the process of a previous birth and the experience of visiting the labour ward as important for becoming prepared for birth (IV). Among women randomised to ICBT only 39% were satisfied with the assigned treatment (III).

The approaches of the counselling mentioned above are in line with Study I where counselling midwives described the content of counselling. The content seems to include similar approaches in all clinics in Sweden. This includes information about and preparation for birth, methods for strengthening women's belief in their ability to give birth, help to process a previous negative birth, a written birth plan and visits to the labour ward (I).

Study II implies that there was no or little impact of the counselling on childbirth fear with five times more fearful women in the counselling group compared to the controls one year after birth. In addition, they gave birth with planned caesarean section (II) more often and they preferred a caesarean section to a greater extent, which did not change after counselling or after birth (II, III). In contrast to this result, 81% of the women who received counselling in Study III, stated that the fear decreased or disappeared compared to 43% in the ICBT group. In Study IV, women described that their fear was positively affected, as they felt that they had the capacity to manage the fear and the approaching birth following counselling. This improved their self-confidence when facing birth.

The birth experience for women who received counselling was more negative than the control group (II), and in Study III, 50% of those undergoing treatment for childbirth fear reported a less than positive experience. Women in the interview study (IV) indicated that the counselling made them feel empowered during birth. Coping strategies that they received during counselling in addition to support, information and affirmation from the staff during birth, contributed to a positive birth experience.

When discussing a future birth, women who received counselling were more prone not to want more children compared to the controls (II). In contrast, many women expressed that the counselling combined with a positive birth experience made fear manageable or reduced the fear. This strengthened their self-confidence and generated positive thoughts towards a future birth

(IV). A majority of the counselling midwives in Study I, stated that they aimed to strengthen the women's self-confidence during counselling (I). In contrast to these positive outcomes, a few women stated that the counselling did not made any differences in their fear or birth experience and that they would have preferred some other treatment to manage their problems (IV).

Study I showed that all Swedish maternity clinics could offer midwife-led counselling for childbirth fear but there were major differences in the time midwives had scheduled for counselling, their complemental education concerning childbirth fear and the possibility of offering other treatment methods if needed.

# Discussion

The main findings from this thesis were that, overall, midwife-led counselling was perceived as empowering by the women, which increased the tolerance for the uncertainty related to the birth process. The preference for a caesarean section decreased during pregnancy and the majority finally had a normal vaginal birth. An increase in preference for caesarean section appeared after birth and half of the women who received treatment for childbirth fear experienced a birth that was less than positive. Women who received counselling and had a positive birth experience voiced that the contributing factors were the self-confidence received from counselling and the support and affirmation from the midwife during birth. The women expressed a decreased or manageable fear after counselling and birth, which in turn brought a strengthened confidence for a future pregnancy and birth. However, not all women found counselling helpful, which calls for treatment options. Furthermore, counselling for childbirth fear has major differences among the clinics in Sweden, which causes disparity in care.

## Women's experience and the perceived impact of treatment on childbirth fear

One year after birth the women in the counselling group in Study II, were still assessed as more fearful than the control group, which is in line with a previous study by Ryding et al. (2). In contrast, 80% of the women in the counselling group in Study III perceived that the fear had decreased or disappeared after counselling and the overall experience of midwife-led counselling was assessed as positive in both Study II and III. In addition, in Study IV, the women expressed that midwife-led counselling empowered and instilled them with self-confidence when facing birth. They also described the importance of the midwife and stated that her professionalism and skills in intrapartum care made her trustworthy and reliable. Many of the interviewed women declared that they were still fearful, but they now had the capacity to manage their fear before and during birth in an acceptable way. To understand the impact of the midwife during counselling, the women's experiences can be applied to the theory of the good midwife (115) that was previously presented. According to the authors of the theory, 'collaboration between the midwife and the woman

is at the heart of the theory and that collaboration is based on the midwife's caring, competence and insight.' Through the midwife's professional wisdom and interpersonal competence, she is able to connect and collaborate with the woman, which contributes to empowering communication. Furthermore, according to the theory, successful connection between the woman and the midwife allow the woman to express her fear without embarrassment. This partnership is, therefore, described as the foundation for working with the woman's fear and lessening it before birth (115). Study I implied that midwife-led counselling differed in many aspects, including the midwives' complementary education regarding counselling techniques. However, motivational interviewing (MI) was the most frequently used technique among the midwives, so it is possible that the use of this method contributed to the positive perceptions of the counselling. MI initially strives to motivate a person to affect change through empathic and reflective listening. This strengthens the person's view of herself through affirmation and respect for autonomy and acceptance of her view of the problem (127). On the other hand, the Norwegian study (128) where two midwives used crisis orientated counselling to treat women with childbirth fear and a request for caesarean section, showed less effectiveness in using the autonomy principle. They found significant differences in women's change of preference in birth mode. When they compared approaches, they found that a coping style was the most effective way to achieve change, compared to the use of the autonomy principle.

Women randomised to ICBT in Study III were assessed as less satisfied with the treatment and perceived the treatment as less effective. CBT as well as ICBT are known for their effectiveness in many areas, for example, anxiety and depression (105). Nevertheless, it is a challenging treatment that requires motivation and willingness to gain improvement from treatment (129). This might be an issue for some women. Firstly, to be assigned at random to a demanding treatment could affect both adherence and women's perceptions of the treatment. Secondly, childbirth fear can also be viewed as the endpoint of birth which makes it easy to endure their fear in terms of avoidance-behaviour until birth rather than addressing the feared stimuli. An interview study by Ternström et al. (38) found that women described childbirth fear as a situation-specific condition, which strengthens this explanation. However, even if the women in the ICBT group found their fear less affected by the treatment, over 70% in both groups assessed themselves <60 on the FOBS two months after birth. One explanation for this might be that the two questions regarding the treatment were considered together, i.e., a less satisfied woman also perceived reduced effects from the treatment.

## Preference for caesarean section and the actual mode of birth

In Study II, a preference for a caesarean section during pregnancy was more common among women who received counselling. In addition, a high percentage of the fearful women in Study III preferred a caesarean section in mid-pregnancy. This finding could be compared to two Swedish population-based studies (72,75) and a prospective study with women from six European countries (Bidens study) (77) where 3.5% - 8.7% of the women had such wish. The association between a preference for a caesarean section and childbirth fear is well documented (72,73,75,77) and more women in this group actually undergo a planned caesarean section without medical reason (7,39,130,131). However, in Studies II and III, only a few actually gave birth with a planned caesarean section, and a majority of these women had a medical reason, which is in line with the Bidens study (77). According to Study I, it appears that counselling midwives advocate a vaginal birth to women with childbirth fear and a caesarean preference.

The national overview also showed that more than 70% of the counselling midwives at the different clinics reported that they used the report 'Indication for Caesarean Section on Maternal Request' from the National Board of Health and Welfare (16) in their counselling with the women who had a wish for a caesarean section. These approaches, together with the empowering support during counselling (IV), might be one reason for the decreased number of women who finally had a caesarean without medical reason. This decrease can also be a result of verbal persuasion, one of the sources of Banduras theory of self-efficacy (118). The midwife convinces the woman, through information and empowering conversation, that she can manage to give birth vaginally. Another aspect to keep in mind is that a decrease in childbirth fear during pregnancy could have a natural course. This was implied in a recent study (37) where a decrease in fear was seen from mid-pregnancy to late pregnancy. This in turn might influence the preference for a caesarean section.

After birth, the preference of caesarean section for a forthcoming birth increased again in both Study II and III. There are some reasons to consider regarding this finding. A preference for a caesarean section is associated with a previous caesarean (57,130) and women who received counselling in Study II and the women in Study III, had to a greater extent undergone a caesarean in the actual birth; this might be one explanation. Secondly, a previous negative birth experience is known to contribute to a request for a caesarean section (131). This can explain the increase of a preference for caesarean section after birth in both Study II and III. In Study II, significantly more women in the counselling group assessed their birth experience as less than positive compared to the controls. In Study III, 50% had experienced a less than positive birth, as compared to two population-based studies from Sweden and Norway, where 7% and 21%, respectively had a negative birth experience (95,96). This

leads us to the importance of trying to avoid the first caesarean section and for midwives and other staff members to make an effort to help birthing women have as positive a birth experience as possible.

## Experience of birth

As discussed above, women in both Study II and III assessed their birth experience less positively than women in general, which probably affected their fear of birth negatively. According to previous studies, women with childbirth fear have an increased risk of a negative birth experience, which might be connected to a higher exposure of instrumental vaginal birth and emergency caesarean section among women with childbirth fear (8). To the contrary, women in the interview study (IV) who experienced a positive birth expressed that the improved self-confidence brought through counselling contributed to this experience. Increased knowledge and at times the use of coping strategies, together with the support during birth, resulted in a feeling of safety and affirmation. Feeling safe and calm during birth was linked to the midwife's presence in the labour room. We know from previous studies that the midwife-woman relation is an important aspect for experiencing a positive birth as well as continuous support during labour (92,93).

Continuous support also increases the likelihood that the birth will proceed normally, which reduces the risk of caesarean section (93). In contrast, studies indicate that a negative birth experience is associated to subsequent childbirth fear (57). A phenomenological study by Nilsson et al. (132) concluded that women with intense fear of childbirth experienced that even if the midwife was present in the labour room, she did not support the woman. The women felt as if they had no place in the labour room. The feeling resulted in fear, loneliness, and lack of faith in their ability to give birth and diminished trust in maternity care. According to the theory of the good midwife (115), the quality of the midwife's support and caring is crucial for the woman's experience of birth, and when they are successful in fusing professional competence and caring into one whole, it is of significant benefit to the woman.

The results in this thesis and earlier research demonstrate that the presence of the midwife and her affirmation during birth is of great importance for a positive birth experience and that women in labour need to have continuous support during birth. One-to-one care is crucial, especially for women with childbirth fear.

## Women's thoughts on a future birth

The interviewed women expressed in their narratives that their fear in some cases disappeared after counselling and birth, but more commonly the fear

was still present. Yet, the women described that they thought of future birth with confidence, as they now had a preparedness and coping strategies for their fear (IV). The acquired techniques from the counselling contributed to a more positive feeling when thinking of a future birth even if some of the women still considered themselves as fearful. This implies that for some women with childbirth fear, the preparation and the ability to cope with the fear could be sufficient for reaching an improved confidence toward birth, even if fear remains. The enhanced self-confidence could be an increase in the woman's efficacy beliefs and derived from vicarious experience, one of the sources of self-efficacy (118), through the provided information and coping strategies in counselling. In addition, when the woman felt that she managed the birth in a positive way, the woman's efficacy beliefs might have been strengthened through the source of enactive mastery experience. Childbirth fear has been associated with low self-efficacy (41,49), and previous studies (50,101,117) have reported an increased childbirth self-efficacy after intervention for childbirth fear. In addition, Schwartz et al. (50) also found that low self-efficacy was associated with low childbirth knowledge, which indicates that women in general and women with childbirth fear in particular, would benefit from support aiming at increasing women's confidence in birth. Also, stronger self-efficacy beliefs predicted decreased pain and distress in labour and increased birth satisfaction (133).

## Future care for women with childbirth fear

Even though women's narratives in Study IV were mainly positive toward counselling, there were women who did not find counselling helpful for their fear. Childbirth fear is not one diagnosis and women with childbirth fear are a heterogeneous group with a variety of worries and concerns. From previous research we know that there are associations between childbirth fear and anxiety, depression and post-traumatic stress disorders, as well as psychiatric diagnosis, care and medication (45,134). It is, therefore, important that treatment for childbirth fear be individually designed with the possibility of combining midwife-led counselling with other treatment options, e.g., cognitive behaviour therapy. The national overview of midwife-led counselling (I) found that counselling for childbirth fear in Sweden differs among organisations in many aspects including the possibility to offer different treatment options. Additionally, there are differences in midwives' supplemental education in the area, which might also influence the experience and perceived effect of the counselling.

Women with childbirth fear would benefit from an approved counselling service that was equal in all parts of Sweden. Midwife-led counselling as it is performed today serves as the base, as it is well established and improves confidence in birth through information and preparation (IV). However, treatment

options for women where childbirth fear is comorbid with other mental ill-health is necessary. In addition, models of care with midwife continuity through antenatal care, labour, birth and post-partum care, such as caseload midwifery, would benefit women with childbirth fear and help to prevent it. There are still no existing models for this in Sweden, despite the evidence from several studies, including a Cochrane review of 15 RCTs with 17 674 women (94). The results showed more spontaneous vaginal births and fewer instrumental births, more satisfied women and a health care with lower costs. In a Swedish regional study with 758 participating women (135), approximately 50% of the women wanted continuity with midwife through pregnancy, birth and the postpartum period. Childbirth fear was associated with a preference of midwife continuity. It might be time for the policymakers to consider a system of care that enhances the chance for a normal and positive birth for all women and for women with childbirth fear in particular.

# Methodological considerations

This thesis consists of four different study settings and designs, and uses three quantitative methods and one qualitative method. Methodological considerations will be presented for each study based on the four study designs and settings.

## Study I

The national overview of midwife-led counselling in Sweden uses a cross-sectional design, which shows how it was organised at the time the midwives responded to the questionnaire. Health care in general is constantly changing, resulting in the fact that we do not know if changes in the different clinics have occurred since the data collection. This can be seen as compromising.

The questionnaire was constructed by the research group and was based on the report 'Childbirth Fear' by SFOG (1). This report from 2004 is the only document that summarises a work plan for counselling for childbirth fear and provides e.g. suggestions for organisation, the role of the midwife and other professionals and different counselling approaches. Together with the experiences of midwife-led counselling within the research group, the questions took form. One limitation is that the questions were not previously used and the reliability was not verified by, e.g., a pilot study or a test-retest examination (119). However, 43 out of 45 clinics responded, which may indicate that the midwives found the questionnaire relevant. Further, the results indicated that several clinics did not conduct follow-ups or evaluations of their activities, which means that the answers could be based on estimations or the personal views of the respondents. The questionnaires were sent to a contact person for midwife-led counselling and it is not known if they were answered by one single midwife or by a group of counselling midwives together.

An additional weakness of the study was that not all questions were sent to the respondents at the same time. The additional questions were constructed and sent by e-mail when it was discovered that important issues were originally omitted. This led to a relative low response rate, 34 out of 43, for these five supplemental questions which caused a non-complete overview.

The advantages of the study were the high response rate and that the respondents were midwives working with counselling.

## Study II

The regional longitudinal study used for Paper II was a survey of women's expectations and experiences of pregnancy, childbirth and the first year as a parent. Therefore, the survey and its questionnaires were not mainly designed for exploring counselling for childbirth fear and questions concerning this issue were of an overall nature.

The longitudinal design made it possible to compare groups over time and allowed for a follow-up of women's birth experiences. On the other hand, a non-randomised design makes it difficult to draw any final conclusions about cause and effect (119).

### Participation

The inclusion criteria were mastery of the Swedish language and a normal ultrasound examination. In previous research, foreign born women had been overrepresented among those with childbirth fear (36). A large number of women decided not to participate, which can cause a selection bias. In addition, many women dropped out and did not finish all four questionnaires. The reasons for nonparticipation were not known, but one reason could be that women found it too time consuming with four questionnaires over one year with many questions in each. This is also a presumable reason for the high dropout rates. The recruiting ultrasound midwives collected information from women who decided not to participate regarding age, parity, civil status, level of education, country of birth and smoking habits from the birth records. The analysis of women who declined participation and those who dropped out were similar. Those who declined participation were more likely to be younger than age 25 or older than age 35, not cohabitating, multiparous, born outside Sweden, smokers and less likely to have a university education as compared to women who participated. The characteristics of the women who dropped out were similar with the addition of unemployment. They also had a caesarean section without medical reason to a greater extent. These characteristics has similarities to those reported in the literature for women with childbirth fear (22,39). Together with the exclusion of women who do not speak Swedish, it is likely that the prevalence of women with childbirth fear is higher. Furthermore, the number of women receiving counselling might be higher than reported since women who had a caesarean section without a medical reason were more likely to drop out from the longitudinal study.

### Questionnaires

The questionnaires were tested using face validity by 12 women. The questions regarding birth preference and birth experience had been previously used

in national studies (39,72). The women did self-report their childbirth fear using a four-point rating scale ranging from 'a great deal' to 'not at all'. There is a possibility that women value the word fear differently, and, therefore, a false low or high level of childbirth fear might appear. However, the rates of childbirth fear are comparable to another study using a similar scale for measurement (39). The rating scale was also checked against the FOBS used in the same study setting (18), which supported the construct validity of the rating scale.

## Study III

Study III is a part of a RCT survey comparing ICBT (intervention) with midwife-led counselling (standard care) for childbirth fear, and, to the best of our knowledge, this is the first RCT to compare ICBT with face-to-face counselling. Another strength was the multi-centre design, which consisted of three obstetrical clinics with different sizes and locations.

## Participation

RCTs are the golden standard study design as they are very well suited for drawing conclusions about the effects of health care interventions (119). The randomisation in study III was successful and resulted in two equal groups according to sociodemographic and obstetric background. Nevertheless, as in Study II and many other studies performed, participants not speaking the native language were not included, which may cause a selection bias due to foreign born women's higher prevalence of childbirth fear (36).

All participating women had an initial conversation with one of the two research midwives before recruitment. This approach ensured the women's understanding of the study design and treatment options. Often women spontaneously spoke about their fear and asked about specific issues of concern. After information and clarification, some women were satisfied and found no need for further support. In view of this observation, it may be beneficial to offer an extra visit to the midwife after the routine ultrasound for women assessed with childbirth fear for purposes of conversation and information. In addition, in a previous qualitative study, women stated that there were too few visits, especially during the first trimester when a lot of questions appeared (136).

One-third of the women who declined to participate in the study expressed no need of treatment for childbirth fear. One-third already had support for their fear and 60 women stated that they had a fear other than childbirth fear.

To calculate the number of participants needed to reach statistical conclusion validity, a power calculation were used (119). The power calculation was based on results from a previous Swedish study (26) reporting that 59% of

women with childbirth fear during pregnancy showed a decreased level of fear one year after birth. To achieve a 20% reduction of childbirth fear (as the effect of treatment), a two-sided power calculation with a power of 0.80 and a significance level of 5% showed that approximately 200 women needed to be enrolled in the study. The recruitment of 258 women covered for a 20% dropout rate without loss of power. In total, just under 50% of the women did not respond to the follow-up questionnaire two months after birth, which compromised the internal validity of the findings due to lack of power. In both questionnaires used for Study III, the losses at follow-up were significantly higher in the ICBT-group, which made it even more difficult to draw any conclusions from the results. Additionally, similar to other studies (26,102), women with a low level of education were also more likely to be lost at follow-up.

In this analysis, it is not possible to know the reasons why so many women chose not to respond to the questionnaires. According to the ethical principles, the women could withdraw from the study without giving a reason. However, there are some reasons that are worth discussing. The questionnaires and the ICBT treatment were administrated through the U-CARE portal, which required a computer and a special log in. At the time of the U-CARE pregnancy trial, the portal was not compatible with smartphones or tablets, which was an issue for some participants using the system. Furthermore, an online approach seemed to be the ultimate way to administer the questionnaires, as the Internet is widely used among the child-bearing population today. In retrospect, we can assume that more answers might have been received if women had had the opportunity to choose between online or paper questionnaires. The large number of questions and measurements used in the five questionnaires and the busy lives of new mothers, can also contribute to a low response rate. A more important issue is in regard to the higher proportion of those lost at follow-up in the ICBT group. A previous study reported that dropouts from ICBT are related to limited belief in the treatment model (137). In this case, it could be attributed to women's predetermined preferences for a certain treatment and might be one effect of not being able to choose the intervention (138). This suggests that women should be well motivated and aware of pros and cons with both the Internet approach and the CBT treatment before accessing such a program in clinical practice.

### Intention-to-treat and lost at follow-up

The favoured analysis for RCTs is intention-to-treat (ITT), which is based on the initial treatment assignment and not on the treatment eventually received (139). There are two main reasons for conducting an ITT. Firstly, it maintains the original comparability of treatment groups due to randomisation and minimises potential confounding between treatment groups. Secondly, the ITT analysis reflects what would happen in clinical practice (140). Even if ITT is the most respected method to analyse an RCT, there are aspects to consider

when it comes to non-adherence. If treatment is effective but non-adherence is considerable, the analysis following the ITT model underestimates the effect that occurs in adhering participants (141). One way of handling missing data in RCTs is to use imputation (124). For the missing data in Study III, we used both single imputation with the last measure carried forward and multiple imputation (124) in order to evaluate if the statistical significance for the analysed variables differed from the original analysis. Even if the imputations did not alter the findings, the results should be considered with caution, as we do not have the reasons for dropping out.

## Study IV

The interview study addressed women's experiences of midwife-led counselling and the following birth among participants in the RCT who were allocated to midwife-led counselling (standard care).

### Participants

Women who gave their consent to be contacted for an interview after birth could differ from women who did not agree to be interviewed. Women with a positive experience of counselling and/or birth might be more prone to share their experiences with others. However, 84% of the women who responded to the questionnaire two months after birth were willing to be contacted, and the 27 women who finally were interviewed were chosen without consideration given to level of fear, birth experience, parity, mode of birth or when or where they gave birth. This strengthens the credibility of the study.

### Interviews

All interviews were conducted via telephone. This method was selected mainly due to long distances and because it increased the possibility of interviewing more women. In addition, this approach was more convenient than face-to-face interviewing for those who had recently given birth. Previous research (142) found no differences in data quality when comparing face-to-face and telephone interviewing. One disadvantage mentioned in the literature is the lack of visual cues for the interviewer, which in some cases can be an important loss of information (143). On the other hand, telephone interviews allow the respondents to talk more freely (144).

The research group designed an interview guide to ensure that all issues were covered for each respondent, which further strengthened the credibility of the study.

The time of the interviews can influence the women's memories of the counselling and the birth, which can compromise the results. From one year

to just over two years had passed since the birth and the women's experiences of counselling and birth should have been processed during this time period. Previous reports concerning women's long-term memories of their birth experiences show that they last up to 20 years (145). In contrast, a study by Waldenström (146) indicated that women view the birth more negatively as time passes. Hildingsson et al. (37) found that the birth experience changed over time with 15% viewing the birth more negatively and 22% viewing it more positively after one year had passed compared to two months after birth.

## Trustworthiness

Research rigour refers to the strictness in judgment of the trustworthiness of a study. Instead of evaluations of validity and reliability that occur in quantitative research, qualitative research mainly refers to the four criteria of credibility, transferability, dependability and conformability to evaluate trustworthiness (147).

The credibility of the study is mentioned above. In addition, collaborative sessions during the analysis process further established credibility. Transferability was assured by providing detailed descriptions of the content and the context of the interviews as well as the selection and characteristics of the participants, data collection, and process of analysis and findings. This description of the analysis process provides other researchers the opportunity to assess the relevance of the study. Describing both typical and atypical views in the results also promotes transferability. Dependability was enhanced through the detailed description of the study process through data collection and analysis. Confirmability refers to the objectivity and neutrality (148). The researchers' awareness of their preunderstanding and the use of Braun & Clark's (125) checklist of criteria for good thematic analysis reinforces the confirmability of the study.

## Conclusions

Midwife-led counselling was conducted at all maternity clinics in Sweden. However, there were major differences in how the counselling was organised and how much time and resources that were allocated to the counselling.

Overall, women with childbirth fear were satisfied with midwife-led counselling. The midwife's serenity and ability to listen, inform and confirm increased women's confidence when facing birth. Women perceived that their fear was positively affected, due to an increased capacity to manage fear and the upcoming birth.

Women with childbirth fear, largely, have negative birth experiences. Those who experienced a positive birth emphasised the importance of continuous support during labour and birth, including continuous information and affirmation from the midwife.

Midwife-led counselling empowered women, which increased the tolerance for the feelings of uncertainty related to the birth. This, together with a positive birth experience, enabled the women to feel confident when thinking of a future birth and it also made their fear manageable.

Although there were no differences between the treatment groups in absence of fear two months after birth, the women who received counselling were more satisfied with their treatment and felt that it was more helpful in allaying their fear compared to the women who received ICBT.

Women's preference for caesarean section did not change from the time of pregnancy to after birth; however, few women gave birth with a planned caesarean section without medical reasons.

## Clinical implications and further research

To even out the disparities regarding care for women with childbirth fear and allow for equivalent care in the country, a national health care program for childbirth fear should be developed. This can also make it possible to continuously evaluate counselling. Furthermore, units for psychosocial obstetrics at each hospital with interdisciplinary teamwork, would benefit women with childbirth fear as well as pregnant women with various mental ill-health conditions.

There is a need for further evaluation of treatment options in order to optimise care for women with childbirth fear, with or without other mental ill-health issues. ICBT is likely to be a suitable treatment option for well-motivated women with comorbid childbirth fear and other mental ill-health issues, but more research is needed.

Midwives working with counselling carry out a vital role for women with childbirth fear. It is, therefore, important to value their work and to ensure that all counselling midwives have adequate supplemental education and continuous supervision. To be able to support and empower women with childbirth fear, it is also important to determine the kind of education that would best enhance the skills of counselling midwives.

One-to-one care during labour and birth is crucial for women and increases the possibility of a positive birth experience. In addition, strong evidence exists of the advantages of midwife-led continuity of care models. Policy makers must consider the Swedish systems of care and allow for such evidence-based care that optimises a woman's chances of forming trusting relationships with the midwife. This could lessen or prevent childbirth fear and preferences for caesarean section. Given the knowledge of the benefits of midwife-led continuity of care models through pregnancy, birth and postpartum period, research in a Swedish context is of high importance. Furthermore, research focusing on women's birth experiences, caesarean section preferences and rates, and the effects of continuity of care models on childbirth fear are of interest.

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