

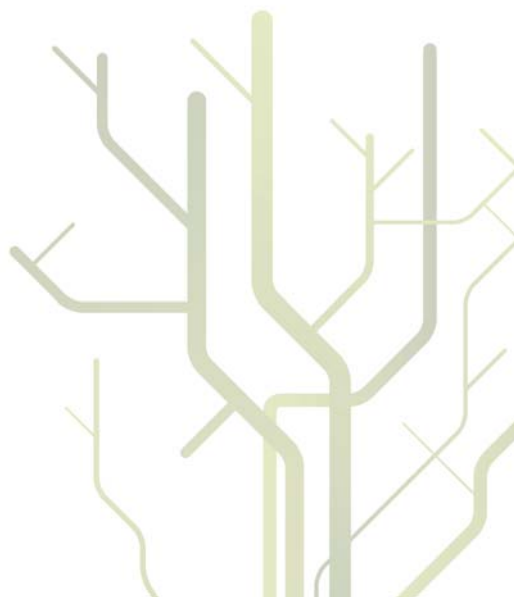
Childhood abuse – pregnancy and childbirth

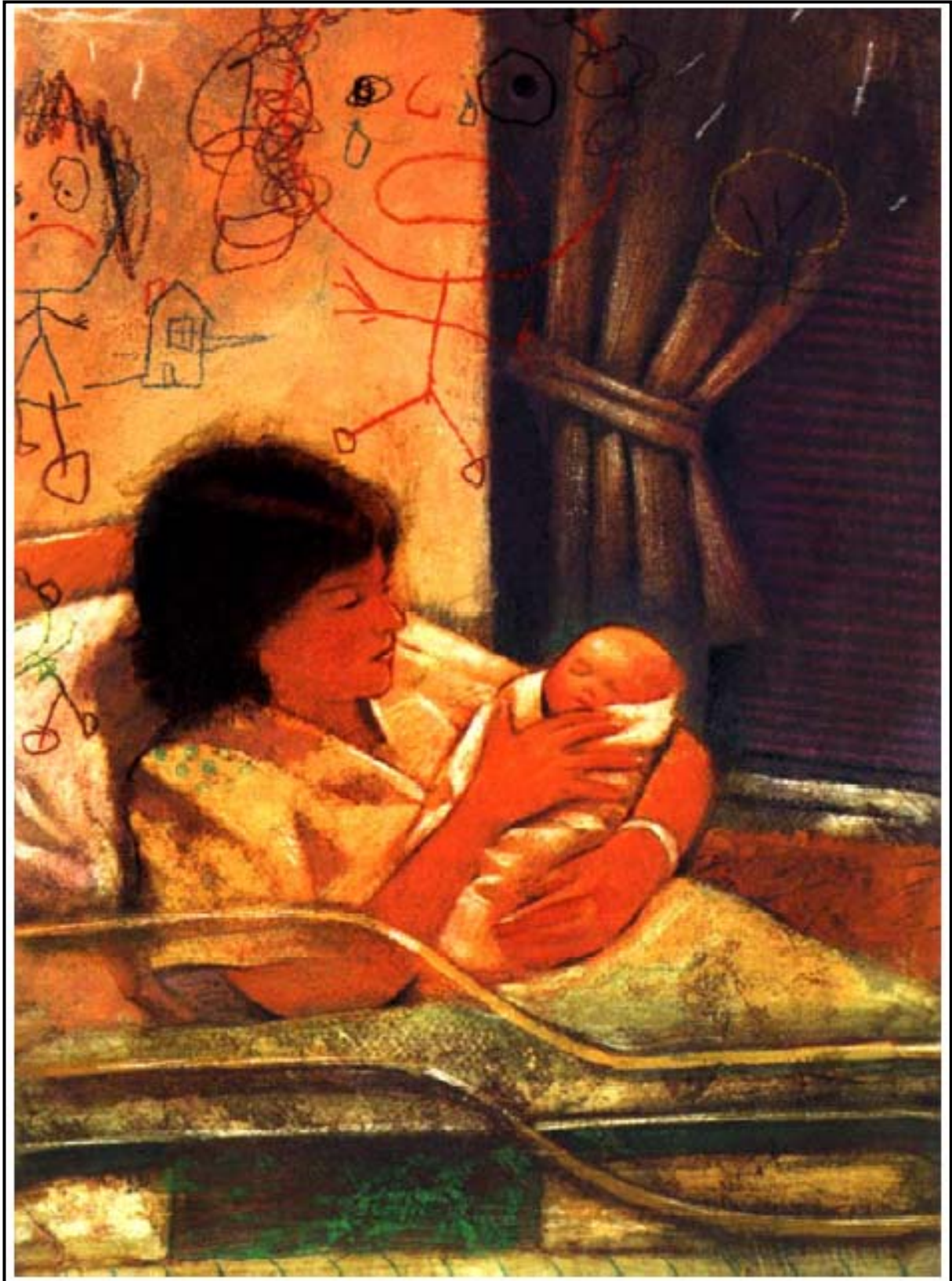


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Summary

Background: Childhood abuse affects adult physical and psychological health. There is limited research on the effect of childhood abuse on pregnancy and childbirth. Studies usually focus on a single type of abuse, commonly sexual and/or physical abuse, few have considered emotional abuse. The results of studies on childhood abuse and mode of delivery are inconsistent. This might be due to methodological differences. No studies so far have focused on the relationship between childhood abuse and fear of childbirth, even though clinical practice and research suggest a correlation.

Objectives: The first aim of our study was to estimate the prevalence of any childhood abuse, and for the sub-categories sexual, physical and emotional abuse, among unselected pregnant women in Norway. Secondly we assessed the association between childhood abuse and common complaints in pregnancy. Thirdly we investigated the relationship between a history of childhood abuse and mode of delivery. Finally we explored the relationship between a history of childhood abuse and fear of childbirth.

Subjects and methods: Study I, II and IV use data from questionnaires from the Norwegian Mother and Child Cohort (MoBa) Study linked to data from the Norwegian Medical Birth Registry. Study III used the Norwegian data from the European Bidens study, including only data from questionnaires. Study I was a cross-sectional study which included 55,776 pregnant women. Study II was a cohort study of 26,923 primiparous women. Study III was a cross-sectional study including 2,365 pregnant women. Study IV is a longitudinal study which followed 4,876 women, collecting data during their first pregnancy, at birth, 6 months after birth and again during the second pregnancy.

Results: In our studies 18–24% of the women reported any childhood abuse, 5–11% emotional abuse, 11–16%, physical abuse, and 7–12% sexual abuse in childhood. Women reporting abuse in childhood were significantly more likely to report 7 or more common complaints in pregnancy. Primiparous women reporting a history of childhood abuse had an increased risk to give birth by caesarean section during labour. A history of childhood abuse was a significant risk factor for experiencing severe fear of childbirth among primiparous women in the cross-sectional Bidens study and among multiparous women in longitudinal MoBa study.

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Definitions and Abbreviations

ACE: Adverse Childhood Experiences

Bidens: European cohort study of pregnant women involving 6 countries: Belgium, Iceland, Denmark, Estonia, Norway and Sweden

BMI: Body Mass Index

CI: Confidence Interval

CS: Caesarean Section

Fear of childbirth: a psychological domain of its own, having a continuum from very low to in some women to extremely high in others. Fear of childbirth and anxiety for childbirth are used interchangeably in this thesis, as they are in majority of the literature on this topic.

MBRN: Medical Birth Registry Norway

MoBa: The Norwegian Mother and Child Cohort Study

NorAq: The Norvold Abuse Questionnaire

EDS-5: short version of Edinburgh Depression Scale with 5 questions

EDA: Epidural Analgesia

OR: Odds Ratio

PTS(D): Post-traumatic stress (Disorder)

SCL-5: Hopkins Symptom Check List including 5 items

W-DEQ: Wijma-Delivery Expectancy Questionnaire

List of papers

This thesis builds on the following papers, hence referred to by their Roman numerals.

Paper I

Lukasse M, Schei B, Vangen S, Øian P.

Childhood Abuse and Common Complaints in Pregnancy. *Birth* 2009 Sep;36(3):190-9

Paper II

Lukasse M, Vangen S, Øian P, Schei B.

Childhood abuse and caesarean section among primiparous women in the Norwegian Mother and Child Cohort Study. *British Journal of Obstetrics and Gynaecology, BJOG* 2010

Aug;117(9):1153-7

Paper III

Lukasse M, Vangen S, Øian P, Kumle M, Ryding E S, Schei B

Childhood Abuse and Fear of Childbirth – A Population-Based Study. *Birth*, 2010 Dec;37(4): 267-74

Paper IV

Lukasse M, Vangen S, Øian P, Schei B

Fear of childbirth, women's preference for cesarean section and childhood abuse – a longitudinal study. *Acta Obstet Gynecol Scand* 2011 (90):33-40

1. Introduction

Antenatal care has traditionally focussed on the biological aspects of pregnancy with the aim of preventing illness and ensuring optimal physical health of the mother and child during pregnancy, childbirth and postpartum. At a time when pregnancy and childbirth have become safer, a growing interest in non-biological factors associated with and influencing pregnancy and childbirth has developed (1-4). Where previously little attention was paid to women's anxiety about childbirth, many hospitals in Norway now offer specific professional help to women expressing fear of childbirth and women requesting birth by caesarean section. A woman's request for a caesarean section on non-medical grounds is usually due to fear of childbirth (5).

The most frequent indications for elective caesarean section in Norway in the late 1990s were maternal request and previous section (6). At that time 7.6% of the caesarean sections were performed on the indication maternal request. Although this still is only a small percentage of the total number of deliveries there is a growing concern that this number is increasing (7). The prevalence of severe fear of childbirth in Trondheim in 2001–2002 was estimated to be 7.3% among an unselected population of both primiparous and multiparous women (8). Fear of childbirth is strongly associated with fear of pain and a previous negative birth experience (2).

However, fear of childbirth is not an isolated problem. Fear of childbirth has been associated with psychological problems, social problems and psychiatric disorders (1;9;10). Moreover, in a Norwegian study of women referred for counselling due to fear of birth and a request for planned pregnancy, 63% had been subjected to abuse (9). Abuse in their study meant that the woman had given information about having been subjected to violence, threat of violence, sexual abuse or incest. A Norwegian study by Heimstad et al (8), found a significant association between fear of childbirth and sexual and physical abuse in childhood. More surprisingly they reported that sexual or physical abuse in childhood, but not in adulthood, negatively influenced mode of delivery, while fear of childbirth was not associated with mode of delivery. This partly unexpected result raised a number of questions: How many pregnant women have a history of childhood abuse when using a validated instrument for measurement? Is a history of childhood abuse associated with fear of childbirth in a larger study? How important a risk factor is a history of childhood abuse for pregnancy and pregnancy outcome? Would the same association between childhood abuse and mode of delivery be found in a larger, national study? What role does the birth experience play in

relation to fear of childbirth in women with a history of childhood abuse? The questions raised by the Trondheim study (8) formed the direct incitement for the studies included in this thesis.

1.1. What is childhood abuse?

No universally accepted definition of childhood abuse exists. Definitions of child abuse and neglect are based on current reflections of society's values of appropriate child rearing, the rights of children and age for adulthood (11). In 1999 the WHO Consultation on Child Abuse Prevention drafted the following definition: "*Child abuse or maltreatment constitutes all forms of physical and/or emotional ill-treatment, sexual abuse, neglect or negligent treatment or commercial or other exploitation resulting in actual or potential harm to the child's health, survival, development or dignity in the context of a relationship of responsibility, trust or power.*" (12).

The expert group drafting this definition recognised that one definition cannot serve all purposes and suggests adaptation and/or expansion of the definition as appropriate to the setting (12). This WHO definition of childhood abuse includes both acts of commission and omission and abuse at different levels. Childhood abuse is often categorized in sexual, physical and emotional or psychological abuse and neglect (11-14). Physical abuse consists of acts that cause physical harm or have the potential for such harm. Sexual abuse is defined as those acts where the abuser uses a child for sexual gratification (11;12;14). Emotional or psychological abuse includes failure of a caregiver to provide an appropriate and supportive environment for emotional health and emotional, social and cognitive development of a child (11;12;14). The behaviours which are part of this type of abuse are: isolation, verbal assaults, denigration, ridicule, threats and intimidation, discrimination, rejection and other non-physical forms of hostile treatment (11;12;14). Neglect refers to the failure of a caregiver to provide, where the caregiver is in position to do so, in one or more of the following areas: health, education, emotional development, nutrition, shelter and safe living conditions (11;12;14).

Childhood abuse is differentiated from adult abuse by a cut-off for age, most commonly 18 years of age (8;15-18). In order to define sexual behaviour as abusive, some studies additionally require an age difference between the victim and the perpetrator, while others specifically ask if whatever happened was against the victims will (13;19). For most children, childhood abuse is not a single traumatizing event occurring in an otherwise safe environment, but a pattern of ongoing or multiple abusive acts in a troubled context (20;21).

Victims of one type of abuse are likely to experience other forms of abuse (21;22). Even a single abusive episode may consist of emotional, physical and sexual abuse. Although we recognise the importance of all the aspects of childhood abuse discussed in this section, we were not able to consider them all in the research for this thesis.

1.2. Prevalence of childhood abuse

The majority of studies providing prevalences for the different types of childhood abuse have been conducted in the USA. Sexual abuse in childhood has been investigated most and emotional abuse least so far (18;23). A recent meta-analysis of the prevalence of child sexual abuse in community and student samples across the world reported that 19.7% of women had suffered some form of sexual abuse prior to the age of eighteen (16). A review in *The Lancet's* series on child maltreatment reported that around 10% of women had experienced severe emotional abuse during childhood and 5–35% physical abuse (18). Examples of prevalences in different obstetrical groups are presented in Table 1a, and in non-obstetric samples in Table 1b.

Table 1a Prevalence of childhood abuse in obstetrical groups

First author, publication year	Country	Study design	Main outcome	Method of data-collection	Sample size	Physical abuse (%)	Sexual abuse (%)	Emotional abuse (%)
Grimstad, 1999 (24)	Norway	Case control	Birthweight	Interview, Medical charts	82 cases 91 control	NA	14%	NA
Chung, 2008 (25)	USA	Cohort	Depression in pregnancy	Interview, Questionnaire	1,476	52%	13%	27%
Senior, 2005 (26)	UK	Cross-sectional	Eating disorder symptoms	Postal questionnaire	10,641	NA	18.2%	NA
Benedict, 1999 (19)	USA	Cohort	Depression and selected outcomes	Interview, Medical charts	357	9.2%	37%	52.4% ^a
Jantzen, 1998 (27)	USA	Cross-sectional	Cocaine abuse	Interview	1,189	13%	10%	NA
Lang, 2006 (28)	USA	Convenience	Psychopathology in pregnancy and postpartum	Postal questionnaire	44	6.8–11.4%	6.8–13.6%	9.1–20.5%
Tallman, 1998 (29)	USA	Cohort	Selected pregnancy outcomes	Medical charts	400	16%	40%	12%
Yampolsky, 2010 (30)	Israel	Cross-sectional	PTS, depression and health status	Interview	1,830	NA	32.2%	NA

NA: Not Available, ^a verbal abuse

Table 1b Prevalence of childhood abuse in non-obstetrical groups

First author, publication year	Country	Characteristics of the sample	Sample size	Method	Physical abuse	Sexual abuse	Emotional abuse
Wijma, 2003 (17)	Nordic	Patients visiting gynaecology clinics	4,729 women	Postal questionnaire using NorAq	2.3–14.3%	1.9–6.4%	2.3–4.3%
Dube, 2005 (31)	USA	Women at Health Appraisal Clinics	9,367 women	Postal questionnaire	27.0%	22.7%	27%
Afifi, 2007 (32)	The Netherlands	Population based study: 50.6% men and 49.4% women	7,076 ^a	Interview	7.3% ^a	6.9% ^a	11.8% ^a
McCauley, 1997 (33)	USA	Community-based primary care medicine practices	1,931 women	Questionnaire at practice, in privacy	14.6%	15.7%	NA
MacMillan, 2001 (34)	Canada	General population sample	3,678 women	Interview	21.2%	10.6%	NA
Sanci, 2008 (35)	Australia	Cohort of adolescents and young adults	999 females	Questionnaire and telephone interview	NA	12.1%	NA
May-Chahal, 2005 (15)	UK	Population based, randomly sampled throughout the UK	1,634 women ^b	Questionnaire and interview	23%	15%	10–34%
Thompson, 2004 (36)	USA	Population based, random digit dialing	8,000 women ^b	Telephone interview	40%	NA	NA
Thombs, 2006 (37)	USA	2 Community samples randomly sampled	632 women in 1997, 507 women in 2003	Telephone interview	14% in 1997 16% in 2003	12% in 1997 12% in 2003	29% in 1997 30% in 2003
Schei, 1990 (38)	Norway	Random sample	118 women	Interview	NA	17%	NA
Bendixen, 1994 (39)	Norway	College students randomly selected	510 women ^b	Questionnaire during lectures	NA	19.4%	NA
Mossige, 2007 (40)	Norway	Students in their last year at secondary school	4,079 female ^b teenagers	Questionnaire filled out in the classroom	severe 6% mild 20%	severe 12% mild 23%	NA
Schou, 2007 (41)	Norway	Fifteen-year-olds at school	7,977 girls ^b	Questionnaire filled out in the classroom	11.8%	6.1%	NA

NA: Not Available, ^a includes both men and women, ^b results for women only are presented in the table

Comparing the rates in these studies is difficult as they differ in methodology, measurements and definitions of the different types of abuse, and populations sampled (42;43). Some studies posed few broad questions (32;33;37;41) while others used many questions (40) or instruments consisting of a set of questions, such as the Childhood Trauma Questionnaire short version (37) and the Adverse Childhood Experiences Questions (ACE) (31). Thombs et al (37) found that the use of broad labelling questions like “Have you been sexually abused?”

identified substantially smaller number of participants with a history of abuse compared to using a set of behavioural specific questions.

A couple of studies report rather high prevalences of childhood abuse (19;29;36). Benedict et al (19) reporting 52.5% verbal abuse in childhood used only one behavioural specific question assessing this. However, their question used a very broad description/definition, asking the participants for any recall of being insulted or sworn at regularly by parents. The high prevalence of physical abuse in the studies by Thompson et al, 40% (36), and Chung et al, 52% (25), could be examples of increased reporting when many detailed questions are asked and multiple opportunities are given to disclose abuse (44-46). The high prevalence of sexual abuse in the study by Tallman and Hering (29) might be due to selection bias. Their population consisted of 400 women booking at the Natural Childbirth and Family Clinic in Portland (USA) attended by naturopathic physicians and midwives and planning an out-of-hospital birth. It is possible that this setting would attract more women with a history of childhood sexual abuse avoiding hospital and seeking control over their birth situation (47;48).

Prevalences are particularly high in groups of women with known sequelae of childhood abuse, e.g. in adolescent mothers, in substance-abusing pregnant women, in women with mental health problems and in battered women (49-54). However, the majority of pregnant women are healthy women who are not in this kind of situation. The prevalence of childhood abuse in an unselected pregnant population is therefore expected to be comparable to the prevalence in large population-based samples of women of similar age and background, if similar methods for collecting information are used.

What is the prevalence in Norway? In the Norvold study, the only study providing a prevalence for emotional abuse among Norwegian women, 4.2% reported having experienced severe emotional abuse (17). In two studies from Trondheim (Norway) the prevalence of childhood sexual abuse among randomly selected women and female college students ranged from 17–19% (38;39). In 2007 two reports were published in Norway presenting prevalences of childhood abuse (40;41). The national survey by the Norwegian Social Research (NOVA), asked over 7,000 students in their last year at secondary school (18–19 years old) to fill out an extensive questionnaire focused on different types of abuse (40). Of the girls, 6–20% reported having experienced physical abuse and 12–23% sexual abuse (40). The survey by the Norwegian Institute of National Health included 15,930 fifteen-year-olds (7,977 girls) from 6 counties in Norway (41). In their survey, 6.1% of the girls had experienced sexual abuse and

11.8% physical abuse during the past 12 months (41). This prevalence is lower than the other Norwegian studies probably as it only includes one year's experience.

What is the true rate of childhood abuse? Prevalence rates from large population-based random samples are probably closest to the true, unobservable rate of childhood abuse (18;45;55;56). The general consensus is that biases in self-reports such as forgetting, denial, misunderstanding and embarrassment are thought to lead to under-reporting rather than over-reporting of childhood abuse (45;56). The numbers do suggest however that childhood abuse is common, affecting the lives of many women.

1.3. Childhood abuse and adult health in general

There is an ever growing number of studies reporting the profound and wide-ranging effects of childhood maltreatment on adult physical and psychological well-being (23;57;58). The long-term effects associated with childhood abuse comprise a vast spectre of physical and psychological complaints as well as psychiatric and other medical diagnoses, including, but not limited to, depression, anxiety disorders (posttraumatic stress disorder, general anxiety disorder and obsessive compulsive disorder), eating disorders, obesity, personality disorders, irritable bowel syndrome, somatization, fibromyalgia, autoimmune diseases and chronic fatigue syndrome (32;35;59-68). Compared to those without an abuse history, women who experienced childhood abuse are more likely to have substance abuse problems, unsafe sex, sexually transmitted diseases, and to report poor self-related health (69-77). Childhood abuse has been reported to be a risk factor for symptomatic conditions that include headache, back pain, chronic pelvic pain, chronic muscle pain, chest pain, dysmenorrhea, premenstrual dysphoric disorder and increased menopausal symptoms (78-86).

Women with a history of childhood abuse have an increased risk of marrying an alcoholic and reporting problems in the relationship with their partner (31;71). Childhood abuse victims have high rates of revictimization in adulthood (87-89). Revictimization can result in direct physical injury, deterioration of already sustained negative health consequences from childhood abuse and other new mental and physical health problems, all adding to the burden of childhood abuse (33;87;88). Women with a history of childhood abuse have high health care utilization compared to non-abused women (90).

1.4. How can childhood abuse influence adult health?

Various theories/pathways/conceptual frameworks have been advanced to explain possible mechanisms leading from childhood abuse to adult health problems (91-98). In the health

psychology framework, behavioural, social, cognitive and emotional pathways are described (94;95), explaining that childhood abuse puts people at risk of depression, general anxiety disorder and post-traumatic stress disorder, participating in harmful activities, having unhealthy or difficult relationships, and having negative beliefs about themselves and others (99-101). Each of these increases the likelihood of health problems, and they are highly related to each other. Neurobiological theories on the other hand explain physical and psychosocial health problems of adults to be either directly or indirectly related to biochemical, cellular, or structural changes resulting from severe and/or prolonged stress caused by childhood abuse (100;102-108).

These different theories/pathways do show that a causal relationship between childhood abuse and adult adverse health outcomes is both plausible and credible (109). The underlying understanding for this thesis has been that several pathways could play a role in the association between the different types of childhood abuse and the outcomes selected.

1.5. Childhood abuse and pregnancy related health

The general adult adverse health outcomes associated with childhood abuse may clearly affect women also during pregnancy and childbirth. However, this unique period in a woman's life may in addition present specific risks or opportunities for women with a history of childhood abuse (30;47). For some women it might be the first time awareness of previous abuse surfaces, or a time when trauma resurfaces (48;110;111). A history of childhood abuse has been reported to be associated with adolescent and unintended pregnancies, maternal eating disorder symptoms, substance abuse, depressive and anxiety symptoms, and post-traumatic stress disorder in pregnancy (25-28;30;112-114).

We found one Norwegian study which reported on the association between childhood abuse and pregnancy related physical complaints (24). This case-control study by Grimstad et al included only 25 women with a history of sexual abuse and 148 women without this history (24). The primary aim of this study was to investigate the association between a history of childhood sexual abuse and low birth weight. Eightytwo cases had low birth weight babies and 91 controls had normal birth weight babies. The study did not include other forms of abuse beside childhood sexual abuse. Grimstad et al reported significant more frequent non-scheduled contacts with the antenatal clinic and more women with discomfort for heartburn/regurgitation, pelvic joint syndrome, back pain, feeling faint/fainting and Braxton Hicks contraction among those with a history of childhood physical abuse (24).

A more recent study from Israel reported that pregnant women with a history of childhood sexual abuse suffered higher distress levels which heightened poor health compared to women without this history (30). They found that posttraumatic stress symptoms explained chronic illness, and depression explained gynaecological symptoms (30). Neither chronic illness nor gynaecological symptoms were described in more detail than by just these terms. One other study reported that women with a history of childhood sexual abuse had significantly more prenatal complications as defined by a higher prenatal score (115). This prenatal score contained 17 items, among them: bleeding, severe vomiting, accidents, infectious diseases, x-ray or radiotherapy in first semester, smoking, alcohol, medications, threatened abortions with hospitalisation and severe illness. It is not clear which individual items contributed most to the elevated score. No studies were found investigating the association between childhood abuse and fear of childbirth.

1.5.1. Common complaints of pregnancy

Common complaints in pregnancy (116), also called unpleasant symptoms, minor symptoms (117) or normal pregnancy discomforts (118), are the result of pregnancy. They are mostly subjective symptoms which usually have no bearing on the outcome of pregnancy, but may cause great discomfort to women. The common complaints, except for fear of childbirth, are largely caused by the orthopedic load of a gravid uterus and the effect of elevated and changed hormone levels (119). They include: nausea and vomiting, pruritus gravidarum, pelvic girdle relaxation, Braxton Hicks contractions, oedema, leg cramps, constipation, heartburn, urine incontinence, candidiasis, leucorrhoea, urinary tract infections, tiredness, headache, backache and fear of labour (116;117-121). Except for nausea and vomiting and possibly tiredness, most of these complaints increase as the pregnancy develops (116,118).

Many of the common complaints in pregnancy can occur at other times in life and may under different circumstances be signs of pathology (117). Medical staff, when confronted with these common complaints, will usually first assess if the complaint is a symptom of pathology, following up by providing treatment and advice to relieve discomfort. When the complaints are not a symptom of pathology affecting pregnancy, they are usually not investigated further unless they create major discomfort to the women, as these symptoms are thought to disappear once the pregnancy is over.

1.5.2. Fear of childbirth

It is common, and indeed rational, for women to feel fearful about childbirth. Evidence suggests that fear of childbirth is a psychological domain of its own, having a continuum from very low level in some women to an extremely high in others (122;123). Fear may manifest itself by tearfulness, sleeplessness, nightmares, preoccupation with fear and the objects of fear, restlessness, nervousness and tachycardia (1;124;125). Fear of childbirth can be so intense that it interferes with occupational or academic functioning, with domestic and social activities or with relationships (124;126).

The prevalence of intense or severe fear of childbirth ranges from 7.3%–23% (8;127-131). Extreme fear of childbirth has been estimated to affect around 2.4% to 5% of pregnant women (8;10;127). Some studies suggest that fear may increase as the pregnancy advances (128;131), while others report no association between the level of fear of childbirth and gestational age (127).

Fear of childbirth may include fear of any of the following: labour pain, the labour and delivery process, the health of the baby or mother, lack of care by health professionals, surgical procedures, damage to the vagina and perineum, loss of control, not performing well, panic attack, physical exposure, uncertainty about the process of labour and becoming a parent (2;124;132;133).

What causes fear of childbirth? General anxiety (trait anxiety), depressive symptomatology, lack of support and self-reported psychological problems have been identified as risk factors for fear of childbirth (1;10;124;134;135). Information and obstetric and medical complications are also reported to cause fear of childbirth (124). Several studies have reported that negative experiences of childhood and of sexuality while growing up appeared to be significant background factors in pregnant women with severe fear of childbirth (9;136;137). A previous instrumental vaginal birth, caesarean section, particularly an emergency CS, a very short or very long labour and a traumatic/negative birth experience have been identified as factors increasing fear of childbirth among multiparous women (124;138-141). In contrast, primiparous women may fear the unknown or become afraid of childbirth as a result of hearing horror stories (133;139). Some studies suggests women's expectations before their first delivery influences their experience afterwards, i.e. women experience what they are afraid of, their negative expectations cause a negative experience, "a vicious circle principle"(135;142).

While anxiety for the birth previously was something a woman herself had to deal with, it may now be the reason for counselling and delivery by caesarean section on maternal

request (9;125;128;143;144). Fear affects pregnancy and labour. For some women fear of childbirth is so distressing that being pregnant becomes a less positive experience (124;145). Pregnant women who fear childbirth are prone to report fear during the actual labour and postpartum (135;146). Fear of childbirth has been associated with hyperemesis gravidarum, elective CS, induction of labour, prolonged labour and use of EDA (128;143;147;148). An experimental study of Saisto et al (149) using cold pressor test, showed that women with fear of childbirth had reduced pain tolerance during and after pregnancy compared to women without fear of childbirth.

The results from studies investigating the association between fear of childbirth and emergency CS are inconsistent. A large Danish cohort study and a much smaller Swedish case-control study concluded that fear of childbirth may increase the risk of emergency CS, while four prospective cohort studies, from Norway, Sweden, the UK, and Australia did not find this association (8;128;150;151).

1.5.3. Preference for birth by CS

Studies have shown that there is a strong association between women preferring birth by elective CS and fear of childbirth (127;131;152;153). Generally fewer primiparous women express the preference for birth by CS compared to multiparous women (127;152;154;155). Having given birth by CS before and a negative birth experience are important factors that influence multiparous women's preference for birth by elective CS (127;153;154). Other factors associated with the preference for birth by elective CS are current obstetric complications, general anxiety, and information about the procedure (153;154). Women who prefer birth by elective CS perceive this method of delivery to be safer than vaginal birth for babies (152;154). Women may change their mind in the course of pregnancy and may feel ambivalent towards their preferred method of birth (156).

According to surveys among pregnant women conducted in the United States, Australia, Norway, Finland and Sweden, 6–19% would prefer their baby to be born by caesarean section (6;131;153;154;157). Pregnant women may well express their preference to give birth by elective CS when participating in research while never requesting an elective CS from the appropriate health professionals (152).

1.6. Childhood abuse and childbirth

Several studies have investigated the possible association between a history of childhood abuse (most studies only sexual abuse) and birth weight and shorter gestational durations (The results are inconclusive (19;24;112;160;161). Some studies found no association between a history of childhood abuse and birth weight (19;24;112), while Jacobs found a history of childhood sexual abuse to be associated with higher weights (158). It should be noted that Jacobs' study only included 15 women with a history of childhood abuse and 13 without this history. A case-control study by Noll et al (159) indicates that childhood sexual abuse is a significant risk factor for preterm delivery and showed that maternal prenatal alcohol consumption plays an important role in this relationship. In the studies of Benedict et al and Jacobs no association was found between a history of childhood abuse and gestational age at birth (19;158).

Caregivers describe failure to progress in labour as a common feature among women with a history of childhood sexual abuse (47;160;161). However, the results investigating the association between childhood abuse and delivery outcomes are conflicting. Benedict et al reported that a history of childhood sexual abuse was not associated with any of the labour and delivery variables they investigated, including length and augmentation of labour (19). These results are in contradiction with those reported by Tallman and Hering (29), who found that women with a history of childhood abuse were significantly more likely to be transferred to hospital during labour due to failure to progress, utilized more medical painrelief and that primiparous women more often gave birth by CS compared to women without a history of childhood abuse. A Norwegian study found that only half of the women who reported exposure to physical and sexual abuse in childhood had an uncomplicated vaginal birth at term compared to 75% among non-abused (8). A Dutch study distinguished between childhood and adulthood when collecting data on sexual abuse, but presented only results comparing abused with non-abused women (162). This study of 625 randomly selected low-risk pregnant women reported significantly less episiotomies in the sexually abused women, while the levels of pharmaceutical painrelief and CS were similar in both groups. A small study interviewing 103 women approximately 4 weeks after birth reports that women who had experienced sexual trauma were 12 times more likely to experience the childbirth event as traumatic (163). This study did not differentiate between childhood and adult abuse.

1.6.1. Birth by Caesarean Section

The aim of care in pregnancy and childbirth is to achieve optimal health for the mother and newborn with the least possible level of intervention that is compatible with safety (164). Many individual maternity units and nations audit therefore their CS rates (165-167). CS rates have increased significantly worldwide during the last decades, particularly in middle and high income countries (168-170). In the USA, 32.3% of births were by CS in 2008 (171), while the National Health Services Maternity Statistics for England 2006-7 report a CS rate of 23% (172). In Norway, the CS rate has increased from 7.3% in 1978 to 17.1% in 2009 (MBRN accessed 26 July 2010).

Together with this increase, a change in the indications for performing a CS has taken place (173). In the face of a safe and accessible alternative, the maternal and fetal risks associated with complicated vaginal births have become less acceptable (174;175). This has resulted in a reduction of vaginal breech deliveries, mid-cavity instrumental delivery, vaginal twin deliveries, trials of labour and a reduced tolerance of suspected fetal compromise during labour (6;173;174;176). Respect for patient autonomy regarding mode of birth has also played a substantial role in the increase in the elective CS rate (155;176-179). Psychosocial indication for elective CS, defined as maternal request or fear of childbirth without any co-existing medical indications, has become more common and reflects a change in attitudes towards mode of delivery in the childbearing population and among obstetricians (155;173;176;180).

The Medical Birth Register of Norway (MBRN) obtains information about all births, but the current system does not provide sufficient information about the indications for CS. A prospective survey done in 1998 in Norway (6), reported that seven indication groups accounted for 77.7% of all CSs: fetal distress (21.9%), failure to progress (20.7%), previous CS (8.9%), breech presentation ≥ 34 weeks of gestation (8.4%), maternal request (7.6%), preeclampsia (6.2%) and failed induction (4.0%). Of all the CSs, 65.3% were emergency operations. In the elective CS group, the two most important indications were previous CS and maternal request.

2. Aims of the study

The overall aim of this thesis was to study the relationship between a history of childhood abuse and pregnancy, childbirth and fear of childbirth, in order to improve care during pregnancy and childbirth.

The following research questions were assessed:

- What is the prevalence of childhood abuse in Norway?
- What is the prevalence of fear of childbirth in Norway?
- Is a history of childhood abuse related to fear of childbirth?
- Is a history of childhood abuse associated with mode of delivery?

The objectives of the different papers were:

- To estimate the prevalence of emotional, physical and sexual childhood abuse and to assess the association of childhood abuse with common complaints in pregnancy in a national sample of unselected pregnant women (Paper I).
- To assess if there is an association between self-reported exposure to sexual, physical and emotional childhood abuse and complications during labour and mode of delivery among primiparous women in Norway (Paper II).
- To investigate the association between a self-reported history of sexual, physical and emotional abuse in childhood and fear of childbirth among primiparous and multiparous women (Paper III).
- To explore whether a longitudinal design alters the estimated association between a history of childhood abuse and fear of childbirth among multiparous women (Paper IV).

3. Material and methods

To explore the questions raised by the study performed in Trondheim (8), a new and larger study was planned. This new study (Bidens), originally planned as a Norwegian study, was expanded to include 6 European countries, Norway being one of them. While the data-collection for the Bidens study took place, data from the Norwegian Mother and Child cohort study the Norwegian Institute of National Health was obtained to explore some of our research questions in this large national sample.

3.1. Description of the studies

3.1.1. The Norwegian Mother and Child Cohort Study (MoBa)

The MoBa study was initiated in the 1990s by researchers from the Medical Birth Register of Norway (MBRN) and researchers from the Norwegian Institute of National Health. Many scientists contributed ideas that helped design the questionnaires. Norway has approximately 55,000 births a year and the target population of the study was all women who gave birth in Norway (181). There were no exclusion criteria. All hospitals and maternity units with more than 100 births annually were to be included. Fifty of the 52 eligible units participated in the study. Recruitment started in 1999, with the aim of including 100,000 pregnancies by 2009. Pregnancy is the unit of observation, and a woman could participate in the study with more than one pregnancy (181).

The response rate from 1999 to the end of 2005 was around 44 % (181). Pregnant women were recruited to the study through a postal invitation in connection with a routine ultrasound examination offered to all pregnant women in Norway at 17-18 weeks of gestation (www.fhi.no/morogbarn).

During pregnancy, the mother received three extensive questionnaires, and the father received one. The first questionnaire (Q1: 16 pages) received in pregnancy weeks 13–17, asked for data on outcomes of previous pregnancies, medical history before and during pregnancy, medication, occupation, exposures in workplace and at home, lifestyle habits, and mental health. A food frequency questionnaire (Q2: 14 pages) was sent to participants at 22 weeks of pregnancy. A third questionnaire (Q3: 16 pages) was sent at 30 weeks and covered the woman's health status during pregnancy as well as changes in work situation and habits.

Data from the questionnaires were linked to the MBRN which has a record of all deliveries in Norway since 1967. This register is based on a standardized form completed by

midwives shortly after delivery. A questionnaire (Q4: 16 pages) when the child was 6 months focused on child health and nutrition as well as maternal physical and mental health.

3.1.2. The Bidens study

The Bidens study is a multi-national cohort study conducted in 6 European countries. Bidens is the acronym for the 6 participating countries, Belgium, Iceland, Denmark, Estonia, Norway and Sweden. In Norway we recruited women at five obstetric departments in five cities; Oslo, Tromsø, Ålesund, Drammen and Trondheim. The hospitals in Tromsø, Oslo and Trondheim are university hospitals, while the hospitals in Drammen and Ålesund are county hospitals. The number of deliveries at these departments ranged from 1,300 to 3,400 births per year.

Questionnaires (8 pages) with an information letter and a consent form were sent to pregnant women after they had attended their routine ultrasound at 18 weeks of gestation. Women requiring treatment due to pathology detected during routine ultrasound and women with insufficient Norwegian to fill out the questionnaire were excluded from the study. Non-responders were sent one reminder after one month.

We started recruitment in January 2008 in Oslo, February 2008 in Drammen, Trondheim and Ålesund and March 2008 in Tromsø. We concluded recruitment October 2008 in Oslo, November 2008 in Trondheim, January 2009 in Drammen, February 2009 in Ålesund and March 2009 in Tromsø. The response rates were 61.5% in Oslo, 47.6% in Drammen, 46.5% in Trondheim, 50.5% in Tromsø and 44% in Ålesund, with an overall response rate of 50%.

3.2. Study population and design

3.2.1. Design

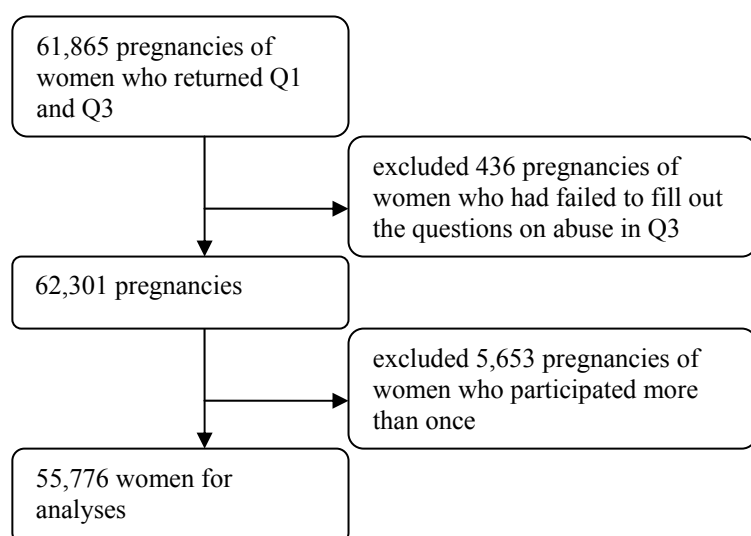
Although both the MoBa study and the Bidens study are cohort studies, the design of paper I and III is a cross-sectional one, determining “exposure” and “outcome” simultaneously for each subject. Paper II can be considered a cohort study as we followed pregnant women from around the 15. week of pregnancy until the time they gave birth. Paper IV is a longitudinal study as we followed women from their first pregnancy through to their first childbirth, the postpartum period and into their second pregnancy.

Table 2. Overview of study population, main variables, design and methods included in paper I–IV

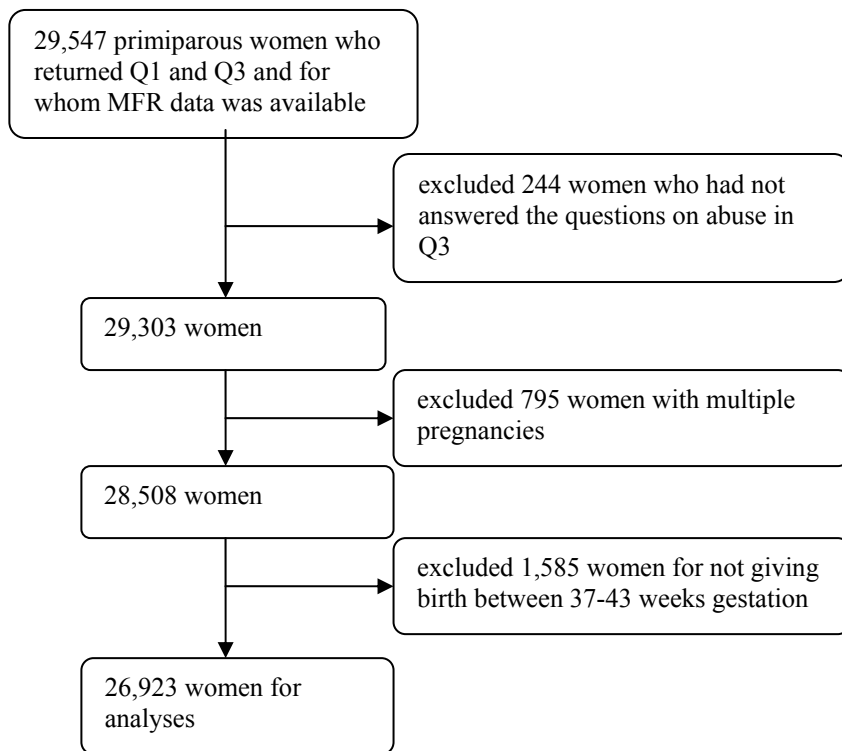
	Study I	Study II	Study III	Study IV
Year of data collection: 1999–2006 2008–2009	x	x	x	x
Study providing data: MoBa-study Bidens-study	x	x	x	x
Number of participants	55,776	26,923	2,365	4,876
Characteristics of participants: Primiparous Para 1 Multiparous	x x	x	x x	x x
Main variables: Childhood abuse Common complaints in pregnancy Fear of childbirth Preference for birth by CS Mode of delivery	x x	x x	x x	x x x
Design: Cross-sectional Cohort Longitudinal	x	x	x	x
Time of data collection: During pregnancy At birth Postpartum During subsequent pregnancy	x	x x	x	x x x x

Study populations

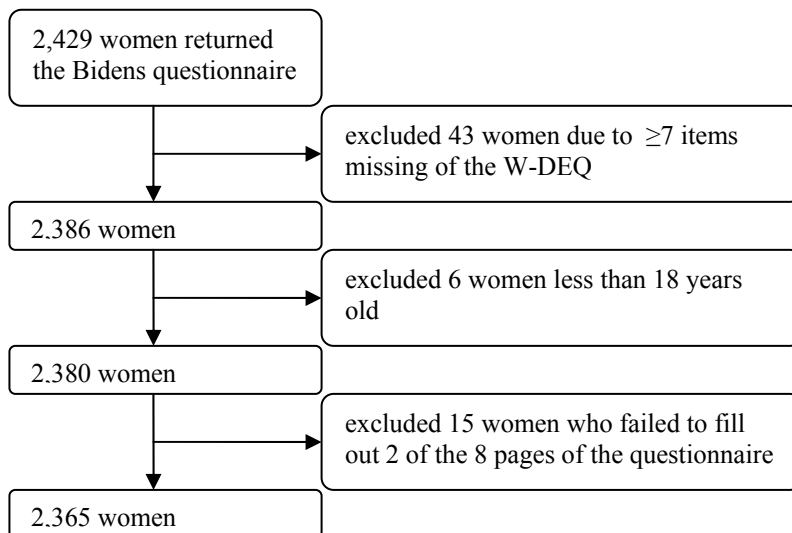
Flow-chart study I based on MoBa data from 1999–2006



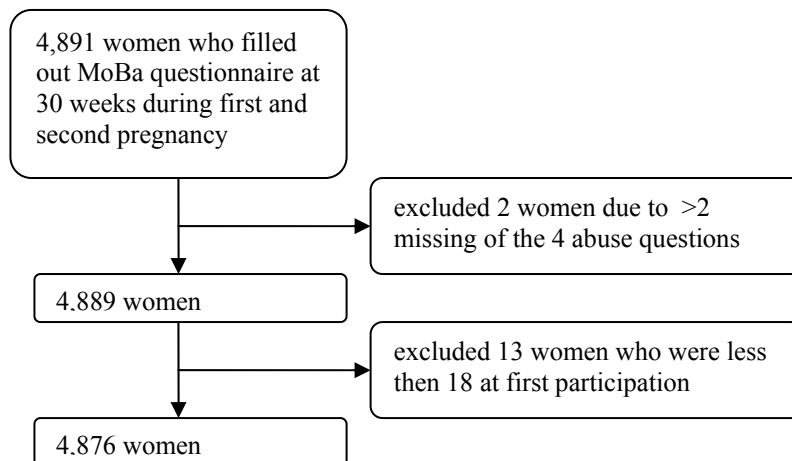
Flow-chart study II based on MoBa data primiparous women who gave birth 2000–2006



Flow-chart study III based on Norwegian data from the Bidens study, 2008–2009



Flow-chart study IV, based on MoBa data, women participating twice, 1999–2006



3.3. Variables and measurements used in the study

3.3.1. Childhood abuse

In the MoBa study, Q3 included a modified version of the Norvold Abuse Questionnaire (NorAq) measuring mild and severe emotional abuse, sexual abuse and physical abuse (13;182). Women were given the opportunity to indicate if they never experienced the abuse (no, never), if the abuse was experienced as a child (<18 years) and/or as an adult (>18 years). Women who answered yes to at least one of the four questions about childhood abuse were defined as having suffered from any childhood abuse.

The Bidens questionnaire included NorAq, a validated instrument measuring emotional, sexual and physical abuse (13;182). Childhood abuse was defined as abuse before the 18. birthday. The question measuring mild physical abuse was excluded from our analyses as it showed low specificity, as noted previously (13;182). Any childhood abuse included any type of childhood abuse at any level of severity.

3.3.2. Outcomes

The common complaints in pregnancy (Outcome Paper I) All the common complaints in pregnancy included in this thesis were taken from Q3. For heartburn, constipation, backache, headache, nausea and vomiting, candidiasis, urinary incontinence, urinary tract infection, pruritus gravidarum, pelvic girdle relaxation, leucorrhoea, tiredness, leg cramps and oedema, women were asked if they at any time after 13 weeks gestation had experienced any of these complaints. The answer was divided up in one-month periods. A woman giving a positive

answer for any one-month period was registered as having that particular complaint. Being bothered by Braxton Hicks contractions was a separate question giving three answering options: no; yes, a little; and yes, very bothered. A woman giving a positive answer to the last option was defined as suffering from Braxton Hicks contractions. In paper I, fear of childbirth is one of 16 common complaints of pregnancy. The item to which women responded was “I am really dreading giving birth”, with the following six response alternatives: agree completely, agree, agree somewhat, disagree somewhat, disagree, disagree completely. Women who agreed completely with the statement were defined as fearing labour.

Mode of delivery, complications and interventions during childbirth (Outcome paper II) These outcome variables were taken from the MBRN. Complications and interventions explored were induction of labour, EDA, poor progress in labour, augmentation of labour, fetal distress, episiotomy and anal sphincter rupture. Mode of delivery was divided into spontaneous vaginal birth, instrumental vaginal birth and CS. CSs were coded as taking place before or during labour. Women with a record of induction or spontaneous start of labour who gave birth by CS were categorised as CS during labour. Women with neither a record of induction nor of a spontaneous start of labour, giving birth by CS were categorised as CS before labour.

Fear of childbirth and preferring birth by CS (Outcome paper III and IV) In the MoBa study, Q3 has 9 statements about birth to which women could respond by a range of 6 options, from agreeing completely to disagreeing completely. Preferring birth by CS was the 6. of the 9 statements about birth. Just before the study for paper IV was undertaken, Kringeland et al published a study on the MoBa data using this variable (183). They dichotomized the scores into 1-3 (yes, would choose a CS) and 4-6 (no, would not choose a CS). This influenced the way this variable and the variable of fear of childbirth (the second of the same nine statements) were coded in our paper IV. It did appear appropriate to change from including only women who *agreed completely* (paper I) to also include those who *agreed* to the category of women fearing childbirth. Women agreeing or completely agreeing with the statement “If I could choose, I would have a CS” were defined as preferring birth by CS.

In the Bidens study, fear of childbirth was measured using the Wijma Delivery Expectancy Questionnaire (WED-Q) version A, designed to measure fear of childbirth by means of women’s cognitive appraisal of the coming delivery during pregnancy (122). The questionnaire has 33 items, which can be scored from 0–5. The sum score theoretically ranges

from 0 to 165, the higher the score, the greater the fear of childbirth. A sum score of ≥ 85 is considered to represent severe fear of childbirth, while a sum score of ≥ 100 is the cut-off level for extreme fear of childbirth (5;127).

3.3.3. Other variables (covariates & confounders)

Demographic data and characteristics In the MoBa study, age, civil status, education, occupation, parity, use of alcohol or smoking during pregnancy and Body Mass Index (BMI) were derived from Q1. Women reported their education by checking 1 of 7 predefined categories. This information was coded into four levels of education: primary school (9 years), secondary school (12 years), higher education (university or college) ≤ 4 years and > 4 years. This same categorisation of education was used in the Bidens study. In the MoBa study, women were given the option to cross off several of 11 possible choices for occupation. Three occupation categories were made: student, unemployed and employed.

Parity In the MoBa study parity (number of previous deliveries > 21 weeks gestation) was derived from a question asking women to list all their pregnancies and indicating the length of pregnancy in weeks at birth. This variable was coded as women giving birth for the first time (P0) and those who had given birth before (P+). In the Bidens study women were considered to be primiparous when they checked the box which stated they had never been pregnant before or when they answered 0 for the number of children they had given birth to.

Mental distress, depressive symptoms In the MoBa study, the Hopkins Symptom Checklist (SCL-5) with 5 items, from Q3, measured mental distress, using a 2.0 cut-off point as indicated by Strand et al (184). In the Bidens study, depressive symptoms were measured using a short matrix version of the Edinburgh Depression Scale (EDS-5), which consists of 5 questions (185). The scoring of each question ranges from 0 to 3, with 0 for the absence of symptoms and 3 for maximum severity of symptoms. A sum score of ≥ 7 is considered to reflect moderate symptoms of depression (185). Both the SCL-5 and EDS-5 are validated instruments which have shown good reliability in Norwegian populations and proven to perform almost as well as their full versions.

Birth experience In the MoBa study, experience of first birth was reported 6 month postpartum starting from the second version of Q4 (5. November 2002). Women were asked if their birth went as expected, with answering options: Yes, as expected; No, it went better;

Neither/nor; No, it was worse; Don't know. The variable was recoded into three categories: Better than expected; As expected, mixed, uncertain; Worse than expected. In the Bidens study, women were asked to describe the experience of their first and last birth by checking off one of the following options: Purely positive experience; Mainly positive experience, with negative elements; Mainly negative experience, with positive elements; Purely negative experience. These variables were dichotomized into a negative or positive birth experience. When two experiences were reported, the last birth experience was chosen.

Pregnancy complications and risk factors Smoking during pregnancy was in the MoBa study was coded as no; sometimes; and daily. For the regression analyses the variable was dichotomised into no and yes (combined daily and sometimes). Alcohol consumption was dichotomized into any or no consumption during pregnancy. Unfortunately, there was a large proportion (12.7%) of participants with missing information for the variable for the total sample. A dummy variable was used for the missing data in the regression analyses in paper I. BMI was derived from self-reported height (m) and weight (kg) at time of conception.

There is a close association between birth outcomes and complications during pregnancy and birth. The antenatal pathology included in paper II was diabetes and pre-eclampsia from the MBRN. Data in the MBRN gives information of whether diabetes was present prior to the pregnancy or whether it was first diagnosed during the current pregnancy. All forms of diabetes were included as they all can affect outcome. Macrosomia was defined as birth weight ≥ 4500 gram, the same cut-off used in the "Breakthrough Project" investigating indications for CS in Norway (6).

3.4. Statistics

Power calculation

The objective of MoBa is to test specific aetiological hypotheses by estimating the association between exposure and disease, aiming at prevention. No specific hypothesis or set of hypotheses formed the basis for the study. The strategy has been to collect data on as many relevant exposures and health outcomes as feasible. So no specific power calculation was done at the start of the data collection.

The power calculation for the Bidens study was based on the hypothesis that women who have reported experiencing abuse (in the course of their life time) have an increased risk for birth by CS compared to women who do not report having experienced abuse. As this was not the hypothesis for paper III, we performed a new power calculation to assess if our study

investigating the association between childhood abuse and fear of childbirth was possible in the given data set. Based on the finding of paper I, we estimated the prevalence of severe fear of labour to be 7% among women without and 14% among women with a history of childhood abuse. To detect this difference in prevalence, with 80% power and $P .05$ two-sided, we needed 300 women in each group (with and without any childhood abuse). With an estimated prevalence of 20% for any childhood abuse we needed to include 1500 women in total. The same power calculation could be used for paper IV.

Statistical analyses

Descriptive statistics were derived from frequencies. The Chi-squared tests were used to examine differences between group frequencies. Univariate logistic regression analyses were performed to estimate crude odds ratios (OR) and 95% confidence intervals (CI's) for the association of different categories of childhood abuse and the different outcomes measured in the papers. One-way ANOVA was used to assess differences in means. To define a cut-off for the number of common complaints in pregnancy in paper I, we used the upper 10 percent of the distribution, which was 7 or more.

We used Breslow-Day and Tarone's tests for homogeneity to assess if stratified analyses were required. The stratified analyses in paper I were preferred by the referees and not required statistically. We checked for collinearity between the independent variables to be entered in the regression analysis by creating a correlation matrix in paper II and found no correlation over 0.4.

Adjusted logistic regression models were used to estimate OR and 95% CI for the associations of different categories of abuse and the defined outcomes in the papers. OR provides an estimation of the relative risk, which is adjusted for any confounding variables. In each of the papers we adjusted for a priori selected potential confounders.

Missing data was dealt with in three different ways: exclusion from analyses (applied in all the papers); the creation of a dummy variable (for alcohol consumption in paper I); and replacing missing values with the series mean (for SCL-5 in paper I and W-DEQ in paper III). The reference group for all comparisons was women reporting no childhood abuse. All analyses were two sided at $\alpha = .05$. The statistical program SPSS was used to conduct all analyses.

3.5. Ethics

Both the MoBa and the Bidens study were approved by the Norwegian Data Inspectorate and the appropriate ethical committee. No additional approval was required to analyze and publish results on the abuse questions. All participants were informed about the purpose of the study in the letter of invitation. Each participant signed a written consent, stating that the data provided in the questionnaires could be used for research purposes, and consenting the linking to MBRN. The participants were free to withdraw their consent and the information provided at any time in the MoBa study. Participation has been unconditionally voluntary. The collected data has been handled and stored in accordance with the directives of the Data Inspectorate to protect participants.

Including questions on violence and abuse in questionnaires has been a controversial issue. It has previously been considered too sensitive to include in general health surveys. The major concern is safety of women who report abuse by a violent partner. The accompanying letter to the Bidens study specifically asks women to fill out the questionnaire in a private place where she can be on her own. At all units where the Bidens study took place provision was made to be able to assist women seeking help. Women were also given telephone numbers and e-mail addresses they could contact if required. No women contacted the researchers or clinic staff for help due to intimate partner violence. In the MoBa study the partner as perpetrator was excluded from the questions on abuse, to reduce the risk for women to suffer additional violence from their partner as a result of filling out the questionnaire. The Bidens study does not inquire about the perpetrator at all.

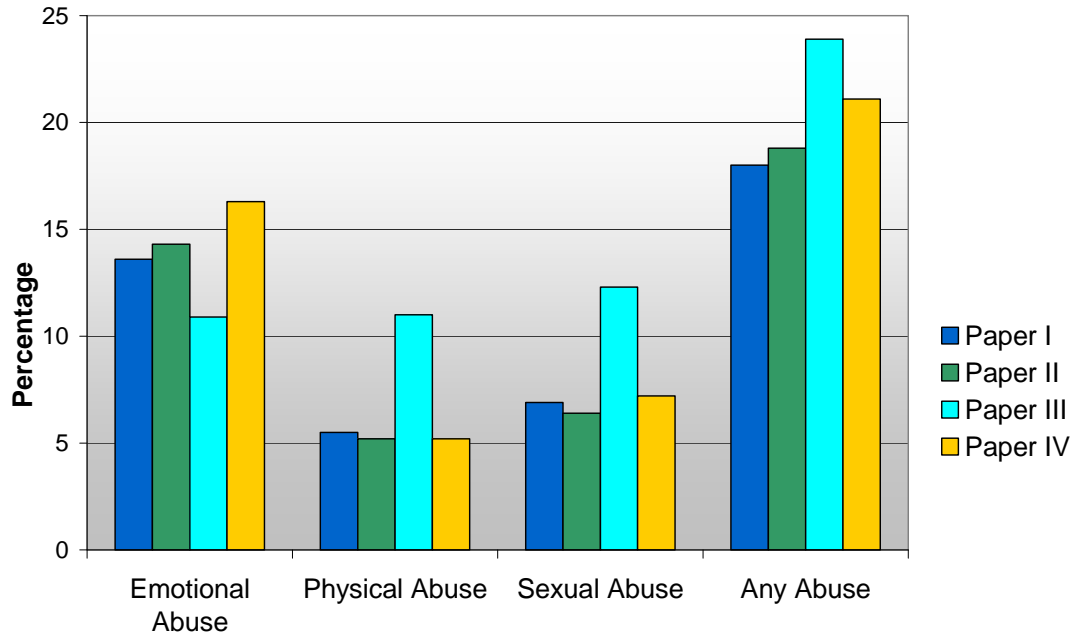
Epidemiological research on victims of childhood abuse might unintentionally contribute to stigmatism and a feeling of humiliation and self blame among those reporting such abuse. Thus caution needs to be exercised when communicating research findings to the public. A study investigating the reactions of vulnerable participants to research participation found that these participants reported stronger agreement about the meaningfulness of their participation compared to non-vulnerable participants (186).

4. Results

4.1. Prevalence of childhood abuse in the four studies

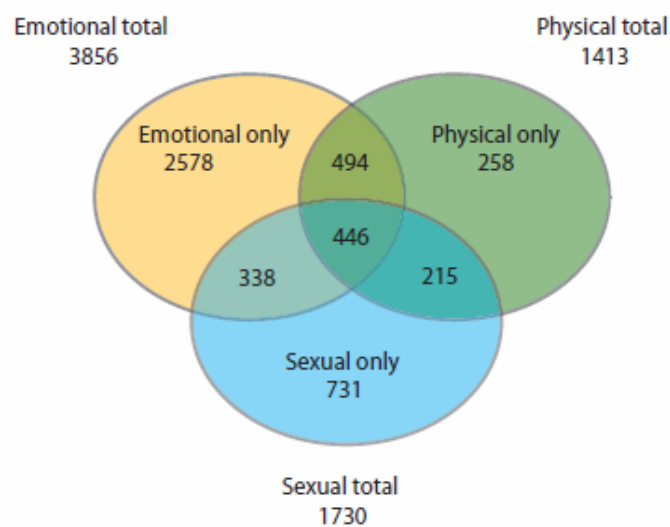
The reporting of childhood abuse varied across the papers as presented in the graph below.

Figure 1. Prevalence of childhood abuse in the four papers



There was considerable overlap between the different categories of abuse reported by the women as illustrated by this Venn diagram with data from paper II.

Figure 2. Overlap between different categories of childhood abuse in paper II, N = 26,923.



Fewer women reported childhood abuse during first pregnancy than during second pregnancy (Table 3). Some women who reported childhood abuse during first pregnancy did not report the same abuse during second pregnancy and vice versa (Table 3).

Table 3. Reporting of childhood abuse during first and subsequent pregnancy

<i>Childhood abuse reported during first pregnancy</i>		<i>Childhood abuse reported during Subsequent pregnancy</i>							
		Any Abuse		Any Emotional		Physical		Sexual	
		Yes	No	Yes	No	Yes	No	Yes	No
Any Abuse	Yes	516	183						
	No	324	3853						
Any Emotional	Yes			323	152				
	No			313	4088				
Physical	Yes					108	77		
	No					88	4903		
Sexual	Yes							211	68
	No							70	4527

4.2. Results paper I

In this paper we examined the association between a self-reported history of childhood abuse and the reporting of common complaints in pregnancy. Women who reported childhood abuse reported significantly more often all of the 16 common complaints investigated in this study. Women reporting three categories of childhood abuse reported an average of 5.4 common complaints in pregnancy compared to 3.7 for women without childhood abuse ($P < .001$). Women reporting any category of childhood abuse were more likely to report ≥ 7 common complaints in pregnancy compared to women reporting no childhood abuse. This effect remained after adjustment for our a priori chosen confounders. In a dose-response fashion, the more types of abuse women were exposed to, the more likely they were to report ≥ 7 common complaints in pregnancy. Women exposed to all three kinds of childhood abuse were more than three times as likely to report ≥ 7 complaints of pregnancy compared to women with no history of childhood abuse, adjusted OR 3.5 (95% CI 3.0–4.0). Socio-demographic characteristics, other risk factors, adult abuse and mental distress did not explain this graded association.

Table 4. The OR for having ≥ 7 common complaints in pregnancy according to category of childhood abuse, MoBa 1999 – 2006 (N = 55,776)

Category of childhood abuse	≥ 7 common complaints in pregnancy ($n = 7,717$)							
	Crude		Adjusted		Adjusted		Adjusted	
	OR	(95% CI)	OR	(95% CI)	OR	(95% CI)	OR	(95% CI)
			Model 1 ^a		Model 2 ^b		Model 3 ^c	
Emotional	2.2	(2.1–2.4)	1.7	(1.6–1.9)	1.6	(1.5–1.8)	1.6	(1.5–1.7)
Physical	3.0	(2.7–3.2)	1.9	(1.6–2.1)	1.8	(1.5–2.1)	1.6	(1.4–1.9)
Sexual	2.7	(2.5–2.9)	1.9	(1.7–2.1)	1.8	(1.6–2.0)	1.7	(1.5–1.9)
Emotional + physical	3.4	(3.1–3.8)	2.6	(2.3–3.0)	2.4	(2.1–2.8)	2.3	(2.0–2.6)
Emotional + sexual	3.4	(3.1–3.8)	2.6	(2.2–3.1)	2.4	(2.0–2.8)	2.4	(2.0–2.8)
Physical + sexual	3.6	(3.2–4.0)	2.5	(2.0–3.1)	2.3	(1.9–2.9)	2.2	(1.8–2.7)
Emotional + physical + sexual	3.9	(3.4–4.5)	3.5	(3.0–4.0)	3.1	(2.6–3.5)	3.1	(2.6–3.5)

^a Controlled for age, education, occupation, civil status, smoking, parity, multiple pregnancy, BMI and alcohol.

^b Controlled for age, education, occupation, civil status, smoking, parity, multiple pregnancy, BMI, alcohol and mental distress. ^c Controlled for age, education, occupation, civil status, smoking, parity, multiple pregnancy, BMI, alcohol and adult abuse. In addition each category of abuse was adjusted for the other categories of abuse if applicable. The reference group for all models is no childhood abuse.

4.3. Results paper II

In this paper we examined the association between a self-reported history of childhood abuse and CS among primiparous women in the MoBa study. None of the different categories of childhood abuse were significantly associated with a CS before labour. Two categories, any childhood abuse and mild emotional, were associated with an increase of CS during labour compared to women with no childhood abuse before adjustment for confounding factors. After adjustment, only the category of any childhood abuse was significantly associated with an increase in CS during labour. The proportion of women having a spontaneous vaginal delivery was almost equal for the groups with and without childhood abuse (69%). However, the number of instrumental vaginal births, episiotomies and sphincter ruptures was significantly lower among women abused in childhood.

Table 5. Crude and adjusted OR for CS before birth according to category of childhood abuse for primiparous women, MoBa 1999–2006 (N = 26,923)

Category of childhood abuse	Number (%) in study sample (n = 26,923)	CS before labour (n = 1,308)		
		n	OR (95% CI)	Adjusted OR (95% CI)*
Any	5,060 (18.8)	249	1.02 (0.88–1.17)	1.00 (0.86–1.17)
Emotional	3,856 (14.3)	186	1.00 (0.85–1.17)	0.96 (0.81–1.15)
Physical	1,413 (5.2)	76	1.12 (0.88–1.42)	1.03 (0.79–1.35)
Sexual	1,730 (6.4)	89	1.06 (0.85–1.33)	1.08 (0.85–1.38)

* Adjusted for age, education, BMI, adult abuse, macrosomia, diabetes, preeclampsia and wish for CS.

Table 6. Crude and adjusted OR for CS during labour according to category of childhood abuse for primiparous women, MoBa 1999–2006 (N = 26,923)

Category of childhood abuse	Number (%) in study sample (N = 26,923)	CS during labour (n = 2,618)		
		n	OR (95% CI)	Adjusted OR (95% CI)**
Any	5,060 (18.8)	546	1.16 (1.05–1.28)	1.16 (1.03–1.30)
Any emotional	3,856 (14.3)	402	1.11 (0.99–1.24)	1.11 (0.98–1.27)
Physical	1,413 (5.2)	149	1.13 (0.95–1.35)	1.21 (0.99–1.48)
Sexual	1,730 (6.4)	185	1.15 (0.98–1.35)	1.15 (0.95–1.38)

** Adjusted for age, education, BMI, adult abuse, macrosomia, diabetes, preeclampsia, fetal distress, induction, EDA.

4.4. Results paper III

In this paper we investigated the association between a self-reported history of childhood abuse and severe fear of childbirth. A history of any childhood abuse remained a significant risk factor for experiencing severe fear of childbirth for primiparous women also after adjusting for confounding factors, OR 2.00 (95% CI 1.30–3.08). For multiparous women there was no association between a history of any childhood abuse and severe fear of childbirth after adjusting for confounding factors, OR 1.17 (95% CI 0.76–1.80). The regression models for multiparous women, testing the individual effect of each confounding factor upon the association between any childhood abuse and severe fear of childbirth, showed that significance in this association disappeared when entering each on their own either moderate depressive symptoms, education, adult abuse or a negative birth experience. For multiparous women fear of childbirth was related to a negative birth experience.

Table 7. Crude and adjusted odds ratios for severe fear of childbirth for any childhood abuse for primiparous and multiparous women in the Norwegian Bidens study sample (N = 2,365) 2008–2009.

Any Child hood abuse	Primiparous women with severe fear of labour (n = 131/1,034)					Multiparous women with severe fear of labour (n = 149/1,331)				
	n	Crude OR	95% CI	Adj. OR*	95% CI	n	Crude OR	95% CI	Adj. OR‡	95% CI
No	78	1	Reference	1	Reference	103	1	Reference	1	Reference
Yes	53	2.48	1.70–3.64	2.00	1.30–3.08	46	1.50	1.02–2.16	1.17	.76–1.80

* Adjusted for age, civil status, education, planned pregnancy, adult abuse and moderate depressive symptoms

‡ Adjusted for all the previously mentioned variables as well as negative birth experience.

Table 8. Multiparous women (n = 1,331) and fear of childbirth (mean with SD) by history of any childhood abuse and birth experience in the Norwegian Bidens study sample (N = 2,365) 2008–2009.

Category of childhood abuse and birth experience	n	Wijma Delivery Expectancy Questionnaire score	
		mean (SD)	Crude OR (95% CI)
No childhood abuse and positive experience	805	49.52 (21.10)	1
Any childhood abuse and positive experience	241	52.13 (23.04)	1.20 (0.90–1.60)
Any childhood abuse and negative experience	77	72.48 (24.50)	5.87 (3.19–10.84)
No childhood abuse and negative experience	204	74.72 (20.35)	8.95 (5.72–14.01)

4.5. Results paper IV

Again we explored the association between a history of self-reported childhood abuse and fear of childbirth. However, this time in a longitudinal design focusing on women during their second pregnancy. In addition we added the wish for birth by CS as it can be an expression of fear of childbirth. The proportion of all women reporting fear of childbirth was 14.4% during first pregnancy and 16.6% during second pregnancy. During first pregnancy 2.2% expressed the wish for CS while twice as many women (4.5%) expressed this wish during their second pregnancy.

During second pregnancy, all three categories of emotional abuse were significantly associated with fear of childbirth also after adjusting for confounding factors, while physical and sexual abuse in childhood remained significantly associated with the wish for CS. Any childhood abuse remained significantly associated with expressing fear of childbirth and preference for caesarean section during second pregnancy also after adjustment for experience of first birth and mode of first delivery and other confounding factors.

Table 9. OR (crude and adjusted) for fear of childbirth and wish for CS in second pregnancy by category of childhood abuse, MoBa 1999–2006 (N = 4,876)

<i>Category of childhood abuse reported at first or second pregnancy</i>	<i>Fear of childbirth in second pregnancy (811/4,876)</i>				<i>Wish for CS in second pregnancy (221/4,876)</i>			
	Crude OR	(95% CI)	Adj. OR*	(95% CI)	Crude OR	(95% CI)	Adj. OR‡	(95% CI)
Any abuse	1.68	(1.42–2.00)	1.31	(1.02–1.66)	1.61	(1.19–2.17)	1.54	(1.03–2.31)
Mild emotional	1.82	(1.50–2.20)	1.43	(1.09–1.88)	1.59	(1.13–2.23)	1.56	(0.98–2.49)
Severe emotional	2.35	(1.74–3.16)	1.58	(1.02–2.45)	1.78	(1.04–3.03)	1.69	(0.80–3.58)
Any emotional	1.87	(1.55–2.24)	1.45	(1.11–1.88)	1.64	(1.18–2.72)	1.52	(0.97–2.40)
Physical abuse	2.11	(1.59–2.80)	1.41	(0.95–2.10)	1.77	(1.08–2.90)	2.01	(1.07–3.77)
Sexual abuse	1.72	(1.32–2.23)	1.18	(0.80–1.74)	1.67	(1.06–2.63)	2.14	(1.18–3.89)

* Adjusted for age, education, civil status, adult abuse, mental distress. ‡ Adjusted for age, education, civil status, adult abuse, mental distress, fear of childbirth during first pregnancy, mode of first delivery and experience first birth. Comparison group for all analyses is no childhood abuse

5. Discussion

The main results of this thesis may be summarized as follows:

- About one in five pregnant women in Norway report having experienced some form of childhood abuse.
- A self-reported history of childhood abuse is associated with increased reporting of common complaints of pregnancy.
- A self-reported history of childhood abuse is associated with a slightly increased risk of CS during labour. Women with any childhood abuse were significantly less likely to have an instrumental vaginal delivery compared to non childhood abused women.
- A self-reported history of childhood abuse is associated with an increased risk of experiencing severe fear of childbirth, even after controlling for experience of previous birth.

5.1. Consideration of methodology

A study's internal validity refers to the accuracy of the estimates for the study sample while the external validity refers to the accuracy of the estimates for people outside the study sample (also called generalizability) (187;188). Internal validity is a prerequisite for external validity. Sources of error in the estimated prevalences and associations in epidemiological studies may be classified as random or systematic (187;188). Random error leads to loss of precision whereas systematic errors pose a threat to the validity of the results. Selection bias, information bias and confounding are the main causes of systematic errors. Lack of precision in measurement and inadequate sample size are the main sources of random error.

5.1.1. Sample size

The primary way of reducing random error is by using an adequate sample size. The possibility that the observed associations may be caused by chance is evaluated by tests of statistical significance, where p-value expresses the probability that an observed association could be caused by chance. Confidence intervals give additional information about the precision of the estimates. When few individuals are exposed to the explanatory variable and/or few individuals have the disease, the confidence intervals will be wide, indicating reduced precision.

Our studies, particularly study I and II, are based on large study populations. Paper I showed relatively precise estimates, with small p-values and relatively narrow confidence intervals. In paper III the sample size was calculated to be sufficient to show significant differences for the total sample. For the sub-group analyses, however, the low number of women in the different categories of childhood abuse led to wide confidence intervals. The lack of significance in the association between the different categories of childhood abuse and fear of childbirth in the group of multiparous women may be due to inadequate sample size.

5.1.2. Lack of precision in measurement

Precision in measurement increases when established scales with a high reliability as judged by the Cronbach's alpha coefficient are used. The Cronbach's alpha for the W-DEQ version A was 0.92 in paper III.

In contrast, the use of a single question to measure fear of childbirth as in paper I and IV leads to lack of precision. Lack of precision for discrete variables causes misclassification. The measurement of the common complaints of pregnancy also lack precision. Women could check 5 boxes, each representing a one-month period of pregnancy. Our measurement does not differentiate between women who experienced these common complaints throughout pregnancy and those who experienced them for a short period only or even only once. We could have increased the precision of the measurement by taking into account how many boxes each woman checked. Using a more precise way of measuring the common complaints of pregnancy might have given a stronger association between childhood abuse and the common complaints in pregnancy.

5.1.3. Selection bias

Selection biases are distortions that result from procedures used to select subjects and from factors that influence study participation. Selection bias may affect prevalence rates by showing rates which are not representative for the entire population one wishes to compare the study participants with. The low response rate in both the MoBa study (44%) and the Bidens study (50%) cause concern. We lack information about why women did not participate. Participation in the MoBa study involved considerable effort and had no immediate benefits for the women taking part. The mean age of the women participating in the MoBa study was 29.7 years (SD 4,6) and the mean age for all women giving birth in Norway in 2004 was 29.6. However, the likelihood of a socioeconomic gradient in the MoBa study that influences prevalence estimates has been suggested (181). A socioeconomic

gradient may also have affected our prevalence estimates of childhood abuse. Even though the prevalence of both exposure and outcome may be different in the MoBa study, the estimates of association can still be valid (181;189). It is unlikely for women invited to the MoBa study to have declined participation due to the (few) questions on abuse and fear of childbirth as they most likely were unaware the questionnaires would also include such questions.

The Bidens study questionnaire consisted of mostly sensitive questions about fear of childbirth, mental health and abuse. This could have stopped some women participating. The questionnaire may have triggered memories of painful experiences of childhood or childbirth women do not wish to be reminded of. On the other hand, women who have experienced childhood abuse and fear of childbirth may be more motivated to participate in a study about such issues. The Bidens study sample was similar to the population of women who gave birth in Norway in 2008 for age and proportion of primiparous women, but included more women living with a partner. If the exposure to childhood abuse affects those participating in the study in a similar way to those not participating in the study, the estimates of association can still be valid. On the other hand, if selection bias causes non-response among a particular group, for example women who suffer most from the childhood abuse they have experienced, then this will affect the estimates of the association; most likely reduce the strength of the association. We do not have information about the exposure to childhood abuse among non-responders and it remains uncertain if selection bias in the Bidens study may have affected the estimates of association.

5.1.4. Information bias

Information bias can occur whenever there are errors in the measurement of study variables. For discrete variables, this type of error is often called classification error or misclassification. Error of measurement which only occurs for one of the groups that are compared causes differential information bias.

Information bias in the measurement of childhood abuse The MoBa study used a modified, not validated, set of four questions to measure childhood abuse. The first two questions on emotional abuse are descriptive questions which are very similar to the questions in the validated NorAQ instrument. Using behaviourally specific, concrete questions rather than asking general subjective questions is considered to reduce underreporting, as the participant is not forced to identify with stigmatized categories such as “battered child” or “incest victim” (37;46). However, there are a couple of reasons why physical and sexual abuse may be

underreported in the MoBa study. Both categories of abuse are measured by a single and a subjective question. Using multiple specific questions is postulated to elicit more positive responses because 1) general labels may not match the way the participants think about their experiences, 2) participants are given time to remember and provided with a variety of cues to elicit memories and 3) specific questions tell the participants what the researcher is looking for (44;45;190). In addition, the question on physical abuse includes the word “abuse”.

A recent study showed that the use of the word abuse in the questions resulted in lower reporting of abuse compared with the use of several questions describing the abusive experience (37). The underreporting of physical and sexual abuse may have resulted in an underestimate of the prevalence of these categories of childhood abuse in the MoBa study. As the prevalence of physical and sexual abuse in our study was low compared to other studies, we might not have identified all women who have experienced these types of abuse in these categories. Studies indicate that few individuals report a history of abuse when none exists (45;56). Most likely women reporting childhood abuse in our study are “true positives”. However, the comparison group of women who reported no childhood abuse might have included “false negatives”. This may have reduced the strength of the associations found.

In paper III, childhood abuse was measured twice, during the first and second pregnancy. As it is rare for individuals to report a history of childhood abuse when none exists (45;56), inconsistent reporters of childhood abuse are most likely individuals with a history of childhood abuse (55). McKinney has therefore suggested that using any positive response across multiple inquiries would seem a reasonable approach to obtaining a more accurate estimate of the prevalence (45). Childhood abuse in paper III was therefore defined as a positive response at either first or second measurement.

In the Bidens study, a validated instrument, NorAQ, was used to measure different categories of childhood abuse (13;182). Each category of abuse was measured with several descriptive questions. Thirtythree percent of the women reported having experienced mild physical abuse in childhood. The validation of the NorAQ, performed in a Swedish non-pregnant population, showed that mild physical abuse had low specificity (13), and this category was therefore excluded from our measurements and calculations.

Childhood abuse is likely to occur in a social/familial context. Both the childhood abuse itself and the context may separately or combined have a negative effect on adult health (191). We have no specific information on contextual factors like neighbourhood characteristics such as poverty and crime rate or familial characteristics like domestic violence, substance abuse of caregiver and employment of parents. Neither did our study

include questions about the age of onset, length of time and frequency of the abuse, nor did it include information about other adverse childhood exposures. The influence of these and other unknown factors on the results is unknown.

Information bias in the measurement of fear of childbirth and birth experience The questions about fear of childbirth and preference for birth by CS in the MoBa study are non validated single questions with 6 answering options. In paper I, fear of childbirth was one of the common complaints of pregnancy and coded differently from paper IV where it was one of the main outcomes.

In paper III, women were asked about their previous childbirth experience during subsequent pregnancy. This information may be influenced by recall bias. It was thought that recall bias should not have the same influence on the information on previous birth experience in the MoBa study as this question was posed at around 6 months postpartum. However, the question about birth experience in the MoBa study is based on women's expectations. If a birth was as expected, better or worse depends of course on the expectation a woman had. This factor may have introduced differential information bias as the expectations of women with a history of childhood abuse could be different from those without this history (192;193).

Information bias in the measurement of other variables The data from MBRN is based on information usually provided by the midwife attending the birth, previously on a form and since 2006 electronically. Missing data, incorrect information and previously misclassification due to data-transformation problems might be an issue. However, several MBRN variables have been validated and found to be satisfactory (194-197). Probably neither a misclassification of a CS performed before labour as after, or vice versa, nor the registration as a CS *per se*, should be related to childhood abuse. The same is true for any of the other variables from MBRN. Thus to the extent misclassification of MBRN variables might have influenced our results, it is most likely non-differential.

There are several problems with the measurement of the common complaints in pregnancy in paper I. We have already mentioned the imprecision of the measurement. In addition, attentional bias may have affected the reporting. According to Brosschot et al (91) worry, rumination and anticipatory stress activate a cognitive process which involves attentional bias, giving priority to thoughts and information related to fears and somatic complaints. Women with a history of childhood abuse in our study were more likely to report symptoms of mental distress. It is possible that women with a history of childhood abuse

reported more common complaints due to attentional bias. As such our results represent women's subjective experience of common complaints during pregnancy and not their objective health.

5.1.5. The reference group

When assessing the effect of a history of childhood abuse on mode of delivery we removed the women who gave birth by CS before labour from the analyses of women who were either induced or went into spontaneous labour. We then assessed the risk of birth by CS or operative instrumental vaginal birth for all the participants who started labour. However, in order to assess if a woman not achieving a spontaneous vaginal birth is more likely to give birth by CS than operative vaginal birth, it might be more correct to exclude women who had a spontaneous vaginal birth from the analyses. If we do this, and the choice is between CS after onset of labour or operative vaginal birth, women with a history of any childhood abuse have an increased risk for birth by CS, crude OR 1.24 (95% CI 1.10–1.41) and a decreased risk for operative vaginal birth, crude OR 0.80 (95% CI 0.71–0.91).

5.1.6. Confounding

Confounding happens when the effect of the exposure is mixed together or confused with the effect of another variable. There are three criteria for a variable to act as a confounder (187). Firstly, a confounding factor must be associated with the outcome of interest, either as a cause or a proxy for a cause, but not as an effect of the outcome (187). Secondly, the confounding factor must be associated with the main exposure under study in the source population (187). Thirdly, a confounding factor must not be affected by the exposure or the outcome (187). In particular it can not be an intermediate step in the causal pathway between the exposure and outcome.

There are several techniques for dealing with the bias confounding can cause: restriction, stratification and controlling for the confounding factors in regression analyses (187;188). In paper II, we excluded multiparous women from the MoBa data set as we had no information on how they had previously given birth. We also excluded women with a multiple pregnancy and those who gave birth preterm and post-term as these factors could influence mode of delivery. In paper I, we performed stratified analyses for mental distress and adult abuse. For all the papers, we performed logistic regression analyses controlling for a priori selected potential confounders. Age and education were entered in all the logistic regression

analyses. The other variables varied across the studies, depending on the outcome investigated.

Mental distress and depressive symptoms may be intermediate factors. By adjusting for them, we might reduce the effect of the exposure. To assess this, we performed stratified analyses in paper I and III, with and without mental distress. We can not be sure that we have properly accounted for confounding as other confounding factors may exist, not controlled for in this study.

5.1.7. Generalizability – external validity

It is an important objective of epidemiological studies to obtain estimates of effect that are valid for relevant target populations (187). Our studies are based on unselected populations of pregnant women from all over Norway. The external validity of our results may be limited if the estimates of association of interest are different between responders and non-responders. Fairly good knowledge of the Norwegian language was essential for participation in both the MoBa and Bidens study, which is one possible reason why only a limited number of non-native Norwegian speakers took part in the studies. Therefore, the results may not be generalizable to immigrant population groups living in Norway.

5.2. Causality in epidemiological studies

If the results of a study cannot be attributed to chance or to problems in the study design resulting in any one of the major sources of bias, the results should be evaluated in the light of being causal associations (187;188). What characterises a causal relationship? A set of criteria, strength, consistency, specificity, temporality, biological gradient, plausibility and experimental evidence, based on the “viewpoints” of Sir Austin Bradford Hill, is commonly used (187).

5.2.1. Strength

The stronger the association is between exposure and outcome the more likely the relation is causal. We found a strong association between a history of childhood abuse and the reporting of ≥ 7 common complaints. We found a weak association between a history of childhood abuse and CS after onset of labour. However, as Rothman points out, having a weak association does not rule out a causal connection (187). We found a strong association, which remained after adjustment, between a history of childhood abuse and fear of childbirth among primiparous women in paper III and multiparous women in paper IV.

5.2.2. Consistency

When observed associations are consistent with previous research, this is thought to strengthen the implication of causality. The results of paper I are in accordance with the associations found in other research (33;84;198;199), showing that women with a history of childhood abuse experience a poorer physical health compared to women without this history. The results of paper III and IV agree with the other studies showing an increased risk for fear of childbirth among women with a history of childhood abuse (9;183). The lack of significance between a history of childhood abuse and fear of childbirth among multiparous women in paper III is probably due to inadequate sample size.

5.2.3. Specificity

This criterion has two variants. One is that one cause leads to a single effect, not multiple effects. The other is that an effect has one cause, not multiple causes. Rothman in his discussion of the criteria for a causal relationship uses the example of smoking as a risk factor for many diseases to highlight the weakness of this criterion. This criterion does not apply to any of the associations investigated in our study. The exposure of childhood abuse is associated with many negative health effects. All the outcomes in our thesis can have several causes.

5.2.4. Temporality

This criterion is the only one which is inarguable. The exposure has to precede the outcome in time. Paper I and III had a cross-sectional design. However, women were on average 29 years old when they reported the common complaints of pregnancy which was linked to abuse in childhood, i.e. before the age of 18. Similarly, in paper II the abuse happened long before the mode of delivery became relevant. In paper III and IV, it is possible, but probably quite rare, that fear of childbirth preceded or developed before a history of childhood abuse.

5.2.5. Biological gradient

A dose-response relationship between the exposure factor and outcome measure strengthens the evidence of a causal relationship. In paper I, we found a graded effect of exposure to several types of childhood abuse and the common complaints of pregnancy. Most of the associations in paper II were negative and could not show a graded effect. In paper III, there

were too few women in the subgroups to properly assess the graded effect of severity in the different categories of childhood abuse. Paper IV did not assess a dose-response relationship.

5.2.6. Plausibility – usually biological plausibility

Several theories have been presented on how childhood abuse can cause ill health in adulthood (91-98). These theories can also be applied to the association between childhood abuse and the different outcomes in this thesis. The physical common complaints of pregnancy may be increased among women with a history of childhood abuse for several reasons. Some complaints in pregnancy may be linked to obesity and smoking, which are more prevalent among women exposed to childhood abuse (60;67;200). A second link may be a psychological one. As with reporting of most physical complaints, psychological factors may increase the reporting of common complaints in pregnancy (98;103). A third possible pathway is a direct physiological one. The elevated levels of major pregnancy hormones including oestrogen and progesterone may play a central role in the occurrence of some of the common complaints of pregnancy. Although speculative, suggestive evidence indicates that childhood abuse may be linked to changes in the central nervous system and hormonal functioning thus rendering women more vulnerable to common complaints in pregnancy (78;92).

The pathways from childhood abuse to mode of delivery could be through CS on maternal request (9;183), increased interventions such as induction and use of EDA, which in turn may lead to operative delivery. Changes in hormonal functioning due to neurobiological changes caused by childhood abuse may effect the process of labour (78;107).

There may be several reasons why women with a history of childhood abuse score high on the W-DEQ. Firstly, it is suggested that persistent changes occur in specific neurobiological systems in response to early stress, which later mediate the adaptation to subsequent stressful life events (102;106). Infants who are maltreated and traumatized might later react with overwhelming stress to what others may consider as an only mildly stressful situation. Secondly, the psychological effects of child maltreatment include low self-esteem, hopelessness, helplessness, expectations of rejection or abandonment, self-criticism and preoccupation with danger (192;193).

5.2.7. Experimental evidence

As Rothman points out, experimental evidence from human experiments is seldom possible for epidemiological research questions (187) and unthinkable and unethical in relation to the exposure in our study.

5.3. Interpretation of the results

Prevalence of childhood abuse among pregnant women in Norway

The prevalence of childhood abuse was higher in the Bidens study than in the MoBa study. This agrees with the observation that prevalences are higher in studies focused on abuse compared to surveys designed with a broader purpose (46). The prevalence of sexual and physical childhood abuse was approximately twice as high in the Bidens study compared to the MoBa study. In the Bidens study the prevalence of the severe forms of childhood abuse were less common than the moderate forms of childhood abuse. Nearly 10% reported moderate childhood physical abuse, while only 3.3% reported severe childhood physical abuse. Similarly, 8.6% reported moderate childhood sexual abuse, while only 4.3% reported severe childhood sexual abuse. This same phenomenon of more severe abuse being less common, is also reported by others (17;40). The low prevalence and the use of general subjective questions, suggests that the prevalence of physical and sexual childhood abuse in the MoBa study may represent severe childhood abuse.

The prevalences of sexual and physical childhood abuse in this thesis are comparable to the ones we found in other Norwegian studies and surveys among non-obstetric and obstetric women (24;38;40;41). Grimstad et al (24) found a slightly higher prevalence than ours of 14% for sexual abuse. The 6% prevalence for severe physical abuse reported by Mossige and Stefanson (40) is similar to the one we found in our MoBa studies. Differences observed are likely due to the methodological issues already discussed. Our prevalence of emotional abuse is much higher than reported for Norway in the Nordic study using the same questionnaire among women visiting a hospital based gynaecologic clinic (17). The women in the Nordic study were older than in our study, which could explain some of the differences as the reporting of emotional abuse is less common among older women (201). Dong et al reported a prevalence of 13% for emotional abuse using a similar definition to ours in a non-clinical, American female population (20). The co-occurrence of different forms of childhood abuse and revictimization in adulthood as shown in our study are well documented findings also in other studies (22;88).

Increased risk for common complaints of pregnancy

In our study women reporting childhood abuse are more likely to report more common complaints in pregnancy. Studies have documented that women who have experienced childhood abuse are more likely to evaluate their health to be poor (33;84;198;199). This appears to be true also during pregnancy and for pregnancy related complaints. Our results confirm the findings of one earlier, much smaller Norwegian study (24). Health perception is thought to be related to anxiety (95;101;108). Surprisingly, in our study the stratification analyses for mental distress showed hardly any difference between those with and without mental distress for the association between the different categories of childhood abuse and the reporting of ≥ 7 more common complaints of pregnancy. However, there is no consistency in the literature as others report that depressive symptoms did not markedly change the influence on subjective health (199).

Childhood abuse and mode of delivery

Most previous studies have focused on the association between a history of childhood sexual abuse and effect on labour and mode of delivery (19;29;47;158;160;202). Some previous studies indicate that a history of childhood abuse has minimal effect on complications during labour and mode of delivery (19;115;202) There is a considerable amount of literature suggesting the opposite (29;158;160;161;203-207). Most of this literature, however, is either anecdotal (161;205-207) or based on qualitative research (160) (i.e. few participants) or on small quantitative studies (29;158;203).

Our results are contradictory to the ones from the study from Trondheim, which showed a significant difference between women with and without a history of childhood abuse for the variable “uncomplicated vaginal delivery” (8). This Norwegian study included both primiparous and multiparous women and therefore difficult to compare to our study, which included only primiparous women.

Childhood abuse – a risk factor for fear of childbirth

To our knowledge no other studies have explicitly investigated the association between childhood abuse and fear of childbirth. In agreement with other studies, both our papers show that women’s experience of birth influences the level of fear of childbirth they present with in a subsequent pregnancy (124;141).

In the cross-sectional Bidens study, 24% of childhood-abused multiparous women reported a negative birth experience compared to 20% of the non-childhood-abused

multiparous women, a non-significant difference. In the longitudinal MoBa study women with a history of childhood abuse significantly more often reported a worse than expected experience of first birth, 28%, compared to non-childhood abused women, 22%. The number of women reporting a better than expected birth experience was similar for both groups. Both studies show that a larger proportion of women with a history of childhood abuse report a negative or worse than expected birth experience compared to women without this history.

However, our studies do show contradictory results in relation to the role of a birth experience for women with a history of childhood abuse. In the longitudinal study there is a significant association between a history of childhood abuse and fear of childbirth, crude OR 1.45 (95% CI 1.20–1.74) during first pregnancy. Stratified analyses in this longitudinal study showed that among women with a better than expected birth experience, the association between a history of childhood abuse and fear of childbirth during second pregnancy was not significant, crude OR 1.38 (95% CI 0.76–2.50). Among women with a worse than expected experience of birth the association between a history of childhood abuse and fear of childbirth, was significant, crude OR 2.06 (95% CI 1.51–2.81). Stratified analyses in the Bidens cross-sectional study showed that among multiparous women with a positive birth experience, the association between a history of childhood abuse and fear of childbirth was significant, crude OR 1.82 (95% CI 1.08–3.09). Among multiparous women with a negative birth experience there was no significant association between a history of childhood abuse and fear of childbirth, crude OR 0.98 (95% CI 0.55–1.75). It is unclear why these two studies show contradictory results in the effect of the birth experience on the association between childhood abuse and fear of childbirth.

The results of the Bidens cross-sectional study are puzzling. A “positive birth experience” does not appear to have the same effect as a “better than expected birth experience” on the association between childhood abuse and fear of childbirth. The two studies are different in design, sample size and method for measuring a history of childhood abuse, fear of childbirth and birth experience. When the birth experience in the Bidens study is recoded differently and only multiparous women who reported a purely positive birth experience are included, the association between a history of childhood abuse and fear of childbirth is not significant, crude OR 1.69 (95% CI 0.71–4.01).

5.4. Clinical implications

Midwives and obstetricians need to be aware that a history of childhood abuse is common among pregnant women in Norway. Norway has no national routine on screening for either

current or previous abuse. However, when women present with many common pregnancy-related health complaints, health professionals should be aware that this may indicate a history of childhood abuse.

A history of self-reported abuse slightly increased the number of CS during childbirth, while the number of operative vaginal birth was slightly decreased for women with a self-reported history of childhood abuse. This might actually be good news for women with a history of childhood abuse as an operative vaginal birth may be experienced as a more traumatic experience than a CS during labour.

Health professionals working with women with fear of childbirth should be aware that childhood abuse significantly increases the risk of severe fear of childbirth during first pregnancy. Midwives and obstetricians, being experts on childbirth, may easily focus on the aspects of labour and birth, providing additional information and/or individualised care plans when trying to help women with fear of childbirth. Although this approach may be beneficial, women with a history of childhood abuse may additionally require other professional help to deal with the psychopathologic sequelae they may have as a result of abuse in childhood. As for all women, it is important to make every effort to give women with a history of childhood abuse a good birth experience.

5.5. Future research

The association between a history of childhood abuse and fear of childbirth deserves further research, preferably a longitudinal study using a validated instrument for measuring fear of childbirth and childhood abuse as well as a validated instrument to measure the birth experience.

A study using a more precise measurement of the common complaints in pregnancy might show more clearly the association between childhood abuse and these minor disorders of pregnancy. Our study only showed that women with a history of childhood abuse suffered a greater number of these subjective complaints. We lack information about whether there is a difference between women with and without childhood abuse in the intensity and in the length of the period women suffer from these complaints.

Childhood abuse and mode of delivery should be further investigated in larger prospective cohort studies, as there are few studies which have investigated this research question and the literature remains inconsistent.

Several questions remain unanswered about the relationship between a history of childhood abuse and fear of childbirth for multiparous women. Does a history of childhood

abuse increase the risk of a poor birthing experience? What role do expectations play in the experience of fear of childbirth and the birth experience of women with a history of childhood abuse? The results of paper III and IV also raise the question how to prevent women with a history of childhood abuse from having a negative birth experience and what elements a better than expected or really positive birth experience consists of for these women. Studies are needed to assess what kind of intervention could reduce fear of childbirth among women with a history of childhood abuse.

6. Errata

Paper I

The missing data in table 1 (page 193) for the variable smoking among women reporting sexual abuse in childhood *should be* No smoking 3,111 (80.4%), Sometimes 197 (5.1) and Daily 557(14.4%). In

Table 4 (page 196) 1,167 women with <4 years of higher education *should be* >4years as printed.

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8. Appendices

Bidens study

The letter of information about the study

The consent form in the Bidens study

The questionnaire in the Bidens study

Approval from the ethics committee

Approval from the data inspectorate

Moba study

The questionnaires are extensive and easily accessible and therefore not included in full in this thesis. They can be found at the following website:

http://www.fhi.no/eway/default.aspx?pid=233&trg=MainArea_5661&MainArea_5661=5631:0:15,2301:1:0:0:::0:0

The letter of information and consent form can be found at the following website (at the bottom of the page):

http://www.fhi.no/eway/default.aspx?pid=233&trg=MainArea_5661&MainArea_5661=5631:0:15,2297:1:0:0:::0:0



Svangerskap og fødsel — glede eller angst?

Informasjon og forespørsel om deltakelse i en europeisk vitenskapelig undersøkelse

Svangerskapet er for de fleste en god opplevelse, men for noen overskygges forventningene av bekymringer og endog angst for fødselen. Forskningsprosjektet om svangerskap og fødsel har til formål å finne ut hvor mange gravide som har engstelse og bekymringer for fødselen. Vi vil også studere årsakene til dette.

Din deltakelse består i å fylle ut vedlagte spørreskjema og samtykkeerklæring. De kan så innsendes i den vedlagte frankerte konvolutt. Vi anbefaler at du fyller skjemaet på et rolig sted der du kan sitte litt for deg selv og være uforstyrret. Den informasjonen du gir oss er kun til forskning og blir ikke formidlet videre til noen. Alle opplysninger vil bli behandlet konfidensielt. Samtykkeerklæringen holdes atskilt fra spørreskjemaet slik at ingen av de som arbeider med dataene kan identifisere svarene på skjemaet. Det løpenummeret som står på spørreskjemaet er kun til bruk ved koding og punching av data.

Vi vil senere hente opplysninger om fødselsforløpet fra sykehusjournalen og fra Medisinsk fødselsregister. All personidentifikasjon og koblingen til personnummeret slettes ved studiens slutt i 2010. Det er frivillig å delta og du kan trekke deg fra undersøkelsen og be om at data slettes inntil data anonymiseres.

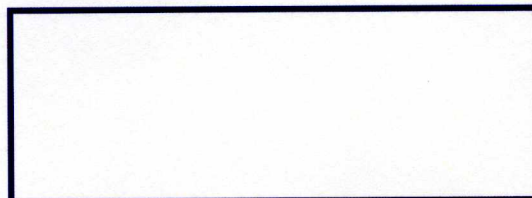
Forskningsprosjektet ledes av professor Berit Schei ved NTNU og professor Pål Øian ved Universitetet i Tromsø. Om du har spørsmål angående studien kan du ringe koordinator og stipendiat Mirjam Lukasse tlf. 23 07 26 45 eller sende en e-post til bidens@ism.uit.no.

Undersøkelsen er et samarbeid mellom Institutt for samfunnsmedisin ved Universitetet i Tromsø, Institutt for samfunnsmedisin ved NTNU og de deltakende sykehus. Prosjektet er finansiert med midler fra Norske Kvinners Sanitetsforening og offentlige institusjoner og er del av et EU prosjekt. Denne undersøkelsen, Bidens-studien, vil samtidig foregå i Belgia, Estland, Island, Sverige og Danmark. Undersøkelsen har konsesjon for lagring av data gitt av personvernombudet (NSD). Regional komité for medisinsk forskningsetikk, Nord-Norge (REK Nord) har godkjent prosjektet.

Med vennlig hilsen

Thomas Åbyholm
Klinikkssjef

Mirjam Lukasse
Fag- og forskningsjordmor



Samtykkeerklæring

Jeg har lest informasjonen om Bidens-studien "Svangerskap og fødsel — glede eller angst?" og samtykker i å delta. Jeg tillater at informasjonen jeg har gitt ved å fylle ut spørreskjemaet kobles opp til informasjon fra pasientjournal og Medisinsk fødselsregister.

.....

Underskrift

Bidens



Belgia, Island, Danmark, Estland, Norge og Sverige

Finn et sted hvor du kan sitte i ro og fred. Besvar hvert spørsmål så godt som mulig uten å fundere så mye. Hvis du ikke finner et alternativ som passer helt med det du helst ville ha svart, velg da det som ligger nærmest det du ville ha svart. Både positive og negative svar er like viktige.



Skjemaet skal leses av en maskin. Det er derfor viktig at du legger vekt på følgende ved utfyllingen:

- Bruk blå eller sort kulepenn
- I de små avkrysningsboksene setter du ett kryss slik
- Hvis du mener at du har satt kryss i feil boks, kan du rette det ved å fylle boksen helt, slik
- Tallboksene har to eller flere ruter. Når du skriver et ett-sifret tall bruker du den høyre ruten. Eksempel: 5 skrives slik

	5
--	---
- Vennligst skriv tydelig med store bokstaver når du skriver fritt

Dag	Måned	År

DATO FOR UTFYLING AV SKJEMAET

1. OM HELSEN DIN

1.01 **Hvordan vurderer du din helse sånn i alminnelighet? Vil du si at den er**

- Svært god
 Ganske god
 Ganske dårlig
 Svært dårlig

1.02 **Hvor mange ganger har du oppsøkt lege de siste 12 måneder? Ett kryss**

- 0 ganger
 1–3 ganger
 4–6 ganger
 7 eller flere ganger

1.03 **Har du vært sykmeldt eller ikke vært i stand til å utføre dine daglige gjøremål i flere enn to uker sammenlagt de siste 12 måneder?**

- Nei Ja

Hvis JA, antall uker (sammenlagt omtrent)

--	--

1.04 **Har du vært innlagt på sykehus de siste 12 måneder? Unntatt i forbindelse med fødsel!**

- Nei Ja

Hvis JA, antall dager (sammenlagt omtrent)

--	--

1.05 **Har du pga egne problemer noensinne hatt kontakt med psykiater eller psykolog? Ett kryss**

- Nei
 Ja, tidligere, men ikke i løpet av det siste året
 Ja, i løpet av det siste året, før jeg ble gravid
 Ja, i løpet av det siste året, etter at jeg ble gravid

1.06 **Har du røykt/røyker du daglig? Ett kryss**

- Ja, nå
 Ja, tidligere
 Aldri

1.07 **Hvor ofte drikker du alkohol?**

- Aldri
 Av og til
 Regelmessig
 Ikke siden jeg har visst at jeg er gravid





1.08 **Kryss av for ditt forbruk av medisiner i løpet av det siste året** Ett kryss pr. linje

	Aldri	En sjelden gang	Kort periode	Lengre periode	Fast
Sovetabletter.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Smertestillende.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Beroligende medisin.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Medisin mot depresjon.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Annen medisin for psykiske problemer.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

1.09 **Var dette svangerskapet planlagt?**

Nei Ja

1.11 **Er du gravid med mer enn ett barn (tvillinger eller flere)?**

Nei Ja

1.10 **I hvilken svangerskapsuke er du nå?**

Antall uker

2. HVILKE FORVENTNINGER HAR DU TIL DIN KOMMENDE FØDSEL?

De neste spørsmål handler om ulike følelser og tanker kvinner kan ha i tiden før fødselen. Svaret på hvert spørsmål er konstruert som en skala fra 0 til 5. Endepunktene på skalaen (0 og 5) tilsvarer de motsatte ytterlighetene av én bestemt følelse eller tanke.

Legg merke til at svarene er formulert slik at i noen tilfeller betyr "særdeles" noe særdeles positivt, mens det for andre spørsmål betyr noe særdeles negativt. For hvert enkelt spørsmål må du derfor tenke gjennom hvilket tall du krysser av for!

Kryss av for det tallet som best svarer til hvordan du forestiller deg at fødselen din kommer til å bli. Svar slik du nå forestiller deg at fødselen din kommer til å bli – ikke slik du håper at den vil bli!

2.01 **Hvordan tror du at fødselen din kommer til å bli som helhetsopplevelse?**

	0	1	2	3	4	5	
Særdeles fantastisk.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Ikke fantastisk i det hele tatt
Særdeles forferdelig.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Ikke forferdelig i det hele tatt

2.02 **Hvordan tror du at du kommer til å føle deg under fødselen?**

	0	1	2	3	4	5	
Særdeles ensom.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Ikke ensom i det hele tatt
Særdeles sterk.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Ikke sterk i det hele tatt
Særdeles sikker.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Ikke sikker i det hele tatt
Særdeles redd.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Ikke redd i det hele tatt
Særdeles utlevert.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Ikke utlevert i det hele tatt
Særdeles svak.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Ikke svak i det hele tatt
Særdeles trygg.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Ikke trygg i det hele tatt
Særdeles selvstendig.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Ikke selvstendig i det hele tatt
Særdeles oppgitt.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Ikke oppgitt i det hele tatt
Særdeles anspent.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Ikke anspent i det hele tatt
Særdeles glad.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Ikke glad i det hele tatt
Særdeles stolt.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Ikke stolt i det hele tatt
Særdeles forlatt.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Ikke forlatt i det hele tatt
Særdeles fattet.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Ikke fattet i det hele tatt
Særdeles avslappet.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Ikke avslappet i det hele tatt
Særdeles lykkelig.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Ikke lykkelig i det hele tatt



2.03 **Hva tror du at du kommer til å føle under fødselen?**

	0	1	2	3	4	5	
Ekstrem panikk.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Ikke panikk i det hele tatt
Ekstrem håpløshet.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Ikke håpløshet i det hele tatt
Særdeles stor lengsel etter barnet.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Ikke lengsel etter barnet i det hele tatt
Særdeles stor selvtillit.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Ikke selvtillit i det hele tatt
Særdeles stor tillit.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Ingen tillit i det hele tatt
Ekstrem smerte.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Ikke noen smerte i det hele tatt

2.04 **Hva tror du kommer til å skje når fødselen er på sitt mest intense?**

	0	1	2	3	4	5	
Oppfører meg særdeles ille.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Oppfører meg ikke ille i det hele tatt
Våger å overgi meg helt til det som skjer i kroppen.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Våger ikke i det hele tatt å overgi meg til det som skjer i kroppen
Mister totalt selvkontrollen.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Mister ikke selvkontrollen i det hele tatt

2.05 **Hvordan tror du det kommer til å føles idet barnet kommer ut?**

	0	1	2	3	4	5	
Særdeles flott.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Ikke flott i det hele tatt
Særdeles naturlig.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Ikke naturlig i det hele tatt
Særdeles selvsagt.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Ikke selvsagt i det hele tatt
Særdeles farlig.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Ikke farlig i det hele tatt

2.06 **Har du i den siste måneden hatt...**

...fantasier om at barnet dør under fødselen?	0	1	2	3	4	5	
Aldri.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Svært ofte
...fantasier om at barnet blir skadet under fødselen?	0	1	2	3	4	5	
Aldri.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Svært ofte

3. OM ULIKE OPPLEVELSER

Følgende spørsmål handler om overgrep i helsevesenet. Vi ber deg krysse av hvis du har vært utsatt for en eller flere av følgende hendelser, som barn eller voksen. Svarer du ja på noen av spørsmålene 3.01–3.03, regner vi – i denne undersøkelsen – dette som at du har vært utsatt for overgrep i helsevesenet.

3.01 **Har du innen helsevesenet noen gang vært utsatt for grov fornædrelse eller krenkelse, følt at noen har presset deg eller ikke vist respekt for dine synspunkter – slik at du i ettertid har vært plaget av det som skjedde?** Ett kryss

- Nei
- Ja, som barn (yngre enn 18 år)
- Ja, som voksen (18 år eller eldre)
- Ja, både som barn og voksen

3.02 **Har du noen gang opplevd at en "normal" hendelse innen helsevesenet plutselig har blitt til en veldig ekkel opplevelse uten at du riktigt forstod hvordan det ble slik?** Ett kryss

- Nei
- Ja, som barn (yngre enn 18 år)
- Ja, som voksen (18 år eller eldre)
- Ja, både som barn og voksen

3.03 Har du opplevd at noen innen helsevesenet med vilje (slik du oppfattet det) har forgrepet seg fysisk eller psykisk, misbrukt deg, utnyttet kroppen din eller ditt avhengighetsforhold til egen fordel? Ett kryss

- Nei
- Ja, som barn (yngre enn 18 år)
- Ja, som voksen (18 år eller eldre)
- Ja, både som barn og voksen

Om du har svart ja på noen av spørsmålene 3.01–3.03, fortsetter du med spørsmål 3.04
Du som har svart nei på spørsmålene 3.01–3.03, kan gå direkte til spørsmål 3.06

3.04 Har du opplevd noe slikt i løpet av de siste 12 månedene?

- Nei Ja

3.05 Hvor mye plages du nå av å ha opplevd overgrep innen helsevesenet? Svar ved å sette kryss ved det tallet som best tilsvarende hvor alvorlig plagene er

Ingen plager 0 1 2 3 4 5 6 7 8 9 10 Alvorlige plager

3.06 Har du i løpet av de siste 12 måneder opplevd noe av det følgende? Hvis ja, hvor vondt eller vanskelig var det for deg?

	Hvis ja				
	Nei	Ja	Ikke så ille	Vondt/ vanskelig	Veldig vondt/ vanskelig
Blitt skilt, separert eller avbrutt samlivet.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Hatt alvorlige samlivsproblemer.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Hatt problemer eller konflikter med familie, venner eller naboer.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Hatt problemer på arbeidsplassen eller der du utdanner deg.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Hatt økonomiske problemer.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Vært alvorlig syk eller skadet.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Vært utsatt for trafikkulykke, brann eller innbrudd/tyveri.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
En av dine nærmeste har vært alvorlig syk eller skadet.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mistet en nær pårørende/venn.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Annet:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Følgende spørsmål handler om psykiske overgrep. Vi ber deg markere om du har vært utsatt for en eller flere av følgende hendelser, som barn eller voksen. Svarer du ja på noen av spørsmålene mellom 3.07–3.09, regner vi dette – i denne undersøkelsen – som du har vært utsatt for psykisk overgrep.

3.07 Har du opplevd at noen systematisk og over lengre tid har forsøkt å kue, fornære eller ydmyke deg?

Ett kryss

- Nei
- Ja, som barn (yngre enn 18 år)
- Ja, som voksen (18 år eller eldre)
- Ja, både som barn og voksen

3.09 Har du opplevd at noen systematisk og med trusler eller tvang har forsøkt å begrense din kontakt med andre eller helt har regulert hva du får lov eller ikke får lov til å gjøre?

Ett kryss

- Nei
- Ja, som barn (yngre enn 18 år)
- Ja, som voksen (18 år eller eldre)
- Ja, både som barn og voksen

3.08 Har du opplevd å leve i redsel på grunn av at noen systematisk og over lengre tid har truet eller forsøkt å skade deg eller noen som står deg nær?

Ett kryss

- Nei
- Ja, som barn (yngre enn 18 år)
- Ja, som voksen (18 år eller eldre)
- Ja, både som barn og voksen

Om du har svart ja på noen av spørsmålene 3.07–3.09, fortsetter du med spørsmål 3.10
Du som har svart nei på spørsmålene 3.07–3.09, kan gå direkte til spørsmål 3.12

3.10 Har du vært utsatt for noe av dette i løpet av de siste 12 måneder?

- Nei Ja

3.11 **Hvor store plager har du nå som følge av de psykiske overgrepene du har opplevd?** Svar ved å sette kryss ved tallet som best tilsvarer hvor alvorlig plagene er



Ingen plager 0 1 2 3 4 5 6 7 8 9 10 Alvorlige plager



Følgende spørsmål handler om kroppslige overgrep. Vi ber deg krysse av hvis du har opplevd noe av det følgende som barn eller voksen. Svarer du ja på noen av spørsmålene 3.12–3.14, regner vi – i denne undersøkelsen – dette som at du har vært utsatt for kroppslige overgrep.

3.12 **Har du opplevd at noen har slått deg, gitt deg en ørefik eller tatt hardt i deg?** Ett kryss

- Nei
- Ja, som barn (yngre enn 18 år)
- Ja, som voksen (18 år eller eldre)
- Ja, både som barn og voksen

3.14 **Har du opplevd at noen har truet deg slik at du har følt deg i livsfare, ved f.eks. å forsøke å kvele deg, vise frem våpen/kniv, eller noe liknende?** Ett kryss

- Nei
- Ja, som barn (yngre enn 18 år)
- Ja, som voksen (18 år eller eldre)
- Ja, både som barn og voksen

3.13 **Har noen slått deg med knyttneve, med en hard gjenstand, sparket deg, skubbet til deg på en voldsom måte, banket deg opp, eller gjort noe liknende?**

Ett kryss

- Nei
- Ja, som barn (yngre enn 18 år)
- Ja, som voksen (18 år eller eldre)
- Ja, både som barn og voksen

Om du har svart ja på noen av spørsmålene 3.12–3.14, fortsetter du med spørsmål 3.15

Du som har svart nei på spørsmålene 3.12–3.14, kan gå direkte til spørsmål 3.17

3.15 **Har du opplevd noe slikt i løpet av de siste 12 månedene?**

- Nei
- Ja

3.16 **Hvor mye plages du nå som følge av de kroppslige overgrepene?** Svar ved å sette kryss ved det tallet som best tilsvarer hvor alvorlig plagene er

Ingen plager 0 1 2 3 4 5 6 7 8 9 10 Alvorlige plager

Følgende spørsmål handler om seksuelle overgrep. Vi ber om at du krysser av hvis du har opplevd noen av de følgende hendelsene, som barn eller voksen. Svarer du ja på noen av spørsmålene 3.17–3.20, regner vi det – i denne undersøkelsen – som at du har vært utsatt for seksuelle overgrep.

3.17 **Har noen mot din vilje befølt kjønnsorganet ditt, brukt kroppen din for å tilfredsstille seg selv eller tvunget deg til å ta på noens kjønnsorgan?** Ett kryss

- Nei
- Ja, som barn (yngre enn 18 år)
- Ja, som voksen (18 år eller eldre)
- Ja, både som barn og voksen

3.19 **Har noen mot din vilje berørt deg på andre kroppsdeler på en "seksuell måte", eller tvunget deg til å berøre andre deler av hans eller hennes kropp på en "seksuell måte"?** Ett kryss

- Nei
- Ja, som barn (yngre enn 18 år)
- Ja, som voksen (18 år eller eldre)
- Ja, både som barn og voksen

3.18 **Har noen hatt samleie med deg mot din vilje (dvs. ført penis inn i din skjede, munn eller endetarm), eller forsøkt å ha samleie med deg, ført inn eller forsøkt å føre inn gjenstander eller andre kroppsdeler i din skjede, munn eller endetarm?** Ett kryss

- Nei
- Ja, som barn (yngre enn 18 år)
- Ja, som voksen (18 år eller eldre)
- Ja, både som barn og voksen

3.20 **Har du noen gang blitt seksuelt fornedt, f.eks. at du mot din vilje måtte se en pornofilm eller liknende, måtte medvirke i en pornofilm eller liknende, måtte vise din kropp frem naken, eller måtte se på en annen som viste seg frem naken?** Ett kryss

- Nei
- Ja, som barn (yngre enn 18 år)
- Ja, som voksen (18 år eller eldre)
- Ja, både som barn og voksen



Om du har svart ja på noen av spørsmålene 3.17–3.20, fortsetter du med spørsmål 3.21
Du som har svart nei på spørsmålene 3.17–3.20, kan gå direkte til spørsmål 4.01

3.21 Har du opplevd noe slikt i løpet av de siste 12 månedene?

Nei Ja

3.22 Hvor store er dine plager nå som følge av de seksuelle overgrepene? Svar ved å sette kryss ved tallet som best tilsvarer hvor alvorlig plagene er

Ingen plager 0 1 2 3 4 5 6 7 8 9 10 Alvorlige plager

4. LITT OM BAKGRUNNEN DIN

4.01 Hvor gammel er du?

Antall år

4.02 Hva er din sivilstand? Ett kryss

Ektefelle/samboer
 Enslig
 Annet:

4.03 Har du noen utenom din ektefelle/samboer/partner som du virkelig kan betro deg til? Ett kryss

Nei
 Ja, 1–2 personer
 Ja, flere enn to personer

4.04 Er ditt morsmål norsk? Ett kryss

Ja
 Nei
Hvis nei, hva er ditt morsmål?:

4.05 Hvilken utdanning har du? Ett kryss

Grunnskole, ungdomsskole (6-9 år)
 Videregående skole eller gymnas (10-13 år)
 Høgskole eller universitet, mindre enn 4 år (inntil 15 år)
 Høgskole eller universitet, 4 år eller mer (mer enn 15 år)

4.06 Hva er din hovedaktivitet? Ett kryss

Lønsmottaker
 Selvstendig næringsdrivende/frilanser
 Under utdanning
 Barsel/svangerskapspermisjon
 Hjemmевærende
 Arbeidsledig
 Uføretrygdet/attføring

4.07 Dersom du fikk en uventet regning på 23.500 kr, hvor lett ville det være å betale den i løpet av en uke? Ett kryss

Ingen problemer
 Litt vanskelig
 Meget vanskelig

5. NOEN FLERE SPØRSMÅL OM DIN GENERELLE HELSE

5.01 Har du i løpet av de siste 12 måneder hatt ulike kroppslige plager som vondt i magen, hodepine, svimmelhet, muskelverk av en slik grad at du har hatt vansker med å fungere i dagliglivet? Ett kryss

Nei
 Ja, men sjelden
 Ja, av og til
 Ja, ofte

5.02 Har du i løpet av de siste 12 måneder hatt så sterk angst at du har hatt problemer med å fungere i dagliglivet? Ett kryss

Nei
 Ja, en sjelden gang
 Ja, av og til
 Ja, ofte

5.03 Har du i løpet av de siste 12 måneder opplevd at ubehagelige minner har trengt seg på og forstyrret deg uten at du har kunnet gjøre noe med det? Ett kryss

Nei
 Ja, men sjelden
 Ja, av og til
 Ja, ofte

5.04 Har du i løpet av de siste 12 måneder bevisst unngått situasjoner for å slippe ubehagelige minner eller følelser, på en slik måte at det har hindret deg i å gjøre det du vil? Ett kryss

Nei
 Ja, men sjelden
 Ja, av og til
 Ja, ofte

5.05 Har du i løpet av **de siste 12 måneder** opplevd en minsket evne til å kjenne følelser over en lengre periode?

Ett kryss

- Nei
- Ja, men sjelden
- Ja, av og til
- Ja, ofte



5.07 Føler du deg ensom? Ett kryss

- Aldri
- Sjelden
- Av og til
- Som regel
- Nesten alltid



5.06 Har du i løpet av **den siste uken** hatt noen av disse følelsene

Følt deg nedfor eller ulykkelig.....

Vært nervøs eller bekymret uten grunn.....

Vært så ulykkelig at du har hatt vanskeligheter med å sove.....

Bebreidet deg selv uten grunn når noe gikk galt.....

Kunnet glede deg til ting som skulle skje.....

Ja, nesten hele tiden

Ja, av og til

Ikke særlig ofte

Nei aldri

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

6. NOEN FLERE SPØRSMÅL OM SVANGERSKAPET DITT

6.01 Hvordan ønsker du å føde? Ett kryss

- Vaginalt
- Trolig vaginalt
- Trolig keisersnitt
- Keisersnitt

6.04 Hvor mange barn har du født?

Antall barn.....

6.05 Hvor mange barn lever i dag?

Antall barn.....

6.02 Har du vært til samtaler i forbindelse med redsel for å føde?

- Nei
- Ja, i dette svangerskapet
- Ja, før dette svangerskapet

6.06 Har du noen gang hatt en spontan abort?

- Nei Ja

Hvis JA, antall ganger.....

6.03 Har du vært gravid tidligere? [Dette gjelder også svangerskap som endte med abort eller dødfødsel]

- Nei, Gå direkte til spørsmål 9.01
- Ja, Fortsett nedenfor

6.07 Har du noen gang hatt en provosert abort?

- Nei Ja

Hvis JA, antall ganger.....

7. OM DIN FØRSTE FØDSEL

7.01 Hvor gammel var du da du fikk ditt første barn?

Alder.....

7.02 Var det en tvilling-/flerlingfødsel?

- Nei Ja

7.03 Hvordan fødte du første gang?

- Normal vaginal
- Planlagt keisersnitt
- Akutt keisersnitt
- Vakuum
- Tang
- Sete vaginal



7.04 Hvordan opplevde du din første fødsel? Ett kryss

- En udelt positiv opplevelse
- En overveiende positiv opplevelse, men med negative elementer
- En overveiende negativ opplevelse, men med positive elementer
- En udelt negativ opplevelse



8. OM DIN SISTE FØDSEL

8.01 Hvor gammel var du da du fikk ditt siste barn?

Alder

8.02 Var det en tvilling-/flerlingfødsel?

Nei Ja



8.03 Hvordan fødte du siste gang?

- Normal vaginal
 Planlagt keisersnitt
 Akutt keisersnitt
 Vakuum
 Tang
 Sete vaginal



8.04 Hvordan opplevde du din siste fødsel? Ett kryss

- En udelt positiv opplevelse
 En overveiende positiv opplevelse, men med negative elementer
 En overveiende negativ opplevelse, men med positive elementer
 En udelt negativ opplevelse

9. OM FØDSEL

9.01 Har du andre opplevelser knyttet til svangerskap og fødsel som er viktige?

Nei Ja

Hvis JA, vennligst spesifiser:

Om du trenger med plass skriv det under kommentarer

TIL SLUTT

Har du kommentarer til de spørsmålene vi har stilt, vil vi gjerne at du skriver dem ned på neste side. Om du etter å ha fylt ut dette skjemaet kjenner behov å snakke med noen, anbefaler vi at du tar kontakt med din egen fastlege, gynekolog eller kommunejordmor, eller du kan ringe poliklinikken ved det sykehuset der du har fått fødeplass. Har du spørsmål om studien, kan du ta kontakt med stipendiat Mirjam Lukasse (jordmor) på tlf 23 07 26 45 eller sende en e-post til bidens@ism.uit.no

Kommentarer

Legg det utfylte spørreskjema i den vedlagte svarkonvolutten og postlegg den så snart som mulig!
Porto er betalt. Hjertelig takk for hjelpen!



Eiliv Lund
ISM
Med fak
UiT
9037 TROMSØ

Deres ref.: 5.2006.2122

Vår ref.: 200603553-7/IA Y/400

Dato: 29.08.2007

**P REK NORD 72/2006 NÅR REDSELEN TAR OVERHÅND - EN STUDIE OM
FØDSELSANGST, LIVSHENDELSER OG FØDSELSFORLØP - SLUTTVURDERING
- PROSJEKTET GODKJENNES**

Vi viser til ditt brev av 26.7.2007, samt reviderte versjoner av forespørsler om deltakelse og prosedyrebeskrivelse innsendt som vedlegg til e-brev 5.8.2007.

Saken er vurdert av komiteens leder 28.8.2007.

Det tas til etterretning at du overtar som prosjektleder for prosjektet.

For øvrig tas tilbakemeldingen på komiteens merknader til prosjektet i møtet 15.6.2006 til etterretning.

Regional komité for medisinsk og helsefaglig forskningsetikk, Nord-Norge (REK Nord) godkjenner prosjektet.

Det forutsettes at prosjektet er godkjent av andre aktuelle instanser før det settes i gang.

Det forutsettes at prosjektet forelegges komiteen på nytt, dersom det under gjennomføringen skjer komplikasjoner eller endringer i de forutsetninger komiteen har basert sin avgjørelse på.

Komiteen ber om å få melding dersom prosjektet ikke blir slutført.

Vennlig hilsen

Ingunn Ytrehus
førstekonsulent
77645347

**REGIONAL KOMITÉ FOR MEDISINSK OG HELSEFAGLIG FORSKNINGSETIKK, NORD-NORGE
REK NORD**

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Vår dato: 16.10.2007

Vår ref: 15214 / 2 / KH

Deres dato:

Deres ref:

TILBAKEMELDING PÅ BEHANDLING AV PERSONOPPLYSNINGER

Vi viser til melding om behandling av personopplysninger, mottatt 25.08.2006. All nødvendig informasjon om prosjektet forelå i sin helhet 15.10.2007. Meldingen gjelder prosjektet:

15214	<i>Svangerskap og fødsel - glede eller angst?</i>
Behandlingsansvarlig	<i>Universitetet i Tromsø, ved institusjonens overste leder</i>
Daglig ansvarlig	<i>Eiliv Lund</i>

Personvernombudet har vurdert prosjektet og finner at behandlingen av personopplysninger utløser konsesjonsplikt i henhold til personopplysningsloven § 33 1. ledd.

I henhold til avtalen med *Universitetet i Tromsø* er meldingen behandlet og innstilling sendt til Datatilsynet for vurdering av konsesjonsspørsmålet. Det er anbefalt at prosjektet gis konsesjon. Kopi av vår innstilling til Datatilsynet følger vedlagt.

Det gjøres oppmerksom på at det skal gis ny melding dersom behandlingen endres i forhold til de opplysninger som ligger til grunn for personvernombudets vurdering. Endringsmeldinger gis via et eget skjema, http://www.nsd.uib.no/personvern/melding/pvo_endringsskjema.cfm. Det skal også gis melding etter tre år dersom prosjektet fortsatt pågår. Meldinger skal skje skriftlig til ombudet.

Personvernombudet har lagt ut opplysninger om prosjektet i en offentlig database, <http://www.nsd.uib.no/personvern/register/>


Personvernombudet vil ved prosjektets avslutning, 31.12.2010, rette en henvendelse angående status for behandlingen av personopplysninger.

Personvernombudet gjør oppmerksom på at datainnsamling ikke kan startes før konsesjon fra Datatilsynet foreligger.

Dersom noe er uklart ta gjerne kontakt over telefon.

Vennlig hilsen


Bjørn Henrichsen


Kjersti Håvardstun

Kontaktperson: Kjersti Håvardstun tlf: 55 58 29 53
Vedlegg: Prosjektvurdering



Prosjektet inngår som en del av en EU-finansiert studie, hvor resultatene fra de deltagende land skal sammenlignes. Prosjektet gjennomføres som et samarbeid mellom Universitetet i Tromsø (UiT), NTNU og deltagende sykehus. Mirjam Lukasse er ansatt som stipendiat på prosjektet, og datamaterialet vil inngå i hennes doktorgrad ved Universitetet i Tromsø. Personvernombudet forstår det slik at Universitetet i Tromsø ved professor Eiliv Lund er behandlingsansvarlig for den norske studien, som skal gjennomføres ved de fem norske sykehusene: Universitetssykehuset Nord-Norge (UNN), St. Olavs Hospital, Rikshospitalet, Ålesund sykehus og Buskerud sykehus HF. Ombudet forutsetter at denne behandling/ansvarsfordeling formelt er avklart mellom institusjonene og anbefaler at det utarbeides en avtale som bl.a. omfatter ansvarsfordeling, ansvarsstruktur, hvem som initierer prosjektet, bruk av data og ev. eierskap.

Studien skal koble egne data til data fra Medisinsk fødselsregister og er derfor konsesjonspliktig.

FORMÅL

Formålet med prosjektet er å undersøke om traumatiske hendelser i barndom og voksen alder fører til en økt risiko for fødselsangst, og om kvinner med fødselsangst som følge av tidligere traumatiske hendelser har økt risiko for instrumentell forløsning. Erfaringene fra undersøkelsene kan bli brukt til å bedre svangerskapsomsorgen for den enkelte kvinne ved å øke kunnskapen hos hjelperne om fødselsangst og traumer som påvirker utfallet av fødselen. I tillegg er det et mål å spre opplysninger om temaet i befolkningen.

UTVALG OG INFORMASJON

Utvalget består av 2500 gravide første eller flergangsfødende over 18 år, cirka 500 ved hvert deltagende sykehus, jf. telefonsamtale med stipendiaten 01.10.2007. Med unntak av UNN rekrutteres de gravide ved den rutinemessige ultralydundersøkelsen i uke 18. Ved UNN sendes forespørselen ut i ettertid av ultralydundersøkelsen, jf. telefonsamtale 01.10.2007. Det legges til grunn at taushetsplikten ikke er til hinder for rekruttering av pasientene.

Det vil bli gitt skriftlig og muntlig informasjon om studien, og det innhentes skriftlig samtykke som omfatter alle deler av studien. Ombudet finner det reviderte informasjonsskrivet av 07.09.2007 tilfredsstillende forutsatt at det presiseres at prosjektet varer til utgangen av 2010, og at man er underlagt taushetsplikt.

Ombudet anbefaler at samtykkeerklæringen formuleres slik at det tydelig fremgår at man tillater at data hentes fra pasientjournal og Medisinsk fødselsregister. Vi ber om at endelig revidert skriv og erklæring ettersendes for gjennomlesing.

DATA

Opplysningene innhentes gjennom manuelle spørreskjema og pasientjournal, eventuelt fra Medisinsk fødselsregister, se vedlagt e-post fra stipendiat. Kvinnene fyller ut et skjema i forkant av fødsel hvor det innhentes opplysninger om eventuelle tidligere overgrep og fødselsangst, samt diverse bakgrunnsopplysninger, se vedlegg. I etterkant av fødsel innhentes fra pasientjournalen/MFR opplysninger om fødselsforløp, eventuelle henvisninger om fødselsangst, samt opplysninger om barnet. Opplysningene er sensitive, jf. personopplysningslovens § 2 punkt 8 c). Det innhentes ikke opplysninger fra fastlege, jf. e-post fra stipendiat 07.09.2007.

Kobling til MFR vil foretas ved at prosjektleder sender kvinnenens fødselsnummer til MFR, som kobler til data og tilbakefører filen til prosjektleder.

Slik ombudet forstår det skal sykehusene samle inn spørreskjemadata og gjennomføre én purring. Det forutsettes at det foreligger databehandlingsavtaler med det enkelte norske sykehus, jf. personopplysningslovens § 15.

REGISTRERING OG OPPBEVARING

Opplysningene registreres på pc i nettverkssystem ved Universitetet i Tromsø, samt ved stipendiatens arbeidsplass ved Rikshospitalet. Ombudet forutsetter at dette er avklart mellom de to aktuelle institusjonene. De enkelte sykehusene oppbevarer koblingsnøkkelen i datainnsamlingsfasen, og oversendes etter hvert til UiT. Nøkkelen vil være elektronisk. Det er kun stipendiat Miriam Lukasse, veileder Eiliv Lund og Merethe Kumle som skal ha tilgang til datamaterialet og koblingsnøkkelen, jf. telefonsamtale 01.10.2007.

Datamaterialet anonymiseres ved prosjektslutt 31.12.2010. Med anonyme opplysninger menes opplysninger som ikke på noe vis kan identifisere enkeltpersoner i et datamateriale, verken direkte gjennom navn eller personnummer, eller gjennom navneliste/koblingsnøkkel, eller indirekte gjennom bakgrunnsvariabler. Koblingsnøkkel, samtykkeerklæringer og manuelle skjema slettes/makuleres, indirekte personidentifiserbare opplysninger slettes eller grovkategoriseres.

ANDRE TILLATELSER

Prosjektet er tilrådd av Regional komité for medisinsk forskningsetikk, REK Nord.

KOMMENTAR/ANBEFALING

Ombudet finner at prosjektets formål faller inn under formålet til MFR, jf. medisinsk fødselsregisterforskriften §1 - 3. Videre at prosjektet har hjemmel i personopplysningsloven §§ 8 første ledd og 9 a). Ombudet anbefaler at prosjektet gis konsesjon med hjemmel i helseregisterlovens § 5, jf. personopplysningslovens § 33.

