MENTAL HEALTH, FETAL GROWTH AND CHILDBIRTH

SAMANTHA SALVESEN ADAMS

HEALTH SERVICES RESEARCH CENTRE, AKERSHUS UNIVERSITY HOSPITAL, NORWAY

&

Institute of Clinical Medicine, Campus Ahus, Faculty of Medicine, University of Oslo, Norway

PHD THESIS, FACULTY OF MEDICINE, UNIVERSITY OF OSLO, NORWAY

2012



© Samantha Salvesen Adams, 2012

Series of dissertations submitted to the Faculty of Medicine, University of Oslo No. 1462

ISBN 978-82-8264-499-0

All rights reserved. No part of this publication may be reproduced or transmitted, in any form or by any means, without permission.

Cover: Inger Sandved Anfinsen. Printed in Norway: AIT Oslo AS.

Produced in co-operation with Akademika publishing. The thesis is produced by Akademika publishing merely in connection with the thesis defence. Kindly direct all inquiries regarding the thesis to the copyright holder or the unit which grants the doctorate.

To Amandus, Albert and Axeline

"All thing I thought I knew, but now confess; the more I know I know, I know the less"

- John Owen (1616 – 1683)

TABLE OF CONTENTS

ACKNOWLEDGEMENTS	s
LIST OF PAPERS	5
1.0 INTRODUCTION	7
2.0 BACKGROUND	7
2.1 Why might mental health affect pregnancy?	7
2.2 Measuring mental health	9
2.3 Mental health and pregnancy outcome; many pieces, but still the	
puzzle is not solved	12
3.0 STUDY OBJECTIVES	27
4.0 MATERIAL AND METHODS	27
4.1 The Norwegian Mother and Child Cohort Study	28
4.2 The Akershus Birth Cohort Study	38
5.0 SYNOPSIS OF THE STUDIES	46
5.1 Paper I	46
5.2 Paper II	47
5.3 Paper III	48
6.0 DISCUSSION	49
6.1 Main findings	49
6.2 Methodological considerations	49
6.3 Clinical implications	57
6.4 Future perspectives	59
7.0 CONCLUSION	59
DETAILS OF ETHICAL APPROVAL	60
FUNDING	60
REFERENCES	61
PAPERS I-III	
APPENDIX	

ACKNOWLEDGEMENTS

It would not have been possible to complete this thesis without the help and support of the kind people around me. Luckily I have been surrounded by the best, to only some of whom it is possible to give particular mention here.

Firstly, I would like to thank my supervisors, Professor Anne Eskild and MD PhD Malin Eberhard-Gran, for initiating my project and the Research Council of Norway for financing my doctoral thesis.

I will forever be thankful to my fantastic supervisor, Professor Anne Eskild. Your complete disregard for your own leisure time enabled me to finish my thesis in less than three years. Thank you for teaching, inspiring, trusting and encouraging me, and for being uniquely explicit in your feedback.

The initial plan for my thesis was to only use the Akershus Birth Cohort (ABC) study. When data collection for the ABC study was not yet complete when I started working on my thesis, MD PhD Malin Eberhard-Gran, my co-supervisor, swiftly organised access to the Norwegian Mother and Child Cohort Study. Malin continued to organise the data collection for the ABC study, a job I could have contributed to, whilst I was allowed to immediately start working with paper I. Thank you for your generosity and kindness along the way.

I would like to show my gratitude to Professor Dag Hofoss, co author of paper I, and MD Åse Roald Sandvik, co author of paper II. Professor Dag Hofoss introduced me to regression analysis and raised my initial confidence. MD Åse Roald Sandvik contributed with important clinical insight.

I am grateful to the Norwegian Institute of Public Health for have given me access to the Norwegian Mother and Child Cohort Study and the Medical Birth Registry of Norway.

I am thankful to the nurses, midwives and doctors at the Department of Obstetrics and Gynaecology at Akershus University Hospital for recruiting women to the ABC Study. I am especially thankful to midwife Tone Breines Simonsen who contributed immensely to the recruitment and follow up of the women in this study.

I am obliged to PhD Hilde Lurås, Professor Pål Gulbrandsen and my colleagues at the Health Services Research Centre (HØKH) for their encouragement and friendliness. I am especially grateful to my fellow PhD students at HØKH for celebrating my ups and, more importantly, listening to my worries. I deeply appreciate my many conversations with PhD Mathias Barra and MSc Hege Therese Størksen.

I would like to thank PhD Fredrik A. Dahl and PhD Jurate Saltyte-Benth. We eventually found our way and in the end your help was paramount.

I am thankful to the administrative staff, Nina Viksløkken Ødegård, Karin Anne Vassbakk and Reidun Skårerhøgda, for valuable help whenever needed.

I am grateful to the researchers at the Department of Obstetrics and Gynaecology at Akershus University Hospital for including me as one of them. Our meetings in Dr. Kobros vei were always fruitful.

I am tremendously thankful to may dearest parents, Henriette Salvesen and Christopher Adams, for their endless and unconditional support, and for being fantastic grandparents. I would like to thank my darling Tor Arnøy Austad for his personal support and great patience at all times. Thank you, Amandus, Albert and Axeline for introducing me to a new and wonderful world.

For any errors or inadequacies in this thesis, of course, the responsibility is entirely my own.

Oslo, November 2012 Samantha Salvesen Adams

LIST OF PAPERS

Paper I

Adams SS, Eberhard-Gran M, Hofoss D, Eskild A.

Maternal emotional distress in pregnancy and delivery of a small-for-gestational age infant.

Acta Obstetrica et Gynecologica Scandinavica 2011;90:1267-1273

Paper II

Adams SS, Eberhard-Gran M, Sandvik ÅR, Eskild A.

Mode of delivery and postpartum emotional distress: a cohort study of 55 814 women.

BJOG: An International Journal of Obstetrics & Gynaecology 2012;119:298-305

Paper III

Adams SS, Eberhard-Gran M, Eskild A.

Fear of childbirth and duration of labour: a study of 2206 women with intended vaginal delivery.

BJOG: An International Journal of Obstetrics & Gynaecology 2012; DOI: 10.1111/j.1471-0528.2012.03433.x.

ABBREVIATIONS

11β-HSD2 11 β-hydroxysteroid dehydrogenase type 2

BMI Body mass index

SGA Small-for-gestational age

HSCL-25 Hopkins Symptom Checklist-25

SCL-5 Symptom Checklist-5 SCL-8 Symptom Checklist-8

OR Odds ratio

CI Confidence interval

W-DEQ Wijma Delivery Expectancy Questionnaire

HSCL-58 Hopkins Symptom Checklist-58

SPSS Statistical Package for the Social Sciences

1.0 INTRODUCTION

Pregnancy and childbirth are major life events. Happiness, excitement or expectation may dominate, but also doubt, insecurity or distress. In some women the difficult emotions dominate, with possible implications for the pregnancy or childbirth¹. Previously, pregnancy was thought to be a period of mental wellbeing². However, in recent years there has been increased interest in maternal mental health and its possible implications for pregnancy.

Symptoms of poor mental health often appear before the age of 30, and sometimes already in childhood or adolescence³. The estimated lifetime risk of mental illness is 50%, with women being more affected than men³. Poor mental health is therefore common in the childbearing years. Pregnancy or childbirth may precipitate poor mental health or change an already existing mental illness.

From an obstetric point of view, mental health is important when it affects pregnancy or pregnancy outcome or requires additional obstetric resources. Thus, associations between mental health and pregnancy outcomes are important to study.

2.0 BACKGROUND

2.1 Why might mental health affect pregnancy?

a) Mental health and possible effects on maternal physiology

Mental stress is associated with physiological arousal and activation of the Hypothalamic-Pituitary-Adrenal (HPA) axis and the sympathetic branch of the Autonomic Nervous System (ANS)^{1,4,5}. This results in the release of glucocorticoid (cortisol) from the adrenal cortices, and catecholamines (adrenaline and noradrenaline) from the adrenal medulla and sympathetic nerve terminals¹.

In acute stress, the enzyme 11 β -hydroxysteroid dehydrogenase type 2 (11 β -HSD2) inactivates glucocorticoid in the placenta and fetal tissues ^{1,6,7}. Chronic stress is thought to inactivate 11 β -HSD2 and therefore increase fetal cortisol levels ^{1,6,7}. Chronic elevation of maternal stress hormone levels has also been associated with placental hypoperfusion ⁷. Elevated levels of fetal cortisol and placental

hypoperfusion may affect fetal development^{1,7}. Fetal vulnerability to maternal stress may vary across gestation¹. Antenatal mental health largely persists through pregnancy and delivery, and during labour elevated levels of maternal stress hormones may enervate uterine contractility^{4,5,8}.

b) Mental health and possible effects on maternal behaviour

Poor maternal self-care can increase the risk of poor pregnancy outcome⁹. Antenatal care programmes educate women on issues concerning pregnancy and childbirth, and facilitate timely diagnosis and treatment of complications⁹. Poor antenatal self-care or disregard of antenatal care programmes is therefore potentially harmful. Poor mental health is associated with poor medical compliance and poor self-care, such as an unsatisfactory diet or alcohol, tobacco or substance use^{1,9-12}. Pre-pregnancy body mass index (BMI) and weight gain in pregnancy reflect nutritional stores available for the fetus and are associated with offspring birthweight^{9,13}. Alcohol consumption during pregnancy can impair fetal growth or cause fetal alcohol syndrome¹⁴. Cigarette smoking suppresses appetite, impairs oxygen-carrying capacity and is associated with intrauterine growth restriction, placenta praevia, placental abruption, premature rupture of the membranes and preterm delivery^{15,16}. Maternal illicit drug use can directly or indirectly harm the fetus, the latter through its associated lifestyle⁹. Lower socioeconomic status and feeling little control over one's own life (a high external locus of control) have also been associated with reduced fetal growth 17-19.

c) Mental health and possible effects on communication

Communication between the pregnant woman and the hospital staff depends on communication skills on both parts^{20,21}. Poor mental health may impede communication skills³. Also, teaching of communication skills has not been prioritised in hospitals and any factor complicating communication between the patient and hospital staff may be considered bothersome²². Poor communication may delay or complicate obstetric care during pregnancy and/or delivery.

Further, communication skills are important in creating and maintaining social contacts³. Poor social support has been associated with adverse fetal development¹⁸.

Antenatal mental stress may also result in obstetric demands, such as for labour induction or elective caesarean delivery in the absence of obstetric indication¹.

Hence, associations between maternal mental health and pregnancy outcomes are plausible.

2.2 Measuring mental health

Poor mental health is common in the childbearing years³. In women, mood and anxiety disorders are the most common mental disorders³. Table 1 shows the lifetime and yearly risk of some mental disorders³. The prevalences of these disorders are relatively consistent throughout the western world, and are generally higher in urban than in rural areas³. Fear of childbirth is included here as a mental disorder. Fear of childbirth is, however, not uniformly defined ²³.

Table 1. Poor mental health: lifetime and yearly risk for men and women combined (www.fhi.no)³.

Mental condition	Lifetime risk	Yearly risk
Anxiety disorders	25%	15%
Mood disorders	20%	10%
Substance use	25%	15%
Personality disorders	5-10%	
Psychotic disorders	2-3%	
Eating disorders	1-2%	
Fear of childbirth (women only)	5-20% of pregnant women*	

^{*} Prevalence estimates of fear of childbirth depend on its definition.

Studying mental health requires reliable and valid measurements²⁴. Measures of mental health as used in previous studies, range from exposure to exceptional stressors to clinical interviews and can roughly be categorised on the following continuum of quality:

Table 2. Mental health measures and their quality in terms of validity.

Mental health measure	Examples	Quality of the mental health measure
Exposure to exceptional stressors defined by residing in a particular area at the time of impact.	 Olof Palme murder in Sweden (1986)²⁵ Hurricane Andrew (1992)²⁶ Sinking of the ferry Estonia (1994)²⁵ Extreme weather conditions in Quebec (1998)²⁷ 1999 Belgrade bombings²⁸ September 11th 2001 USA terrorist attacks²⁹⁻³² July 7th 2005 London terrorist attacks³³ Hurricane Katrina (2005)³⁴ 	Poor
Defined by belonging to a group.	 Being black in the USA³⁵ Being of low socioeconomic status³⁶ 	
Life events	 Definitions vary. Several instruments for measuring life events exist³⁷⁻³⁹. 	
Non validated questions	 Some studies have used non-validated questions to measure mental health⁴⁰. 	T
Validated psychometric instruments Clinical interviews	 Some examples are listed in Tables 3 and 4. Diagnosis is given according to ICD (International Classification of Diseases) or DSM (Diagnostic and Statistical Manual of 	Cond
	Mental Disorders) criteria.	Good

Clinical interviews are necessary for establishing mental health diagnoses, but in studies generally limit sample size. Defining mental health by exposure to extreme events facilitates large sample sizes but has low specificity. Life event measures also have low specificity for poor mental health, and non-validated questions may or may not identify poor mental health. Validated psychometric instruments in questionnaire studies facilitate large sample sizes and aim to have good specificity and sensitivity for poor mental health. Large study samples are necessary when studying associations between mental health and rare pregnancy outcomes with adjustment for confounding factors.

Numerous psychometric instruments exist, some of which are listed in Table 3^{3,41}. In comprehensive questionnaire studies, a shortage of space may require short psychometric instruments⁴². Hence, short versions have been developed for some psychometric instruments.

 $\underline{\textbf{Table 3.}} \ \textbf{Examples of psychometric instruments for the assessment of mental health (all are not validated).}$

Psychometric instrument Table 3. Examples of psychometric instruments for the assessment of mer Psychometric instrument	Mental health
The Hopkins Symptom Checklist-58 (HSCL-58) ⁴³	Psychological distress
Symptom Checklist-90 Revised (SCL-90-R) ⁴³	Psychological distress
Hospital Anxiety and Depression Scale (HADS) ⁴⁴	Anxiety and depression
Duke Anxiety and Depression Scale (DADS) ⁴¹	Anxiety and depression
Beck Depression Inventory (BDI) ^{41,43}	Depression
Center for Epidemiologic Studies Depression (CES-D) Scale ⁴¹	Depression
Zung Self-Assessment Depression Scale (SDS) ⁴¹	Depression
State Trait Anxiety Inventory (STAI) ⁴³	State anxiety and trait anxiety
Perceived Stress Scale (PSS) ⁴⁵	Perceived stress
Primary Care Evaluation of Mental Disorders (PRIME-MD) Patient Health Questionnaire (PHQ) ^{41,46}	Multiple mental health disorders
Mental Health Index (MHI) ⁴⁷	Mental health
General Health Questionnaire (GHQ) ⁴⁸	Mental health
Wijma Delivery Expectancy/Experience Questionnaire (W-DEQ) ⁴⁹	Fear of childbirth
Delivery Fear Scale (DFS) ⁵⁰	Fear during labour and delivery
Cambridge Worry Scale (CWS) ⁵¹	Antenatal maternal worry
Pregnancy Anxiety Scale ⁵²	Pregnancy-related fear
Prenatal Life Events Scale (PLES) ⁵³	Experience of antenatal life events
Prenatal Distress Questionnaire (PDQ) ⁵³	Pregnancy-related stress
Prenatal Psychosocial Profile ⁵⁴	Pregnancy-related stress
Prenatal Psychosocial Profile Hassles Scale ⁵⁵	Antenatal stress
Prenatal Social Environment Inventory (PSEI) ⁵⁶ Pregnancy Belief Scale (PBS) ⁵⁵	Antenatal psychosocial stressors Antenatal belief about health behaviour
Edinburgh Postnatal Depression Scale (EPDS) ⁵⁷	Postpartum depression
Life Orientation Test (LOT) ⁵⁸	Optimism/pessimism
Rosenberg Self-Esteem Scale ⁵⁹	Self-esteem
Profile of Mood States (POMS) ⁶⁰	Transient mood states

Psychometric instruments should be easy to complete as well as reliable and valid^{24,61}:

- a. *Reliability* is the consistency of a psychometric instrument²⁴. Reliability estimates include²⁴:
 - (i) Test-retest reliability: the variation in measurements taken by an instrument at two points in time²⁴.
 - (ii) Split-half reliability: the instrument is split in two and the scores for each half compared²⁴.
 - (iii) Internal consistency reliability: the consistency of results across items within an instrument²⁴.

- b. *Validity* is the degree to which a test measures what it is supposed to measure²⁴. Validity estimates include²⁴:
 - (i) Content validity: verification that the instrument actually measures what it is expected to measure²⁴.
 - (ii) Construct validity: the extent to which the instrument measures what the theory predicts it to measure²⁴.

2.3 Mental health and pregnancy outcome; many pieces, but still the puzzle is not solved

Mental health has been associated with many pregnancy outcomes^{1,4}. In order to identify previous studies, I searched "Medline" using the following combinations of keywords: "Pregnancy" and "Mental health", "Pregnancy" and "Stress, psychological", "Pregnant women" and "Mental health", "Pregnant women" and "Stress, psychological", and "Caesarean section, psychology". I also searched for the phrase "Fear of childbirth". Studies with mental health and pregnancy outcome variables were included. I excluded non-English articles, articles published before 1995 and studies with a study population <200. I mainly included studies using clinical interviews or validated psychometric instruments for measuring mental health. Exceptions were made for studies using pregnancy-specific life event measures and for fear of childbirth. Table 4 gives an overview of my search results.

Table 4. Overview of the "Medline" search results using the following keywords: "Pregnancy" and "Mental health", "Pregnancy" and "Stress, psychological", and "Caesarean section, psychology"; and the following phrase: "Fear of childbirth". Studies are listed according to the independent or health," "Pregnant women" and "Stress, psychological", and "Caesarean section, psychology"; and the following phrase: "Fear of childbirth". Studies are listed according to the independent or outcome measure, with the most recent studies listed first.

	Study	Authors	Publication year	¤	Country	Independent variable (measuring method if mental health is the independent variable*)	Outcome variable (measuring method if mental health is the outcome variable*)	Design	Association(s)**
							Birthweight		
1	Effect of psychosocial stress and physical activity on low birthweight: a cohort study ⁶²	Abeysena, C. et al.	2010	528	Sri Lanka	Psychosocial stress (General Health Questionnaire-30 (GHQ-30))	Low birthweight (<2500 grams)	Prospective cohort study	No association.
7	Maternal psychosocial adversity during pregnancy is associated with length of gestation and offspring size at birth: evidence from a population-based cohort study ⁶³	Tegethoff, M. et al.	2010	78 017	Denmark	Emotional symptoms (Symptom Checklist-8d)	Birthweight Gestational length Body length at birth	Prospective cohort study	Emotional symptoms associated with shorter gestational length and reduced body length at birth.
6	The effects of stress on birth weight in low-income, unmarried black women ⁶⁴	Holland, M.L. et al	2009	554	Tennessee, USA	Anxiety (Mental Health Index)	Birthweight	Prospective cohort study	Anxiety associated with decreased birthweight.
4	Maternal sleep deprivation is a risk factor for small for gestational age: a cohort study ⁶⁵	Abeysena, C. et al.	2009	009	Sri Lanka	Psychosocial stress (General Small-for-gestational age Health Questionnaire 30 (SGA) (GHQ 30))	Small-for-gestational age (SGA)	Prospective cohort study	No association.

Pregnancy-specific stress associated with shorter gestational length.	No association.	No association.	Depression associated with preterm delivery and low birthweight.	Anxiety associated with low Apgar score.
Prospective cohort study	Prospective cohort study	Prospective cohort study	Prospective cohort study	Prospective cohort study
Birthweight Gestational length	Birthweight Gestational length	Low birthweight (<2500 grams)	Low birthweight (<2500 grams) Preterm delivery (<37 weeks)	Low birthweight (<2500 grams) Preterm delivery (<37 weeks) Low Apgar score (<8)
State anxiety (anxiety subscale of the State Trait Anxiety Inventory (STAI)) Pregnancy-specific stress (Prenatal Distress Questionnaire) Prenatal life events (Prenatal Life Events Scale) Perceived stress (Perceived Stress Scale)	Self-Esteem (Rosenberg Self- Esteem Scale) Stress (Prenatal Psychosocial Profile)	Depression (Center for Epidemiological Studies Depression Scale (CES-D),	Depression (a modified version of the Center for Epidemiologic Studies Depressions (CES-D) Scale)	Anxiety (Hospital Anxiety and Depression Rating Scale (HADS) – Anxiety subscale) Depression (Hospital Anxiety and Depression Rating Scale (HADS) – Depression subscale)
North Eastern USA	Quebec, Canada	Illinois, USA	Alabama, USA	Norway
279	1602	294	3149	089
2008	2008	2007	2006	2005
Lobel, M. et al.	St-Laurent, J. et al.	Borders, A.E. et al.	Neggers, Y. et al.	Berle, J.Ø. et al.
5 Pregnancy-specific stress, prenatal health behaviours, and birth outcomes ⁵³	6 Biopsychosocial determinants of pregnancy length and fetal growth ⁶⁶	7 Chronic stress and low birth weight neonates in a low-income population of women ⁶⁷	8 The relationship between psychosocial profile, health practices, and pregnancy outcomes ⁶⁶	9 Neonatal outcomes in offspring of Berle, J.Ø. et al. women with anxiety and depression during pregnancy ⁶⁹

No association.	No association.	Stress associated with low birthweight and preterm delivery.
Prospective N.	Prospective N. cohort study	Prospective Str cohort study with
Small-for-gestational age (SGA) Preterm delivery (<37 weeks)	Birthweight Small-for-gestational age (SGA) Pretern delivery (<37 weeks) Apgar score Admission to the neonatal intensive care unit Respiratory distress Asphyxia Umbilical artery PH Malformations	Low birthweight (<2500 grams) Small-for-gestational age (SGA) Pretern delivery (<37 weeks)
Psychological stress (Perceived Stress Scale)	Mental disorders (Primary Care Evaluation of Mental Disorders (PRIME-MD) Patient Health Questionnaire (PHQ))	Stress (General Health Questionnaire (GHQ))
Netherlands	Sweden	Sao Paulo, Brazil
5254	1465	865
2005	2004	2003
Krabbendam, L. et al.	Andersson, L. et al.	Rondo, P.H.C. et al.
10 The impact of maternal stress on pregnancy outcome in a well educated Caucasian population ⁷⁰	11 Neonatal outcome following maternal antenatal depression and anxiety: a population-based study ⁷¹	12 Maternal psychological stress and distress as predictors of low birth weight, prematurity and intrauterine growth retardation ⁷²

Depression associated with epidural analgesia, operative delivery and admission to the neonatal care unit.	Depression associated with lower birthweight in lower social status women. Both significant and non-significant associations of psychological distress with SGA infant were identified, dependent on the definition of SGA.
Prospective cohort study	Prospective cohort study Prospective cohort study
Small-for-gestational age (SGA) Mode of delivery Analgesia during labour Admission to neonatal care unit Preterm delivery Prolonged labour Labour induction Meconium stained liquor Apgar score Infant asphyxiation Maternal haemorrhage	Birthweight Gestational length Small-for-gestational age (SGA)
Depression (Beck Depression Small-for-gestational age Inventory (BDI)) Mode of delivery Analgesia during labour Admission to neonatal care unit Preterm delivery Prolonged labour Labour induction Meconium stained liquor Apgar score Infant asphyxiation Maternal haemorrhage	New York Depression (Center for and Epidemiologic Studies Pennsylvania, Depression Instrument (CES-USA D)) Netherlands Psychological distress (Hopkins Symptom Checklist)
China	New York and Pennsylvania, USA Netherlands
959	396
2001	2000
Chung, T.K.H. et al.	Hoffman, S. et al. Paarlberg, K.M. et al.
symptomatology is associated with adverse obstetric and neonatal outcomes ⁷³	 14 Depressive symptomatology during pregnancy: evidence of an association with decreased fetal growth in pregnancies of lower social class women ⁷⁴ 15 Psychosocial predictors of low birthweight: a prospective study ⁷⁵

State anxiety and pregnancy-related anxiety were combined and associated with shorter gestational length. Self-esteem and optimism were combined and associated with lower birthweight.	Stress associated with preterm delivery and low birthweight. No association was found for the overall psychosocial score.	Exposure to psychosocial stressors associated with preterm delivery.	No association.
Prospective cohort study	Prospective cohort study	Prospective cohort study	Prospective cohort study
Birthweight Gestational length	Low birthweight (<2500 grams) Small-for-gestational age (SGA) Preterm delivery (<35 weeks)	Small-for-gestational age (SGA) Preterm delivery (<37 weeks)	Small-for-gestational age (SGA)
State anxiety (subversion of the State Trait Anxiety Inventory) Pregnancy-related anxiety (items used by Wadhwa et al. 1993) Self-esteem (Rosenberg Self- Esteem Scale) Dispositional optimism (Life Orientation Test)	Psychosocial stress (questions on anxiety, self- esteen, mastery, depression and stress)	Psychological stress (General Health Questionnaire (GHQ)) Exposure to psychosocial stressors (Severity of Psychosocial Stressor Scale)	Psychological stress (General Small-for-gestational age Health Questionnaire (GHQ)) (SGA)
California, USA	USA	Denmark	Denmark
230	2593	2432	5868
1999	1996	1996	1996
Rini, C.K. et al.	Copper, R.L. et al.	Nordentoff, M. et al.	Hedegaard, M. et al.
16 Psychological adaptation and birth outcomes: the role of personal resources, stress, and sociocultural context in pregnancy ⁷⁶	17 The preterm prediction study: Maternal stress is associated with spontaneous preterm birth at less than thirty-five weeks' gestation ⁷⁷	18 Intrauterine growth retardation and premature delivery: the influence of maternal smoking and psychosocial factors ⁷⁸	19 The relationship between psychological distress during pregnancy and birth weight for gestational age ⁷⁹

Gestational length

Association between pregnancy-related fear and preterm delivery. General anxiety was protective against preterm delivery.	Pregnancy-related anxiety associated with pretern delivery.	Increasing stress and anxiety during pregnancy associated with preterm delivery.	No association.
Prospective cohort study	Prospective cohort study	Prospective cohort study	Case-control study
Preterm delivery (<37 weeks)	Pretern delivery (<37 weeks)	Preterm delivery (<37 weeks)	Preterm delivery (<37 weeks)
Pregnancy-related fear (3 specially chosen questions in a questionnaire) General anxiety (4 specially chosen questions in a questionnaire)	Psychological distress (Rosenberg Self-Esteem Scale, Perceived Stress Scale, Pregnancy Anxiety Scale, Life Orientation Test, Center for Epidemiologic Studies Depression (CES-D) Scale)	Generalised stress (Perceived Stress Scale) State anxiety (state anxiety subscale of the State Trait Anxiety Inventory (STAI)) Pregnancy-related anxiety (10 items concerning feelings in pregnancy, health of the baby and feelings about labour)	Stress (Perceived Stress Scale)
Berlin, Germany	Montreal, Canada	California, USA	Manitoba, Canada
208	5337	415	226 cases and 458 controls
2011	2009	2008	2005
Rauchfuss, M. et al.	Kramer, M.S. et al.	Glynn, L.M. et al.	Heaman MI
20 Biopsychosocial predictors of preterm delivery ⁸⁰	21 Stress pathways to spontaneous preterm birth: the role of stressors, psychological distress, and stress hormones ⁵²	22 Pattern of perceived stress and anxiety in pregnancy predicts preterm birth ⁸¹	23 Risk factors for spontaneous preterm birth among Aboriginal and non-Aboriginal women in Manitoba ⁸²

Depressive and anxiety disorders associated with elective caesarean delivery and epidural analgesia during labour.	Pregnancy-related anxiety associated with preterm delivery.	Depression associated with preterm delivery.
Prospective cohort study	Prospective cohort study	Prospective cohort study
Preterm delivery (<37 weeks) Induced labour Mode of delivery Oxytocin during labour Epidural analgesia Prolonged labour (> 12 hours) Postterm delivery (>42 weeks) Fetal distress Postpartum bleeding	Preterm delivery (<37 weeks)	Preterm delivery (<37 weeks)
Depressive and anxiety disorders (Primary Care Evaluation of Mental Disorders (PRIME-MD) Patient Health Questionnaire (PHQ))	Depression (Center for Epidemiologic Studies Depression Instrument (CESD) Pregnancy-related anxiety (Prenatal Social Environment Inventory)	Depression (Center for Epidemiologic Studies Depression Instrument (CES- D))
Sweden	North Carolina, USA	Maryland, USA
1495	1962	1399
2004	2003	2002
Andersson, L. et al.	Dole, N. et al.	Orr, S.T. et al.
24 Implications of antenatal depression and anxiety for obstetric outcome ⁸³	25 Maternal stress and preterm birth ⁸⁴	26 Maternal prenatal depressive symptoms and spontaneous preterm births among African-American women in Baltimore, Maryland*8

Stress associated with preterm delivery. Locus of control associated with preterm delivery.	No association.	No association.	Depressive symptoms, as measured by the PHO-9, associated with placental abruption	High levels of psychological stress associated with stillbirth.
Case control study	Prospective cohort study	Prospective cohort study	Case control study	Prospective cohort study
Pretern delivery (<37 weeks)	Pretern delivery (<37 weeks) Other outcomes	Gestational age-adjusted placental weight at birth	Placental abruption	Stillbirth (delivery of a dead fetus at >28 weeks of gestation)
Psychosocial stress (Prenatal Psychosocial Profile Hassles Scale) Locus of control (Pregnancy Belief Scale (PBS)) Depression (Center for Epidemiologic Studies Depression Instrument (CES- D))	Psychiatric morbidity (anxiety and depression scales of the General Health Questionnaire (GHQ))	Emotional symptoms (Symptom Checklist-8d)	Depression, symptoms (Primary Care Evaluation of Mental Disorders (PRIME- MD) Patient Health Questionnaire (PHQ-9). Depression and anxiety (Depression Anxiety Stress Scales (DASS-21))	Psychological stress (12-item General Health Questionnaire (GHQ))
USA	London, United Kingdom	Denmark	Peru	Denmark
739	1513	78 017	373 cases and 368 controls	19 282
2001	1995	2010	2011	2008
Misra, D.P. et al.	Peacock, J.L. et al.	Tegethoff, M. et al.	De Paz, N.C. et al.	Wisborg, K. et al.
27 Testing a sociomedical model for preterm delivery ⁵⁵	28 Preterm delivery: effects of socioeconomic factors, psychological stress, smoking, alcohol, and caffeine ³⁶	29 Maternal psychosocial stress during pregnancy and placenta weight: evidence from a national cohort study ⁸⁶	30 Risk of placental abruption in relation to maternal depressive, anxiety and stress symptoms ⁸⁷	31 Psychological stress during pregnancy and stillbirth: prospective study**

Psychological stress associated with decreased male to female ratio.	Prenatal stress associated with analgesia during delivery but not with unplanned caesarean delivery. Analgesia during delivery associated with unplanned caesarean delivery associated with unplanned caesarean delivery.	Lower self-esteem associated increased sex ratio.	Caesarean delivery (acute and emergency) associated with postpartum depression.	No association.
Prospective cohort study	Prospective cohort study	Prospective cohort study	Case-control study	Prospective cohort study
Sex ratio (male:female)	Analgesia during delivery Unplanned caesarean delivery	Sex ratio (male:female)	Postpartum depression (as registered in the Taiwan National Health Insurance Database)	Postnatal depression (Edinburgh Postnatal Depression Scale (EPDS))
Psychological distress (30 item General Health Questionnaire (GHQ))	Prenatal stress (based on several instruments: Prenatal Distress Questionnaire, Prenatal, Life Events Scale (PLES), State anxiety subscale of the State-Trait Anxiety Inventory (STAI), Perceived Stress Scale (PSS))	Depression (Beck Depression Inventory) Self-esteem (Rosenberg Self- Esteem Scale) Mode of delivery	Mode of delivery	Mode of delivery
Denmark	North-eastern USA	Sweden	Taiwan	United Kingdom
8719	298	385	2017 cases and 8428 controls	10 934
2007	2006	2000	2011	2005
Obel, C. et al.	Saunders, T.A. et al.	Marleau, J.D. et al.	Yang, S.N. et al.	Patel, R.R. et al.
32 Psychological distress during early gestation and offspring sex ratio ⁸⁹	33 Prenatal maternal stress is associated with delivery analgesia and unplanned cesareans ⁹⁰	34 Pregnant women's social status, stress, self-esteem, and their infant's sex ratio at birth ⁹¹	35 The delivery mode and seasonal variation are associated with the development of postpartum depression ⁹²	36 Operative delivery and postnatal depression: a cohort study ⁹³

No association.	Caesarean delivery (acute and elective combined) associated with poor mental health.	Emergency caesarean associated with postpartum fear of childbirth and psychological distress. Instrumental vaginal delivery associated with postpartum fear of childbirth and psychological distress
Retrospective cohort study	Retrospective cohort study	Retrospective cohort study
Depression (Beck Depression Inventory (BDI)) Perceived stress (Perceived Stress Scale (PSS)) Self-esteem (Coppersmith's Self- Esteem Inventory (SEI))	Mental health (Mental Health Index (MHI)-5)	Fear of childbirth (Wijma Delivery Experience Questionnaire (W-DEQ) Psychological distress (Symptom Checklist-35)
Mode of delivery	Mode of delivery	Mode of delivery
Taiwan	Washington State, USA	Sweden
275	971	326
2002	2001	1998
Chen, C.H. et al.	Lydon- Rochelle, M.T. et al.	Ryding, E.L.et al.
37 Psychosocial outcomes of vaginal and cesarean births in Taiwanese primiparas ⁹⁴	38 Delivery method and self-reported postpartum general health among primiparous women ⁹⁵	emergency cesarean section in comparison with elective cesarean section, instrumental and normal vaginal delivery ⁹⁶

Unassisted vaginal delivery associated with improvement in mood and selfestem. Caesarean delivery associated with deterioration in mood and selfestem. Instrumental vaginal delivery not associated with a change in mood or self-esteem.	Fear of childbirth associated with preference for elective caesarean delivery	Fear of childbirth associated with preference for elective caesarean delivery	No association.
Prospective cohort study	Cross-sectional study	Cross- sectional study	Prospective cohort study
Self-esteem (Rosenberg Self-Esteem Questionnaire (RESQ)) Mood (Profile of Mood states (POMS))	Preference for elective caesarean delivery	Preference for elective caesarean delivery	Mode of delivery
Mode of delivery	Fear of childbirth (based on one question) Negative delivery experience (based on one question)	Fear of childbirth (based on one question) Negative delivery experience (based on one question)	Fear of childbirth (Wijma Delivery Expectancy Questionnaire (W-DEQ))
Australia	Norway	Norway	Australia
272	58 881	55 859	401
1997	2011	2009	2009
Fisher, J. et al.	Fuglenes, D. et al.	Kringeland, T. et al.	Fenwick, J. et al.
40 Adverse psychological impact of operative obstetric interventions: a prospective longitudinal study ⁶⁰	41 Why do some pregnant women prefer caesarean? The influence of parity, delivery experiences, and fear ⁹⁷	42 What characterizes women in Norway who wish to have a caesarean section? ⁹⁸	43 Pre- and postpartum levels of childbirth fear and the relationship to birth outcomes in a cohort of Australian women ⁹⁹

Fear of childbirth associated with emergency caesarean delivery and dystocia/protracted labour	Fear of childbirth associated with preference for caesarean delivery.	Fear of childbirth associated with elective caesarean delivery.	No association.	No association.	Fear of childbirth associated with emergency caesarean delivery.			
Prospective cohort study	Cross-sectional study	Prospective cohort study	Prospective cohort study	Prospective cohort study	Prospective cohort study			
Emergency caesarean section Dystocia/ protracted labour Fetal distress	Preference for caesarean delivery	Mode of delivery	Mode of delivery	Mode of delivery	Mode of delivery			
Fear of childbirth (one question at two occasions)	Fear of childbirth (Wijma Delivery Expectancy Questionnaire (W-DEQ))	Fear of childbirth (measured by one question and/or defined as having received counselling for fear of childbirth)	Fear of childbirth (Wijma Delivery Expectancy Questionnaire (W-DEQ))	Fear of childbirth (Wijma Delivery Expectancy Questionnaire (W-DEQ)) Anxiety (State Trait Anxiety Inventory (STAI))	Fear of childbirth (Wijma Delivery Expectancy Questionnaire (W-DEQ))			
Denmark	Sweden	Sweden	Norway	United Kingdom	Sweden			
25 297	1635	2662	1321	443	1981			
2009	2009	2006	2006	2002	1998			
Laursen, M. et al.	Nieminen, K. et al.	Waldenstrom, U. et al.	Heimstad, R. et al.	Johnson, R. et al.	Ryding, E. L. et al.			
44 Fear of childbirth and risk for birth complications in nulliparous women in the Danish National Birth Cohort ¹⁰⁰	45 Women's fear of childbirth and preference for cesarean section – a cross-sectional study at various stages of pregnancy in Sweden ¹⁰¹	46 Antenatal fear of childbirth and its association with subsequent caesarean section and experience of childbirth ¹⁰²	47 Fear of childbirth and history of abuse: implications for pregnancy and delivery ¹⁰³	48 Does fear of childbirth during pregnancy predict emergency caesarean section? ¹⁰⁴	49 Fear of childbirth during pregnancy may increase the risk of emergency caesarean section ¹⁰⁵			

*In some studies, short forms of the listed psychometric instruments have been used.

**Only associations involving mental health are listed. Some studies found other associations, but these are not listed.

Heterogeneous measures of mental health complicate comparison between studies. Many previous studies suffer from small sample sizes or insufficient control for confounding, and some studies have studied pregnancy outcomes in composite pregnancy outcome measures⁴. Hence, there is need to use validated psychometric instruments to measure mental health and focus on single pregnancy outcomes in large prospective cohort studies⁴.

Our knowledge of associations between maternal mental health and pregnancy outcome is limited. When I started this work, knowledge on the association with maternal mental health was particularly limited on:

a) Low birthweight

Birthweight is dependent on gestational length at birth, genotype and intrauterine conditions^{7,9}. Low gestational-age-adjusted birthweight is a crude marker of adverse intrauterine conditions and therefore widely studied¹⁰⁶. Adverse intrauterine conditions may result in permanent fetal tissue damage^{106,107}. Such damage may cause morbidity immediately after delivery, or later in life when regulatory mechanisms are attenuated by further damage or progressive functional loss^{7,106,107}. Low birthweight, due to intrauterine growth restriction or preterm delivery, is the most common cause of infant morbidity and mortality worldwide^{7,9,108}. In adult life, low birthweight has been associated with coronary heart disease, hypertension, type 2 diabetes mellitus and osteoporosis^{7,106,107}.

The association between mental health and low offspring birthweight is previously studied (Table 4). We were able to study this association in a uniquely large cohort (> 70 000 pregnant women) and adjust for a range of confounding factors.

b) Mode of delivery

One hundred years ago caesarean delivery was associated with high maternal and fetal mortality¹⁰⁹. Today, this operation is considered safe for both the mother and infant^{109,110}. Most developed countries have experienced an increase in births by caesarean delivery^{111,112}. This is concerning because high rates may not confer additional health gain, but are resource demanding, may increase maternal risks and have implications for succeeding pregnancies¹¹¹⁻¹¹³. Today, caesarean birth rates vary from 2 % in the least developed countries to 30% in Latin America and the Caribbean¹¹¹. In some countries, such as Brazil, the caesarean delivery rate is up to 80% in some private hospitals^{110,114}. In Norway, 17% of all births are by caesarean delivery (2010)¹¹⁵. In addition to economic

factors; cultural differences and obstetricians' fear of litigation may contribute to the large differences¹¹³.

One reason for the increase in caesarean delivery rate is maternal request for caesarean delivery in the absence of obstetric indication 110,112,113,116. The true prevalence of caesarean delivery by maternal request is probably camouflaged by the practise of lowering the threshold for a more accepted indication for elective caesarean delivery, and therefore unknown 23. Morbidity and mortality is generally thought to be higher for elective caesarean delivery than for vaginal delivery 110,113. Risk estimates for elective caesarean delivery, however, usually include women with obstetric indication for elective caesarean delivery 110,116. Knowledge of the risks of elective caesarean delivery in the absence of obstetric indication, performed at term with regional anaesthesia and thromboprophylaxis remains incomplete 110,113,116. The debate on maternal request caesarean delivery is ongoing and touches several aspects of medical ethics: autonomy, beneficence, non-maleficence and justice 110,117,118.

In the absence of obstetric indication, some elective caesarean deliveries are performed for mental health reasons¹¹⁷. Hence, the effect of mode of delivery on mental health is important to assess. Operative deliveries have been associated with poor postpartum mental health, but many studies lack adequate information on antenatal mental health (Table 4). As postpartum differences may reflect antenatal differences, this must be studied prospectively from pregnancy through postpartum¹¹⁹. We were able to study the association of mode of delivery with change in emotional distress from pregnancy to postpartum, and with the presence of maternal postpartum emotional distress, in a cohort of more than 50 000 pregnant women.

c) Labour duration

Labour is characterised by uterine contractions, cervical effacement and cervical dilatation 120 . Traditionally, labour is divided into three stages (although definitions vary somewhat) 120 : (i) The *first stage* is from the onset of uterine contractions to full cervical dilatation. This stage is subdivided into the *latent phase* and the *active phase*, which border at 3-4 centimetres (cm) cervical dilatation and 3 uterine contractions per 10 minutes lasting ≥ 1 minute; (ii) The *second stage* is from full cervical dilatation to delivery of the infant; (iii) The *third stage* is from delivery of the infant to expulsion of the placenta.

Labour duration is determined by the passage (pelvis), the powers (uterine contractions) and the passenger (fetus) ("the three P's")¹²⁰. Measurements of cervical

dilatation in partograms are used to assess labour progression, but cannot predict labour duration ^{121,122}.

Very short labour carries the risk of delivery during transportation to the maternity unit and has been associated with fetal hypoxia^{123,124}. Prolonged labour is associated with fetal and maternal morbidity and, in a hospital setting, with obstetric interventions, such as labour augmentation, acute caesarean delivery and instrumental vaginal delivery¹²⁵. As labour duration is highly variable and difficult to predict, further knowledge on determinants of labour duration is needed^{120,123}. We studied the association between fear of childbirth and labour duration in more than 2000 pregnant women.

3.0 STUDY OBJECTIVES

- I. To study the association between maternal emotional distress in pregnancy and delivery of a small-for-gestational age (SGA) offspring.
- II. To study the association between mode of delivery and change in emotional distress from pregnancy to postpartum.
- III. To study the association between fear of childbirth and duration of labour.

4.0 MATERIAL AND METHODS

In Norway, perinatal and obstetric health care is provided free of charge as part of the public health care system¹²⁶. Antenatal care is provided in primary health care, and women are referred to specialised health care if complications in pregnancy are suspected¹²⁶. All maternity units are public, and all pregnant women in Norway are invited to a routine fetal ultrasound examination in pregnancy week 17-19¹²⁷. The aim of this ultrasound examination is determination of gestational-age, plurality and placental localisation¹²⁷. The majority (98%) of pregnant women attend¹²⁸.

The standardised nature of antenatal care in Norway enables unselected recruitment of pregnant women to cohort studies. As 98% of pregnant women attend the routine fetal

ultrasound examination in pregnancy week 17-19, this is considered a good opportunity for recruitment.

The three study objectives mentioned above were studied in two different population-based cohort studies, namely the Norwegian Mother and Child Cohort Study and the Akershus Birth Cohort Study. Both studies recruited women in relation to the routine fetal ultrasound examination in pregnancy week 17-19, and both aimed to follow the women through delivery and several years after they had given birth.

The first and second study objectives were studied in the Norwegian Mother and Child Cohort Study. The third study objective was studied in the Akershus Birth Cohort Study. I will describe these two cohorts separately.

4.1 The Norwegian Mother and Child Cohort Study

The Norwegian Mother and Child Cohort Study is a population-based cohort study, conducted by the Norwegian Institute of Public Health (www.fhi.no)¹²⁹. During the years 1998 to 2008, the Norwegian Mother and Child Cohort Study aimed to include all pregnant women in Norway. The study's strategy was to collect data on numerous exposures and health outcomes. 50 out of 52 hospitals with a maternity ward in Norway recruited women to the study. When the women were invited to the routine ultrasound examination in pregnancy week 17-19, they were also invited to participate in the Norwegian Mother and Child Cohort Study.

The data collection in the Norwegian Mother and Child Cohort Study included several self-administered questionnaires in pregnancy and after delivery. We used the questionnaires at pregnancy weeks 17 and 30, and at six months after delivery (Appendices 1, 2 and 3). The questionnaires were returned by mail. The Norwegian Mother and Child Cohort Study was approved by all Norwegian Regional Committees for Medical Research Ethics and by the Data Inspectorate in Norway, and all participants signed an informed consent form.

Of the invited women, 39% agreed to participate in the study. Also, some women were lost to follow-up (Figures 2 and 5). Returning a questionnaire was not a prerequisite for receiving the succeeding questionnaires.

Additional information on the pregnancy and pregnancy outcome was obtained by linkage to the Medical Birth Registry of Norway. Since 1967, all births in Norway after

gestational week 16 (from 2002 week 12) have been reported to the Medical Birth Registry of Norway (www.mfr.no). A standardised notification form is filled in by the midwife or medical doctor shortly after the delivery (Figure 1).

Figure 1. The standardised notification form of the Medical Birth Registry of Norway (an English description of the Medical Birth Registry of Norway is available at www.mfr.no).

	Ń	Meldin	ng om avsluttet sva gsinstruks for blanketten på b	ang	erskap etter 12	2. ι	ıke – Føds	sel, d	ødfødsel, spon	nta	anab	ort	`	it 51	osial- og l	helse	edirektoratet			
Ī							Mon			Mors fulle navn og adresse										
	aec	insulusjonshr:	Institusjonsnavn					Fødsel utenfor institusjon: Hjemme, planlagt												
1	Š.					_		Hjemme, ikke planlagt												
1	oppriysninge	Mors sivilstatus	Gift Ugift/enslig Annet Samboer Skilt/separert/enke						Under transport Annet sted		Pikena	n (etternavn):								
100	D -	Slektskap mellom	Nei Hvis ja,	оори	oi conno			Mors		1										
<	Y =	barnets foreldre?	Ja hvorledes:					bokon	nmune	4										
		Fars fødselsdato								Mors fødselsnr:						Ш				
					kker Mors tidligere Levende- ikker svangerskap/fødte fødte			.	Dødfødte (24.			Spor	ntanabort/E	Oød-		Sponta	naborter 12. uke)			
	-		Nei UL	Jsikk	Annen prena		Nei	T	uke og over)	_	_	TØdte	(12.–23. L	iske funr			12. uke)			
l,	a e	Ultralyd utført?	Ja termin:	Ļ	diagnostikk	_	Ja, ang	i type:		_			prenata	l diagnos	stikk? Ja,		ekreftet – spesifiser			
3		Spesielle forhold før svangerskapet:	Astma Allergi	H	Kronisk nyresykdom Kronisk hypertensjon	H	Epilepsi Diabetes type	1	Regelmessig kosttilsl Nei Før sv.sk.			Ė	sjon av fo	rhold fø	r eller urder	svange	erskapet:			
l	HOLS	Intet spesielt	Tidligere sectio	E	Reumatoid artritt	È	Diabetes type		Multivitaminer			В								
1	9		Res. urinveisinfeksjon	F	Hjertesykom	듣	Annet, spesifis	eri «B»		_		-								
1	ersk	Spesielle forhold under	Blødning < 13 uke Blødning 13–28 uke	H	Hypertensjon alene Preeklampsi lett	늗	Eklampsi Hb < 9.0 g/dl		Annet, spesifiser i	«Β	30									
		svangerskapet:	Blødning > 28 uke	E	Preeklampsi alvorlig	È	Hb > 13.5 g/dl		Legemidler i svanger	rsk	apet:									
	5	Intet spesielt	Glukosuri	F	Preeklampsi før 34. uke	Ē	Trombose, bei		Nei											
٥	6	Røyking og yrke	Svangerskapsdiabetes Røykte mor ved	┾	HELLP syndrom Nei Daglig	L	Infeksjon, sper		Ja – spesifiser i «B Samtykker ikke for y		pennnl	Mors yrke								
		Forutsetter mors samtyl – se rettledning på baks		? =	Av og til Ant. sig. da	agl.:	yri	ke	Ikke yrkesa			'								
		Skriftlig orienteri		Ę	Nei Daglig				Yrkesaktiv i			Bransje:								
H	-	Samtykker ikke f Leie/presentasjon:	for røykeoppl. avslutning? Sete	_	Av og til Ant. sig. di dselstart: E	v. in	duksjons-	Prosta	Yrkesaktiv	de	ltid	Indikasjo	n for	Пк	omplikasioner	som be	eskrevet nedenfor			
		Normal	Tverrleie		Spontan	eto	de:	Oxytoo	-			inngrep o		=	ostermistanne					
		bakhode	Avvikende hodefødsel	F	Indusert			Amniot						=	vertid					
	ŀ	Inngrep/tiltak	Annet, spesifiser i «C» Utskj. tang, hodeleie	Fre	Sectio mhj. ved setefødsel:	Se	ctio:	Annet,	spesifiser i «C»			Spesifika	sion av fo	_	nnet, spesifise ed fødselen/a		omplikasjoner			
		Ingen	Annen tang, hodeleie		Vanlig fremhjelp		r sectio planlagt	før føds	el? Nei	J	a	C	•							
١.			Vakuumekstraktor Episitomi	F	Uttrekning	늗	Utført som ele													
3	200	Komplikasjoner	Vannavg. 12–24 timer	┢	Tang på etterk. hode Placenta previa	누	Utført som aku Blødn.> 1500 m		Truende intrauterin	n a	sfyksi	1								
3	- Olli lodse	Ingen	Vannavg. > 24 timer	Abruptio placentae		Blødning 500–1		=		ıler	t									
6	ב כ		Mekaniske misforhold Vanskelig skulderforløsning	F	Perinealruptur (grad 1-2) Sphincterruptur (gr. 3-4)	늗	Eklampsi under Navlesnorfrem		Langsom fremgane	ĭ	nnet:									
ľ	1	Anestesi/analgesi:	Lystgass	눝	Epidural	눝	Pudendal	IIali	Paracervical blokk	_	umet.	1								
		Ingen	Petidin		Spinal	Ē	Infiltrasjon		Narkose	Α	innet:				_					
		Placenta: Normal	Koagler Utskrapning	Na	vlesnor Normal	F	Omslyng rund Annet omslyng	- 1	Fostervann Normal		Mi	sfarnot			likasjoner hos tet spesielt	mor e	Mor overflyttet			
	l	Hinnerester	Manuell uthenting	E	Velamentøst feste	Ė	Ekte knute	'	Polyhydramnion	ı	=	nkende, infi:	sert	=	eber > 38.5°	Ē	Mor intensivbeh.			
			Placenta-	F	Marginalt feste		vlesnor-	П	Oligohydramnion		Blo	odtilblandet		=	rombose	_ [Sepsis			
-		Infarkter Fødselsdato	vekt Klokken	Plu	Karanomalier ralitet For	len flerfo	gde: ødsel:	Kjønr	Gutt	p.	rnot-	11			klampsi post pa	_	Annet, spesifiser ar score:			
ı					Enkeltfødsel		Av	ľ	Pike	vel	rnets kt:			Total lengde:		- 13	1 min			
				L	Flerfødsel Nr.		totalt		vil spesifiser i «D» ødfødte: Usikkert kjø	ann		lode- mkrets:		Eventuel sete-iss			5 min			
	ŀ	Barnet var:	For dødfødte		Død før fødsel	Fo	r dødfødte, opp								nere (dato):		Klokken			
		Levendefødt	Dødfødt/sp.abort Oppgi dødsårsak i «D»	F	Død under fødselen	딛	Død før innkon		Livet											
ŀ	parnet	Overfl. barneavd.	орругивиний положений поло	۲	Ukjent dødstidspunkt Overfl. til	<u> </u>	Død etter innk	omst	varte: Timer Indikasjon fo	or	□ Re	Min. spirasjonsp	roblem	Пм	edfødte misd.		Annet, spesifiser			
		Nei Ja	Dato:					overflytting:		=	ematur		Pe	erinatale infek	sjoner					
•	ī	Neonatale diagn.: (Fylles ut av	Hypoglyk. (< 2 mmol/l) Medf. anemi (Hb < 13.5 g/d)	Ļ	Transit. tachypnoe	F	Cerebral irritas Cerebral depre	•	Konjunktivitt beh. Navle./hudinf. beh.		=	act. clavicula nen fraktur	ie.	_	ndlingskoder: ystemisk antibio		cterus behandlet: Lysbehandlet			
		lege/pediater)	Hofteleddsdyspl. beh. m/put	_		È	Abstinens	35)011	Perinat, inf. bakteriel		=	cialisparese		=	espiratorbeh.		Utskifting			
		Intet spesielt			Intrakraniell blødning		Neonatale kra		Perinat. inf. andre		Ple	exusskade		С	PAP beh.	_ /	rsak:			
		Tegn til medfødte	Spesifikasjon av skader, neo	natale	alagnoser og medlødte mis	danr	neiser – uttylles av	iege									AB0 uforlik. RH immunisering			
		misdannelser:															Fysiologisk			
		Nei Ja	Kryss av hvis skjema		lardmar ville de els									Ital	krivningsdato		Annen årsak			
		Γ	er oppfølgingsskjema		Jordmor v/fødsel:									Otol	Mor:					
_		a ballan	/	Jord	mor v/utskrivning:				Lege											
Protokolinr.: Lege:									barsel/barneavd:						Barn:					

4.1.1 Study sample, variables and statistical analyses: study objective I - The

association between maternal emotional distress in pregnancy and delivery of a small-forgestational age offspring was studied using the questionnaires at pregnancy weeks 17 and 30 linked to the Medical Birth Registry of Norway.

Study sample

Of the women who agreed to participate in the Norwegian Mother and Child Cohort Study and had given birth at the time of our study, 92% (75 626 women) completed both questionnaires used in our data analyses and had available Medical Birth Registry of Norway Data (Figure 2).

Invited to participate in the Norwegian Mother and Child Cohort Study n=252 250 **Declined participation** n=154 314 (61.2% of 252 250) Agreed to participate in the Norwegian Mother and Child Cohort Study n=97 936 (38.8%* of 252 250) Had not reached birth at the time of our study n=15 414 Agreed to participate in the Norwegian Mother and Child Cohort Study and had reached birth at the time of our study n=82 522 Did not return the pregnancy week 17 questionnaire n=3854 (4.7% of 82 522) Returned the pregnancy week 17 questionnaire n=78 668 (95.3% of 82 522) Did not return the pregnancy week 30 questionnaire or were missing Medical Birth Registry of Norway data Returned the pregnancy week 30 questionnaire n=6896 (8.4% of 82 522) and had available Medical Birth Registry of Norway data n=75 626 (91.6% of 82 522)

Figure 2. The Norwegian Mother and Child Cohort Study: study sample in paper I.

^{*} In paper I, the response rate is reported to be 41%. When we were writing paper I, the organisers of the Norwegian Mother and Child Cohort Study reported the response rate to be 41%. The response rate has later been corrected to 39%.

We excluded women who delivered before gestational week 30 (143 women), women with multiple pregnancy (1 296 women) and women with missing information on emotional distress (1 830 women), offspring birthweight (253 women), gestational length at delivery (532 women), offspring sex (204 women) and plurality (201 women), resulting in a study sample of 71 898 women (some women had missing information on several variables).

Variables

The outcome variable: Information on offspring birthweight, offspring sex and gestational length at delivery was obtained from the Medical Birth Registry of Norway. In order to compare birthweight across gestational lengths at delivery and offspring sex, z-scores for birthweight were calculated by offspring sex by using means and standard deviations at each gestational length (in weeks) in our study sample. Thereafter, offspring birthweight was categorised by z-score and infants below the 2.5th percentile were defined as small-for-gestational age (SGA). In additional analyses, we used z-scores below the 10.0th percentile to define a small offspring.

The main independent variable: Emotional distress in pregnancy was measured by short forms of the Hopkins Symptom Checklist-25 (HSCL-25), namely the Symptom Checklist (SCL)-5 and the Symptom Checklist (SCL)-8⁴³. The SCL-5 was included in the questionnaire at pregnancy week 17 and the SCL-8 in the questionnaire at pregnancy week 30. The SCL-5 consists of the following items: "Have you been bothered by any of the following during the last two weeks": (1) "feeling fearful"; (2) "nervousness or shakiness inside"; (3) "feeling hopeless about the future"; (4) "feeling blue"; and (5) "worrying too much about things?" (Figure 3). SCL-8 includes three additional items: (6) "feeling everything is an effort"; (7) "feeling tense or keyed up"; and (8) "suddenly scared for no reason" (Figure 4). The response categories were as follows: 1 (not bothered) through 4 (very bothered). Sum scores were calculated for SCL-5 and SCL-8 separately and divided by the number of items in each instrument. In both SCL-5 and SCL-8, a mean score ≥2.0 was defined as presence of emotional distress⁶¹. Presence of emotional distress in pregnancy was coded: no emotional distress (neither at gestational week 17 or 30; reference group); emotional distress on one occasion in pregnancy (at gestational week 17 or 30); and emotional distress on two occasions in pregnancy (at gestational weeks 17 and 30).

An expectation-maximization algorithm was used to impute \leq 2 missing items in SCL-5 and \leq 4 missing items in SCL-8. As the SCL-scores were not normally distributed, the expectation-maximization algorithm was performed on log-transformed SCL-scores. In this study, Cronbach's alpha was α =0.80 and α =0.84 for SCL-5 and SCL-8, respectively. Cases with >2 missing items in SCL-5 and/or >4 missing items in SCL-8 were excluded. The described method resulted in 2.0% of the participating women getting imputed values in SCL-5, and 7.9% of the participating women getting imputed values in SCL-8.

Figure 3. The Symptom Checklist (SCL)-5 as included in the questionnaire at pregnancy week 17 (the questions are available in English on page 32).

138. Har du i løpet av de to siste ukene vært plaget med noe av det følgende? (Kryss av for hver linje.)					
	lkke plaget	Litt plaget	Ganske mye plaget	Veldig mye plaget	
Stadig redd eller engstelig Nervøsitet, indre uro					
med hensyn til fremtiden Nedtrykt, tungsindig Mye bekymret eller urolig	. 🔲				

Figure 4. The Symptom Checklist (SCL)-8 as included in the questionnaire at pregnancy week 30 (the questions are available in English on page 32).

	lkke plaget	Litt plaget	Ganske mye plaget	Veldig mye plage
Stadig redd eller engstelig				
Nervøsitet, indre uro				
Følelse av håpløshet med hensyn til fremtiden				
Nedtrykt, tungsindig				
Nye bekymret eller urolig				
Følelse av at alt er et slit				
Føler deg anspent eller oppjaget				
Plutselig frykt uten grunn				

Other study factors: Information on diabetes or pre-eclampsia in pregnancy and maternal age at delivery was available in the Medical Birth Registry of Norway. Women with diabetes type 1, diabetes type 2 or gestational diabetes were classified as having diabetes. Women with pre-eclampsia, eclampsia or HELLP (haemolytic anaemia, elevated liver enzymes and low platelet count) were classified as having pre-eclampsia. Maternal

age at delivery was used as a continuous variable (years). As the association between maternal age and risk of giving birth to an SGA infant may be non-linear, maternal age was squared and entered into the model alongside with maternal age as a continuous variable.

Information on smoking, parity, maternal height, maternal prepregnancy weight and educational level were obtained from the Norwegian Mother and Child Cohort Study. Women who smoked at gestational week 17 and/or 30 were defined as smokers. No distinction was made between daily and occasional smokers, but a missing category included women without information on smoking. Parity was defined by the number of previous deliveries after pregnancy week 22 and coded para 0 and para ≥1. Prepregnancy body mass index (BMI) was calculated as weight (in kilograms) divided by height squared (in meters squared) and categorised as <18.5, 18.5-24.9, 25.0-29.9, 30.0-34.9, ≥35.0 kg/m² and missing. Maternal education was coded higher education (>12 years), secondary education (10-12 years), compulsory education (≤9 years) and missing. Women with ongoing education were assumed to complete their current education and coded accordingly.

Statistical analyses

The absolute risks of delivering an SGA infant ($<2.5^{th}$ percentile) according to maternal emotional distress and each study factor were presented as proportions, and the differences tested with chi-square tests. The associations of maternal emotional distress and the other study factors with delivery of an SGA infant were estimated as crude and adjusted odds ratios (OR) with 95% confidence intervals (CI) using logistic regression analyses. The analyses were repeated in smokers and non-smokers, and in women with BMI $<18.5 \, kg/m^2$ and BMI $\ge 18.5 \, kg/m^2$.

The above-described analyses were repeated using birthweight below the 10.0th percentile of birthweight z-scores as the outcome variable.

4.1.2 Study sample, variables and statistical analyses: study objective II - *The* association between mode of delivery and change in emotional distress from pregnancy to postpartum was studied using the questionnaires at pregnancy weeks 17 and 30, and at six months after delivery, linked to the Medical Birth Registry of Norway.

Study sample

Of the women who participated in the Norwegian Mother and Child Cohort Study and had reached six months postpartum at the time of our study, 83% (61 548 women) had completed all three questionnaires and had available Medical Birth Registry of Norway Data (Figure 5).

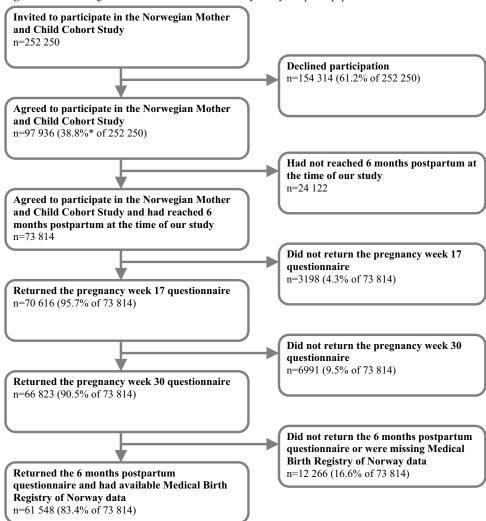


Figure 5. The Norwegian Mother and Child Cohort Study: study sample in paper II.

^{*} In paper II, the response rate is reported to be 41%. When we were writing paper II, the organisers of the Norwegian Mother and Child Cohort Study reported the response rate to be 41%. The response rate has later been corrected to 39%.

We excluded women with missing information on mental health in pregnancy (702 women), mode of delivery (723 women), mental health six months postpartum (308 women), obstetric complications (2162 women), maternal wish for caesarean delivery (1015 women) and maternal education (1275 women), resulting in a study sample of 55 814 women (some women had missing information on several variables).

Variables

The outcome variable: Emotional distress was measured by the Symptom Checklist (SCL)-8 in the questionnaires at pregnancy week 30 and six months postpartum (Figures 4 and 6). The items in SCL-8 are described on page 32. On both occasions, presence of emotional distress was defined as a mean score ≥2.0. Presence of emotional distress six months postpartum was used as the outcome variable, whilst presence of emotional distress at pregnancy week 30 was used as a control variable. We also calculated individual change in emotional distress from pregnancy week 30 to six months postpartum (SCL-8 score at pregnancy week 30 – SCL-8 score six months postpartum) and used this as a continuous outcome measure in a second model.

An expectation-maximization algorithm was used to impute \leq 4 missing items in SCL-8. As the SCL-scores were not normally distributed, the expectation-maximization algorithm was performed on log-transformed SCL-scores. In this study, Cronbach's alpha was α =0.83 and α =0.85 for SCL-8 at pregnancy week 30 and SCL-8 six months postpartum, respectively. Cases with >4 missing items in SCL-8 were excluded. The described method resulted in 8.8% of the participating women getting imputed values in SCL-8 at pregnancy week 30, and 12.9% of the participating women getting imputed values in SCL-8 at six months postpartum.

Figure 6. The Symptom Checklist (SCL)-8 as included in the questionnaire at six months postpartum (the questions are available in English on page 32).

	lkke plaget	Litt plaget	Ganske mye plaget	Veldig my plaget
Stadig redd eller engstelig				
Nervøsitet, indre uro				
Følelse av håpløshet med hensyn til fremtiden				
Nedtrykt, tungsindig				
Mye bekymret eller urolig				
Følelse av at alt er et slit				
Føler deg anspent eller oppjaget				
Plutselig frykt uten grunn				

Main independent variable: Information on mode of delivery was obtained from the Medical Birth Registry of Norway. Mode of delivery was coded: unassisted vaginal delivery (reference), instrumental vaginal delivery (vacuum or forceps assisted delivery), emergency caesarean delivery or elective caesarean delivery. Elective caesarean deliveries included all caesarean deliveries that were planned more than eight hours before delivery. Emergency caesarean deliveries included all other caesarean deliveries.

Other study factors: Information on obstetric complications (yes/no) was obtained from the Medical Birth Registry of Norway and included pre-eclampsia, eclampsia, HELLP (haemolytic anaemia, elevated liver enzymes and low platelet count), gestational hypertension, gestational diabetes, placenta praevia, placental abruption, preterm delivery (<35 pregnancy weeks), multiple pregnancy and breech presentation. Information on parity and maternal age was available in the Medical Birth Registry of Norway. Parity was defined by the number of previous deliveries after pregnancy week 16 and coded para 0 and para ≥1. Maternal age was grouped as <25, 25-35 and >35 years. Educational level was available in the Norwegian Mother and Child Cohort Study and coded ≤9, 10-12 and >12 years. Women with ongoing education were assumed to complete their education and coded accordingly. The questionnaire at pregnancy week 30 included the following question on maternal wish for an elective caesarean delivery: "If I could choose, I would have a caesarean delivery", and the answers were coded: yes ("agree completely", "agree" and "agree somewhat") or no ("disagree somewhat", "disagree" and "disagree completely").

Statistical analyses

We compared the change in crude mean SCL-8 score from pregnancy week 30 to six months postpartum in each mode of delivery group. Differences in the change in mean score between groups were tested by one-way analysis of variance (ANOVA) with post hoc comparison using Tamhane's test.

The association between mode of delivery and individual change in SCL-8 score from pregnancy week 30 to six months postpartum was estimated as crude and adjusted unstandardised regression coefficients (B) with 95% confidence intervals (95%) using linear regression analyses. We first made adjustment for SCL-8 scores at pregnancy week 30 only. Thereafter, we also made adjustment for obstetric complications, parity, maternal age, educational level and maternal wish for caesarean delivery. As mode of delivery,

maternal age and educational level consisted of more than two categories, these variables were entered into the linear regression model as binary dummy variables. Standard residual diagnostic tests of normality, homoscedasticity, linearity and independence of residuals were applied.

Differences in prevalence (%) of emotional distress (SCL-8 score \geq 2.0) six months postpartum according to mode of delivery were estimated using chi-square tests. The association of mode of delivery with the presence of emotional distress six months postpartum (SCL-8 score \geq 2.0) was estimated as crude and adjusted odds ratios (OR) with 95% confidence intervals using logistic regression analyses. We first made adjustment for presence of emotional distress at pregnancy week 30 (SCL-8 score \geq 2.0) only. Thereafter, we also included the other study factors.

The analyses were repeated in women with and without a wish for an elective caesarean delivery.

4.2 The Akershus Birth Cohort Study

The third study objective, *the association between fear of childbirth and duration of labour*, was studied in the Akershus Birth Cohort Study.

The Akershus Birth Cohort Study is a population-based cohort study. From November 2008 to April 2010, the Akershus Birth Cohort Study targeted all women scheduled to give birth at Akershus University Hospital, Norway. The hospital is located near Oslo, the capital of Norway, and serves a population of >400 000 individuals living in both urban and rural areas. During the study period, 3500 women gave birth at the hospital each year.

The study consisted of self-administered questionnaires at pregnancy weeks 18 and 32 and after delivery. We used the questionnaire at pregnancy week 32 (Appendix 5). The study's main focus was perinatal maternal mental health and several psychometric instruments were therefore included in the questionnaires.

Pregnant women who were able to complete a questionnaire in Norwegian were eligible to the Akershus Birth Cohort Study and they were recruited at the routine fetal ultrasound examination in pregnancy week 17-19. There were no other exclusion criteria.

Of all women attending routine ultrasound examination in pregnancy week 17-19 at Akershus University Hospital, 75% were included in the study. Some women were lost to

follow-up (Figure 7). Returning the first questionnaire was a prerequisite for receiving succeeding questionnaires.

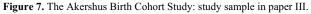
Additional information on the pregnancy, the birth and the newborn child was obtained by linkage to the electronic birth records at the obstetric ward, named CSAM Partus. CSAM Partus is a clinical software system designed to support all aspects of maternity care and is now implemented in several Norwegian hospitals¹³⁰. The birth records were completed by the doctor or midwife in charge of the delivery.

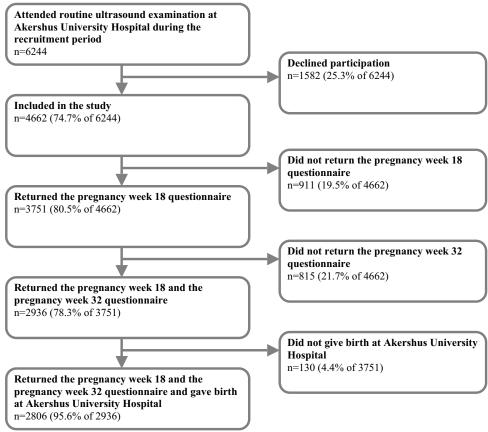
The study obtained ethical approval from the Regional Committees for Medical and Health Research Ethics, and all participants signed an informed consent form.

4.2.1 Study sample, variables and statistical analyses: study objective III - *The association between fear of childbirth and duration of labour* was studied in the Akershus Birth Cohort Study linked to the electronic birth records at the obstetric ward.

Study sample

Of the included women, 80.5% (3751 women) completed the questionnaire at pregnancy week 18, of whom 78.3% (2936 women) also completed the questionnaire at pregnancy week 32. Some women gave birth at a hospital other than the Akershus University Hospital (130 women), leaving a study sample of 2806 women (Figure 7).





We excluded women with multiple pregnancy (29 women), non-cephalic presentation at delivery (123 women), preterm delivery (<37 pregnancy weeks; 141 women) and elective caesarean delivery (155 women). We also excluded women with missing information on labour duration (347 women), fear of childbirth (53 women), birthweight (4 women), gestational length at delivery (10 women) or labour augmentation (74 women), resulting in a study sample of 2206 women (some women had missing information on several variables).

Variables

The outcome variable: Labour duration (in hours) was defined from start of the active phase of labour; 3-4 centimetres cervical dilatation and three uterine contractions per 10 minutes lasting ≥ 1 minute, until delivery of the child¹³¹. When women arrived at the

hospital after the commencement of the active labour phase, the recorded start time of the active phase was based on maternal report of duration and frequency of uterine contractions prior to hospital admission.

Figure 8. The partogram as used in the Akershus University Hospital. Over bekkening. I bekkening. Over spina Ved spina Under spina Bekkenbunnen 10 cm 9 cm 8 cm 7 cm 6 cm 5 cm 4 cm 2 cm Lukket Fosterlyd Rier Notat

Source: CSAM parturition. Year 2012. Developer: CSAM Health (www.csamhealth.com).

Time

achieved. Sectio pl. før fød. -Fødselstart Fødestilling, b1 Y Risvekkelse, stim. Fødestilling, b2 Ernæring • Start aktiv fødsel И Kateterisert Analgesi Ikke medik, beh. Komplik. Nei Medikamentell Abruptio Akupunktur Eklampsi under fø Bad Fostervannsembo Anestesi (til MFR) Narkose Dusj Infeksjon Spinal Endring leie Langsom fremgan Epidural Kalde omslag Obstetrisk død Pudendal Sjokk under eller Massasje Lokal infiltrasjon Steriltvannspapler Stort barn Lystgass Truende intrauter Varme omslag Petidin Paracervical blokk Annet Andre opiater Annet Kommentar til A A fødselen **Apningsfase** Utdrivningsfase Data registrert av Ansvarlig jordmor • Ansvarlig jordmor • Jordmor • Assistent • Assistent Lege ved forl. • Student Protokollnr Student

Figure 9. The spreadsheet in CSAM Partus from which the start time of the active phase of labour was

Lagret av: Source: CSAM parturition. Year 2012. Developer: CSAM Health (www.csamhealth.com).

av

Figure 10. The spreadsheet in CSAM Partus from which the time of delivery of the child was achieved. Nummerbånd nr. Start trykketid dato κΙ Født dato Personnummer CTG ekstern • Eødekommune El. overvåkning Fundustrykk Nei ▼ Ant. rier 0 CTG intern STAN ₹ Kiønn Rygg mot -Doppler JM stetoskop ... Status * Asynklitisme -Vannavgang • STAN tolkning ¥ ... Navlesnor komplikasjon Normalt **-**KI [Vannavgang dato Vaginal forløsning IJа Skulderdystosi Nei -Vannavg. varigh, timer Opr.innar. Nei ▼ Type FV Status • Fostery, avgikk Presentasjon Fostervann ▼ ... Spesifiser Vekt, gram Hode omkrets, cm Apgar score Lengde, cm Hode - sete, cm 1 min. 5 min. 10 min. ▼ ... Hudkontakt med mor • Behov for ekstra tiltak Rescusitering, jordmor ₹ Ansvarlig jordmor • Assist, av jordmor -Barnepleier/hj.pl. • Lagret dato Lagret org.enh.:

Lagret org.enh.:

Source: CSAM parturition. Year 2012. Developer: CSAM Health (www.csamhealth.com).

Svangerskapet:

Lagret dato:

0 dager

dato

0/0 uker/dager

The main independent variable: Fear of childbirth was measured by the Wijma Delivery Expectancy Questionnaire (W-DEQ), version A. The W-DEQ consists of 33 items, all of which are rated on a six-point Likert scale, ranging from 0 to 5 (Figure 10)⁴⁹. Sum scores range from 0 to 165, with higher scores reflecting a greater degree of fear of childbirth. A sum score \geq 85 is commonly used to define fear of childbirth, although other cut-offs have been used^{49,105,132}. We defined fear of childbirth as a sum score \geq 85.

For missing data in the W-DEQ, sample means for these questions were used for women with \leq 4 missing items. In this study, Cronbach's alpha was α =0.92 for the W-DEQ. Cases with >4 missing items were excluded. The described method resulted in 10.6% of the participating women getting imputed values in the W-DEQ.

Figure 11. The Wijma Delivery Expectancy Questionnaire (W-DEQ), version A, as included in the questionnaire at pregnancy week 32 (the English version of the W-DEQ is available in Wijma et al. Psychometric aspects of the W-DEQ; a new questionnaire for the measurement of fear of childbirth. *Journal of Psychosomatic Obstetrics & Gynecology* 1998;19:84-97.).

	ournal of 1 sychosomatic Obstetrics & Gynecology 1996,19.64-91.).							
37	37 Hvordan tror du at fødselen din kommer til å bli som helhetsopplevelse? 0 1 2 3 4 5							
	Overhodet ikke fantastisk	Ĥ		ň	Ť	Helt fantastisk		
	Overhodet ikke forferdelig	Ħ	Ħ	Ħ	Ħ	Helt forferdelig		
	_			_				
38	Hvordan tror du at du kommer til å føle	e deg u	nder fø 2	dselenî	?	5		
	Overhodet ikke ensom	Ĥ	Ĺ	ň	ň	Ekstremt ensom		
	Overhodet ikke sterk	Ħ	Ħ	П	П	Ekstremt sterk		
	Overhodet ikke sikker	Ħ	Ħ	Ī	Ē	Ekstremt sikker		
	Overhodet ikke redd	Ħ	Ħ	Ē	Ħ	Ekstremt redd		
	Overhodet ikke forlatt					Ekstremt forlatt		
	Overhodet ikke svak					Ekstremt svak		
	Overhodet ikke trygg					Ekstremt trygg		
	Overhodet ikke selvstendig					Ekstremt selvstendig		
	Overhodet ikke oppgitt					Ekstremt oppgitt		
	Overhodet ikke anspent					Ekstremt anspent		
	Overhodet ikke glad					Ekstremt glad		
	Overhodet ikke stolt					Ekstremt stolt		
	Overhodet ikke sviktet	Ш			Ш	Ekstremt sviktet		
	Overhodet ikke fattet	Ц			Щ	Ekstremt fattet		
	Overhodet ikke avslappet	Ц			Ц	Ekstremt avslappet		
	Overhodet ikke lykkelig					Ekstremt lykkelig		
39	Hva tror du at du kommer til å føle und	er føds	selen?	3	4	5		
	Overhodet ingen panikk	Ĥ		ń	ñ	Ekstrem panikk		
	Overhodet ingen håpløshet	Ħ	Ħ	Ħ	П	Ekstrem håpløshet		
	Overhodet ingen lengsel							
	etter barnet					Ekstremt stor lengsel etter barnet		
	Overhodet ingen selvtillit					Ekstremt stor selvtillit		
	Overhodet ingen tillit	Ц			Щ	Ekstremt stor tillit		
	Overhodet ingen smerte	Ш				Ekstrem smerte		
40 Hva tror du kommer til å skje når fødselen er på sitt mest intense? 0 1 2 3 4 5								
	Jeg kommer ikke til å oppføre	-	-			Jeg kommer til å oppføre meg		
	meg dårlig					ekstremt dårlig		
	Jeg kommer ikke til å våge overgi	_		_		Jeg kommer til å våge overgi meg		
	meg til det som skjer i kroppen					helt til det som skjer i kroppen		
	Jeg kommer ikke til å miste					Jeg kommer til å totalt miste		
	kontrollen over meg selv				Ш	kontrollen over meg selv		
41	Hvordan tror du at det kommer til å fø	les i de	t barne	et komr	ner ut? 4	5		
	Overhodet ikke gledelig					Ekstremt gledelig		
	Overhodet ikke naturlig					Ekstremt naturlig		
	Overhodet ikke selvfølgelig					Ekstremt selvfølgelig		
	Overhodet ikke farlig					Ekstremt farlig		
42	Har du i den siste måneden hatt fantas	ier son	n for el	sempe	l at bar	net dør under fødselen?		
72	0	1	_2	3	4	5		
	Aldri					Svært ofte		
43	Har du i den siste måneden hatt fantas	ier om	at bar	net blir	skadet	under fødselen?		
	0	1	2	3	4	_5		
	Aldri					Sympt ofto		

Other study factors: Information on parity (0/≥1) was available in the questionnaire in the following question: "If you have previously given birth, fill in the year of birth". In the questionnaire, the women were also asked whether they had been to counselling because of pregnancy concern at the Department of Obstetrics at the Akershus University Hospital (yes/no).

Such counselling was led by a midwife or an obstetrician. The counselling largely depended on the concerns expressed by the woman, and a plan for the delivery was sometimes made. No standard procedures for diagnosing pregnancy concern or for treatment of pregnancy concern were established. Both general practitioners and community midwives could refer women. Also, the pregnant women herself could request counselling. The number of counselling sessions varied between women.

Information on use of epidural analgesia, labour induction, labour augmentation, offspring birthweight, maternal age at delivery and mode of delivery was available in the electronic birth records at the obstetric ward. Epidural analgesia during labour (yes/no) was given as continuous infusion with the possibility of top-ups and included epidural analgesia started at any time during labour. Labour induction (yes/no) included amniotomy, endocervical placement of a Foley catheter and oxytocin or prostaglandin administration. Labour augmentation (yes/no) included amniotomy, oxytocin administration, breast stimulation or acupuncture. Offspring birthweight (in kilograms) and maternal age at delivery (in years) were included as continuous variables. Mode of delivery was categorized: vaginal, instrumental vaginal (vacuum or forceps assisted delivery) or acute caesarean delivery.

Statistical analyses

Differences in the distribution of categorical study factors according to presence of fear of childbirth were tested with chi square tests, and differences according to labour duration were tested using Student's t-test (independent-samples t-test). The association of fear of childbirth and the other study factors with labour duration was estimated as crude and adjusted unstandardised regression coefficients (B) with 95% confidence intervals (CI) using linear regression analyses. Adjustments were made for the study factors presented above. Standard residual diagnostic tests of normality, homoscedasticity, linearity and independence of residuals were applied. The analyses were repeated in women with and without epidural analgesia, and in nulliparous and parous women.

5.0 SYNOPSIS OF THE STUDIES

5.1 Paper I

Adams SS, Eberhard-Gran M, Hofoss D, Eskild A. Maternal emotional distress in pregnancy and delivery of a small-for-gestational age infant. *Acta Obstetrica et Gynecologica Scandinavica* 2011;90:1267-1273

Objective: To assess the association between maternal emotional distress in pregnancy and delivery of a small-for-gestational age offspring.

Design: A cohort study in pregnancy.

Setting: Fifty hospitals with a maternity ward in Norway during 1998–2008.

Population: 71 898 women with a singleton pregnancy in the Norwegian Mother and Child Cohort Study were followed from early pregnancy to delivery.

Methods: Information on presence of emotional distress was obtained through self-administered questionnaires in pregnancy weeks 17 and 30 and on birthweight, gestational length at delivery and sex by linkage to the Medical Birth Registry of Norway. Emotional distress was measured by short forms of the Hopkins Symptom Checklist-25.

Main Outcome Measure: Small-for-gestational age offspring (birthweight <2.5th percentile).

Results: Being emotionally distressed at gestational weeks 17 and 30 was not significantly associated with subsequent delivery of a small-for-gestational age infant (adjusted odds ratio 1.16; 95% confidence interval 0.87–1.54). This estimate was adjusted for smoking in pregnancy, parity, diabetes, pre-eclampsia, body mass index, education and maternal age. Conclusion: Emotional distress during pregnancy was not associated with subsequent delivery of a small-for-gestational age infant.

5.2 Paper II

Adams SS, Eberhard-Gran M, Sandvik ÅR, Eskild A. Mode of delivery and postpartum emotional distress: a cohort study of 55 814 women. *BJOG: An International Journal of Obstetrics & Gynaecology* 2012;119:298-305

Objective: To study the association of mode of delivery with change in emotional distress from pregnancy to postpartum, and with the presence of maternal postpartum emotional distress.

Design: A prospective study of women from 30 weeks of gestation to 6 months postpartum.

Setting: Pregnant women in Norway during the period 1998–2008.

Population: A total of 55 814 women from the Norwegian Mother and Child Cohort Study.

Methods: Emotional distress was reported in a short form of the Hopkins Symptom Checklist-25 (SCL-8) at 30 weeks of gestation and at 6 months postpartum. Information on mode of delivery was obtained from the Medical Birth Registry of Norway.

Main outcome measures: Change in SCL-8 score from 30 weeks of gestation to 6 months postpartum and presence of emotional distress at 6 months postpartum.

Results: Women with instrumental vaginal, emergency caesarean or elective caesarean delivery had similar change in SCL-8 score between 30 weeks of gestation and 6 months postpartum, as compared with women with unassisted vaginal delivery (adjusted regression coefficient, 0.00, 95% CI −0.01 to 0.01; 0.01, 95% CI 0.00 to 0.02; and 0.01, 95% CI 0.02 to 0.00, respectively). The corresponding odds ratios (ORs) associated with the presence of emotional distress at 6 months postpartum (SCL-8 ≥2.0) were: OR 1.01, 95% CI 0.86 to 1.18; OR 1.13, 95% CI 0.97 to 1.32; and OR 0.96, 95% CI 0.79 to 1.16, respectively. These estimates were adjusted for emotional distress during pregnancy and other potential confounding factors. Emotional distress during pregnancy showed the strongest association with the presence of emotional distress at 6 months postpartum (adjusted OR 14.09, 95% CI 12.77 to 15.55).

Conclusions: Mode of delivery was not associated with a change in SCL-8 score from 30 weeks of gestation to 6 months postpartum or with the presence of emotional distress postpartum.

5.3 Paper III

Adams SS, Eberhard-Gran M, Eskild A. Fear of childbirth and duration of labour: a study of 2206 women with intended vaginal delivery. *BJOG: An International Journal of Obstetrics & Gynaecology* 2012; DOI: 10.1111/j.1471-0528.2012.03433.x.

Objective: To assess the association between fear of childbirth and duration of labour.

Design: A prospective study of women from 32 weeks of gestation through to delivery.

Setting: Akershus University Hospital, Norway.

Population: A total of 2206 pregnant women with a singleton pregnancy and intended vaginal delivery during the period 2008-2010.

Methods: Fear of childbirth was assessed by the Wijma Delivery Expectancy Questionnaire (W-DEQ) version A at 32 weeks of gestation, and defined as a W-DEQ sum score ≥85. Information on labour duration, use of epidural analgesia and mode of delivery was obtained from the maternal ward electronic birth records.

Main outcome measures: Labour duration in hours: from 3-4 centimetres cervical dilatation and three uterine contractions per 10 minutes lasting \geq 1 minute, until delivery of the child.

Results: Fear of childbirth (W-DEQ sum score ≥85) was present in 7.5% (165) of the women. Labour duration was significantly longer in women with fear of childbirth compared with women with no such fear using a linear regression model (crude unstandardised coefficient 1.54; 95% CI 0.87-2.22, corresponding to a difference of 1 hour and 32 minutes). After adjustment for parity, counselling for pregnancy concern, epidural analgesia, labour induction, labour augmentation, emergency caesarean delivery, instrumental vaginal delivery, offspring birthweight and maternal age, the difference attenuated, but remained statistically significant (adjusted unstandardised coefficient 0.78; 95% CI 0.20, 1.35, corresponding to a 47-minute difference).

Conclusion: Duration of labour was longer in women with fear of childbirth than in women without fear of childbirth.

6.0 DISCUSSION

6.1 Main findings

Paper I: Emotional distress during pregnancy was not associated with subsequent delivery of a small-for-gestational age (SGA) infant.

Paper II: Mode of delivery was not associated with a change in emotional distress from 30 weeks of gestation to 6 months postpartum or with the presence of postpartum emotional distress.

Paper III: Duration of labour was longer in women with fear of childbirth than in women without fear of childbirth

6.2 Methodological considerations

Methodological considerations presented in the Discussions in the papers will, in general, not be repeated in the following text.

I will discuss the possible influences on my results of the following potential sources of errors. *Internal validity* is the extent to which the findings are true within the study sample. *External validity* is the extent to which the findings can be generalised beyond the study sample. Internal and external validity is threatened by errors in measurement. Errors in measurement are random or systematic¹³³. *Random error* is variability in the data that cannot readily be explained and is caused by unpredictable fluctuations in measurement¹³³. Random error is reduced with increasing sample size¹³³. *Systematic error*, often termed bias, is caused by predictable (but often unknown) fluctuations in measurement and is classified into *selection bias, information bias and confounding*¹³³.

6.2.1 Selection bias – Selection bias arises when participants differ from non-participants¹³³. Selection bias may arise at inclusion and/or during follow up.

Selection bias at inclusion

Our results may be erroneous if the associations estimated among the women who participated are not valid among the women who did not participate, and the strength of the difference in the association in those who did not participate is sufficient to alter the

overall association. In the Norwegian Mother and Child Cohort Study, 39% of the invited women agreed to participate. Thus, the study sample may be skewed. Prevalence estimates and measures of associations have been compared for participants and non-participants using the population-based Medical Birth Registry of Norway¹³⁴. Smokers and young women (<25 years), as well as women living alone, with >2 previous births or with previous stillbirth(s) were underrepresented¹³⁴. Multivitamin and folic acid supplement users were overrepresented¹³⁴. Prevalence estimates are therefore biased due to self-selection¹³⁴. Differences in exposure-outcome associations were, however, not found¹³⁴.

In the Akershus Birth Cohort Study, 75% of all women attending routine ultrasound examination in pregnancy week 17-19 at Akershus University Hospital agreed to participate. A skewed selection may therefore have caused biased estimates.

Using data from the Medical Birth Registry of Norway, I compared women included in the Norwegian Mother and Child Cohort Study, women included in the Akershus Birth Cohort Study and all women who gave birth in Norway in 2010 (Table 5)¹¹⁵:

Table 5. Comparison of women included in the Norwegian Mother and Child Cohort Study, women included in the Akershus Birth Cohort Study and all women who gave birth in Norway in 2010.

	The Norwegian Mother and Child Cohort Study	The Akershus Birth Cohort Study	All women who gave birth in Norway in 2010
Mean maternal age	30.1 years	31.1 years	29.7 years
First time mothers	44.3%	49.7%	42.9%
Smoking during pregnancy	6.8%	4.5%	7.4%
Low birthweight (<2500 grams)	3.3%	2.6%	4.2%
Preterm delivery (<37 weeks)	5.0%	5.0%	5.5%
Mode of delivery			
 Unassisted vaginal delivery 	76.6%	74.0%	73.9%
 Instrumental vaginal delivery 	9.3%	11.0%	10.0%
 Acute caesarean delivery 	8.5%	9.5%	9.5%
 Elective caesarean delivery 	5.6%	5.5%	6.6%

Participants in the Norwegian Mother and Child Cohort Study or the Akershus Birth Cohort Study are older, more often nulliparous and less likely to smoke than non-participants. A low birthweight offspring or preterm delivery is less common in participants than non-participants. Information on mental health in non-participants was unavailable, but we believe erroneous estimates of the associations in our studies are unlikely.

Selection bias in follow-up

In the Norwegian Mother and Child Cohort Study and the Akershus Birth Cohort Study, some women were lost to follow-up (Figures 2, 5 and 7).

The women in our studies have been selected at several points and it is likely that the "healthiest" women are included in our analyses: (i) to becoming pregnant, (ii) to completing the pregnancy, (iii) to participating in the studies, and (iv) to completing the questionnaires ¹³³. A selected sample may be more homogenous than a representative sample and it has been argued that when studying causal associations, a more homogeneous sample somewhat controls for confounding ¹³⁴. External validity is, however, threatened by this selection. If women with severe mental distress have been selected out of our study samples, our findings may not be valid in women with severe mental distress. Thus, we cannot rule out that the negative findings in Papers I and II are erroneous in women with severe mental distress.

6.2.2 Information bias – *Information bias arises when the available information is erroneous*¹³³. *Misclassification is termed differential or nondifferential*¹³³.

Differential misclassification - Exposure misclassification is differential if the misclassification is related to the outcome ¹³³. Similarly, outcome misclassification is differential if it is related to the exposure ¹³³.

Information on exposures was obtained before the information on outcomes was obtained in both the Norwegian Mother and Child Cohort Study and in the Akershus Birth Cohort Study. As exposure and outcome measurements were independent, differential misclassification in the outcome measures is unlikely.

Nondifferential misclassification - Exposure misclassification is nondifferential if the misclassification is unrelated to the outcome¹³³. Similarly, outcome misclassification is nondifferential if it is unrelated to the exposure¹³³.

Self-reporting in questionnaires is inevitably associated with a risk of nondifferential misclassification.

Validity of the mental health measurements

Measurements of mental health by questionnaires may inherit information bias and such source of error may not be adjusted for. However, use of validated psychometric instruments as compared to non-validated psychometric instruments, reduces the risk of nondifferential misclassification. We measured mental health with the Symptom Checklist (SCL)-5, the Symptom Checklist (SCL)-8 and the Wijma Delivery Expectancy Questionnaire (W-DEQ).

The Symptom Checklist (SCL)-5 and -8: Poor mental health is commonly associated with symptoms of anxiety and depression. Screening instruments for symptoms of anxiety and depression are therefore widely used when screening for poor mental health³. In Papers I and II, our measure of poor mental health was symptoms of anxiety and depression as measured by short forms of the Hopkins Symptom Checklist-58 (HSCL-58)⁴³. The HSCL-58 consists of 58 items measuring five symptom dimensions: anxiety, depression, obsessive-compulsive behaviour, somatisation and interpersonal sensitivity⁴³. The 25 items targeting anxiety and depression, often termed emotional distress, have been taken out to form the Hopkins Symptom Checklist-25 (HSCL-25). HSCL-25 is further shortened into an eight (SCL-8) and five (SCL-5) item version¹³⁵. SCL-8 and SCL-5 are highly correlated with HSCL-25 (Pearson's correlation coefficients 0.94 and 0.92, respectively)⁴². In each version, each item is answered on a four point Likert scale: 1.00 ="not bothered", 2 = "a little bothered", 3 = "quite bothered" and 4 = "very bothered", which add up to a sum score. In determining the presence of emotional distress, cut-off scores are used. Cut-off scores at 1.75 and 2.00 for HSCL-25 and SCL-5, respectively, are considered analogous⁶¹. As similar comparison is missing for SCL-8, 2.00 is often used as a cut-off score for this instrument¹³⁶. Although the internal consistency reliability of the instruments, as tested by Cronbach's alpha, is higher for the longer versions, internal consistency reliability of the shorter versions is acceptable⁶¹. Content validity of the Norwegian version of the HSCL-25 in screening for depression, as defined by the International Classification of Diseases (ICD) and the Diagnostic and Statistical Manual of Mental Disorders (DSM), is satisfactory^{61,137-139}. HSCL-25 has not been validated in pregnancy or in the postpartum period, but HSCL-25 strongly correlates with the Edinburgh Postnatal Depression Scale (EPDS), which has been validated for use during pregnancy and the postpartum period^{140,141}. In SCL-8 and SCL-5, the items in HSCL-25 that are common in pregnancy, such as fatigue and sleep disturbances, were avoided⁴².

SCL-5 and SCL-8 are screening tools and cannot be used to diagnose depression or anxiety because of low specificity. In Paper I, emotional distress was defined as the presence of emotional distress on two occasions in pregnancy. This increases specificity of the instrument but does not eliminate the risk of nondifferential misclassification.

The Wijma Delivery Expectancy Questionnaire (W-DEQ), version A: In Paper III, fear of childbirth was measured by the W-DEQ. Fear of childbirth is not uniformly defined. Clinically, the unspecific ICD-10 codes O99.3 ("mental disorders and diseases of the nervous system complicating pregnancy, childbirth and the puerperium)", O99.8 ("other specific diseases and conditions complicating pregnancy, childbirth and the puerperium"), or F40.2 ("specific (isolated) phobias") are sometimes used, but evidently cannot be used for estimating the prevalence of fear of childbirth or when studying fear of childbirth²³. Nor can these diagnoses be used in the validation of a psychometric instrument measuring fear of childbirth.

Fear of childbirth has been defined in various ways: by one question in questionnaire studies, by several questions in questionnaire studies or by receiving counselling for pregnancy concern ^{49,97,98,100,102}. Psychometric instruments for measuring fear of childbirth have been developed, the most extensive being the Wijma Delivery Expectancy Questionnaire (W-DEQ) ^{49,142}. As no gold standard exists for fear of childbirth, content validity is unavailable. Fear of childbirth, as defined by the W-DEQ, is thought to be determined by the woman's expectations about the anticipated delivery and to overlap somewhat with other anxiety questionnaires ⁴⁹. Construct validity of the W-DEQ is therefore assessed by correlation with other psychometric instruments ⁴⁹. Construct validity of the Norwegian version of the W-DEQ, version A, is satisfactory ¹⁴². Internal consistency reliability for the W-DEQ, as measured by Cronbach's alpha, is shown to be high ⁴⁹.

Missing data

We deleted cases with missing values on most of the variables, but for some variables we introduced a missing category. Missing values in the used psychometric instruments were imputed as described in Material and Methods. All methods in which missing values are dealt with carry a risk of bias ¹⁴³. The risk of bias depends on the reason for why the values are missing. If cases with missing values do not represent a random subsample, both imputation and deletion may give biased estimates ¹⁴³. Replacing missing values with sample means, as was done in the W-DEQ, or creating missing categories is common ¹⁴³.

However, imputation using the expectation-maximization algorithm, as was done in the SCL instruments, is considered a better method ¹⁴³. The expectation-maximization algorithm uses regression modulation to reconstruct probable values based on the available data ¹⁴³. Replacing missing values with sample means or using the expectation-maximization algorithm may strengthen trends already present in the data ¹⁴³. This may have caused an overestimated association in Paper III, but has not biased our findings in Papers I or II.

To compare the used imputation techniques with deletion of all cases with missing psychometric data, we repeated the multivariate regression analyses in women with complete psychometric data only. In all three papers, our findings prevailed.

6.2.3 Confounding - A confounding factor is associated with the exposure and the outcome, without being an intermediate step in the causal pathway from the exposure to the outcome 133 .

In all three papers, known and available confounding factors were included in multivariate statistical models. However, the risk of insufficient control for confounding remains.

In Paper I, possible confounding factors that we did not adjust for include weight gain in pregnancy, alcohol intake, illicit drug use, antenatal use of psychotropic drugs, maternal pregestational illness (other than pregestational diabetes mellitus), obstetric complications (other than gestational diabetes and preeclampsia) and congenital malformations that were diagnosed before delivery. These factors may be associated with both maternal emotional distress and offspring birthweight.

Information on weight gain in pregnancy was unavailable. If emotionally distressed women had a higher weight gain in pregnancy than non-emotionally distressed women, and high weight gain is associated with high birthweight, this may have camouflaged an association between antenatal emotional distress and delivery of an SGA infant. A lower pregnancy weight gain in emotionally distressed women may, on the contrary, have overestimated an association but as an association was not found, is unlikely to have altered our findings.

We performed exploratory data analyses before deciding on the final multivariable model. Antenatal alcohol intake or illicit drug use were not associated with delivery of an SGA infant in our study sample and therefore not included as confounding factors.

Also, antenatal use of psychotropic drugs was not associated with delivery of an SGA infant and therefore not included as a confounding factor.

Likewise, maternal pregestational illness, as defined by asthma, pregestational hypertension, chronic renal disease, residual urinary tract infections, rheumatoid arthritis, cardiac disease or epilepsy, was not associated with delivery of an SGA infant and therefore not included as a confounding factor.

Obstetric complications, as defined by vaginal bleeding during pregnancy, gestational hypertension, rubella or a sexually transmitted infection during pregnancy, anaemia (haemoglobin < 9.0 g/dl) or placenta praevia, was associated with maternal emotional distress and delivery of an SGA infant. Including obstetric complications as a confounding variable in the multivariate regression model did, however, not alter our findings.

Congenital malformations, including all malformations diagnosed at birth, was associated with delivery of an SGA infant but not with maternal emotional distress and therefore not included as a confounding factor. We do not know to what extent the presence of congenital malformations was known to the mother in pregnancy.

We aimed to study the association between emotional distress and delivery of an SGA infant independent of other known factors associated with emotional distress and delivery of an SGA infant, but found no association with emotional distress. Thus, we believe that emotional distress in pregnancy has little influence on fetal growth. Interestingly, other factors that we initially suspected to be associated with offspring SGA, such as antenatal alcohol intake or illicit drug use, were not associated.

In Paper III, prepregnancy BMI or pregnancy weight gain was not associated with fear of childbirth or labour duration and therefore not included as confounding factors.

6.2.4 Interaction – *Interaction, or effect modification, occurs when the effect of an exposure is different in different subgroups*¹³³.

In all three papers, stratified analyses were performed to identify interactions.

Additionally, potential interactions were assessed by including interaction terms in the multivariate regression analyses. No interactions were found.

6.2.4 Statistical modulation

Logistic regression analysis was used in Papers I and II. In both papers the assumption of no multicollinearity, as assessed by Pearson's correlation, was met. The multivariate logistic regression models achieved goodness of fit as assessed by the Hosmer-Lemeshow goodness-of-fit-test.

Linear regression analysis was used in Papers II and III. In both papers the assumption of no multicollineality, as assessed by Pearson's correlation, was met. Standard residual tests of normality, homoscedasticity, linearity and independence of residuals showed that both linear regression models fitted the data well.

The multivariate models did not aim to predict the outcome variables. With this in mind, the variance in the outcome variables explained by the models, as assessed by Nagelkerke R square in the logistic regression models and R square in the linear regression models, was acceptable 144.

In the analyses, each pregnancy was considered a unit of observation. Each woman may therefore have participated with more than one pregnancy. In Paper I, 8404 women contributed with more than one pregnancy. In Papers II and III, 5669 women and only one woman contributed with more than one pregnancy, respectively. Hence, 12.2% of the pregnancies in Paper I, and 10.5% in Paper II had the same mother in at least two pregnancies. Succeeding pregnancies in one woman are more alike with regard to mental health than pregnancies in different women, and whether observations of succeeding pregnancies were independent may therefore be questioned. We assumed that the pregnancies were independent and included all pregnancies in our analyses. In additional analyses, women's subsequent pregnancies were excluded and the multivariate regression analyses were repeated. In all the studies our findings prevailed.

6.2.5 Is the exposure in fact the outcome?

In Papers I and II, the associations of interest were non-significant and the question of reverse causality was therefore excessive. In Paper III, the outcome variable, labour duration, is highly variable and unpredictable and could not have affected antenatal fear of childbirth.

6.3 Clinical implications

Independent of any obstetric consequences, psychiatric disease in pregnancy requires treatment and is, in general, treated like psychiatric disease in non-pregnant women. In choosing between means of treatment, however, the risk of side effects in the developing fetus must be considered ¹⁴⁵.

Antenatal screening for depression is currently under consideration in Norway¹⁴⁶. If screening detects true depression and the intervention offered as a consequence of screening improves the outcome for the mother or child, screening may be useful. Consensus on the value of screening programmes for antenatal depression is, however, lacking. Today, antenatal screening for depression is recommended by The National Institute for Health and Clinical Excellence (NICE) in England and Wales, but not by the health authorities in Sweden or Denmark¹⁴⁷⁻¹⁴⁹.

As we studied the association between maternal mental health and obstetric outcome, the remaining discussion will only consider obstetric aspects of poor mental health and not the nature of poor mental health in pregnancy.

Several Norwegian obstetric departments now offer counselling in pregnancy because of the mother's concern about the pregnancy. Pregnancy concern includes an indefinite number of emotional issues relating to pregnancy, childbirth or the postpartum period, such as psychiatric disease, fear of childbirth, relationship issues or wish for labour induction or an elective caesarean delivery, in addition to a history of abuse or poor birth experience.

No standard procedures for diagnosing pregnancy concern, for referral to counselling because of pregnancy concern or for management of pregnancy concern have been established. Although considerable resources are used on such counselling, little is known about the consequences of pregnancy concern. Also, little is known about the women who seek counselling, the means of counselling or the effects of counselling.

Today's practice may partly have evolved because some women previously referred to the obstetric departments for obstetric reasons, presented with pregnancy concern as their main complaint. Obstetricians often found these women time-consuming with resultant delay in subsequent duties. Therefore, separate consultations for women with pregnancy concern were established.

In the absence of obstetric indication, obstetric procedures are sometimes performed for mental health reasons. This is concerning because obstetric interventions in the absence of obstetric indication may not confer health gain, may cause side effects and are costly.

Our finding suggests that concern for maternal mental health after delivery should not influence clinical decisions regarding mode of delivery. As this finding prevailed in women with a wish for an elective caesarean delivery, denying a maternal-request-caesarean delivery does not seem to affect emotional distress, even if the woman is delivered by an emergency operative (instrumental vaginal or acute caesarean) delivery.

Furthermore, we found fear of childbirth to be associated with longer labour duration. The longer duration of labour in women with fear of childbirth may, however, be acceptable for most women and longer duration of labour did not result in operative delivery for the large majority of women. Also, emotional distress was not found to be associated with delivery of an SGA infant in our study. Gestational-age-adjusted birthweight is an indicator of the intrauterine conditions and the wellbeing of the newborn infant. Thus, our findings do not support screening for maternal antenatal mental health.

In summary, the clinical implications of our findings are:

Paper I: (i) Emotional distress in pregnancy is unlikely to be a risk factor of fetal growth restriction.

Paper II: (i) Concern for maternal mental health after delivery should not influence clinical decisions regarding mode of delivery. (ii) Operative delivery (instrumental vaginal, emergency caesarean or elective caesarean delivery) is unlikely to increase the risk of postpartum emotional distress. (iii) These findings were also true in women who wanted to deliver by elective caesarean delivery but were delivered by an acute operative delivery.

Paper III: (i) Fear of childbirth may prolong labour. Although prolonged labour is likely to increase the risk of obstetric complications, the prolongation of labour associated with fear of childbirth may be acceptable for most women and not necessitate obstetric intervention.

Hence, our studies suggest a limited association between antenatal mental health and obstetric outcome. The effect of antenatal screening for poor mental health, counselling for pregnancy concern and performing obstetric procedures for mental health reasons may therefore be questioned.

6.4 Future perspectives

More research is needed to provide evidence-based health care to women with poor mental health in pregnancy¹⁵⁰. Previous studies within the intersection between psychology and obstetrics are characterised by homogeneous obstetric and heterogeneous maternal mental health definitions. Common definitions and measures of antenatal mental health may aid progress in this field.

Our studies focus on associations between maternal mental health and pregnancy outcome, but have not touched on the aetiology of poor mental health in pregnancy. Further knowledge on the causes of poor maternal mental health in pregnancy will aid clinical practise. Also, women with serious mental disease are likely to be underrepresented in studies and may not seek health care. More knowledge on their pregnancy outcomes and need for health care is needed.

Today, considerable health care resources are spent on treating women with pregnancy concern. Whether such allocation of resources is justified, warrants evaluation.

7.0 CONCLUSION

Emotional distress was not associated with delivery of a small-for-gestational age infant, and mode of delivery was not associated with change in emotional distress from pregnancy to postpartum or with the presence of postpartum emotional distress. Fear of childbirth was associated with longer labour duration but the longer time spent in labour may not be clinically relevant. Our findings are new pieces in the puzzle within the intersection between psychology and obstetrics, and suggest a limited association between poor maternal mental health and pregnancy outcome.



DETAILS OF ETHICS APPROVAL

The Norwegian Mother and Child Cohort Study was approved by all Regional Committees for Medical Research Ethics in Norway and by the Norwegian Data Inspectorate. All participants signed an informed consent form.

The Akershus Birth Cohort Study was approved by the Regional Committees for Medical and Health Research Ethics in Norway. All participants signed an informed consent form.

FUNDING

The Norwegian Mother and Child Cohort Study was supported by the Norwegian Ministry of Health, NIH/NIEHS (grant no. N01-ES-85433), NIH/NINDS (grant no. 1 UO1 NS 047537-01) and the Norwegian Research Council/FUGE (grant no. 151918/S10).

The Akershus Birth Cohort study was supported by the Norwegian Research Council, project number 191098.

REFERENCES

- Lazinski MJ, Shea AK, Steiner M. Effects of maternal prenatal stress on offspring development: a commentary. Archives of Women's Mental Health 2008;11:363-75.
- (2) Bonari L, Pinto N, Ahn E, Einarson A, Steiner M, Koren G. Perinatal risks of untreated depression during pregnancy. *Canadian Journal of Psychiatry Revue Canadienne de Psychiatrie* 2004;49:726-35.
- (3) Mykletun A, Knudsen AK, Mathiesen KS. Rapport 2009:8 Psykiske lidelser i Norge: Et folkehelseperspektiv [Norwegian]. 2009. Nasjonalt folkehelseinstitutt. [http://www.fhi.no/]. Accessed 4 June 2012.
- (4) Johnson RC, Slade P. Obstetric complications and anxiety during pregnancy: is there a relationship?. *Journal of Psychosomatic Obstetrics & Gynecology* 2003;24:1-14.
- (5) Lederman RP, Lederman E, Work BA, Jr., McCann DS. The relationship of maternal anxiety, plasma catecholamines, and plasma cortisol to progress in labor. *American Journal of Obstetrics & Gynecology* 1978;132:495-500.
- (6) Welberg LA, Seckl JR, Holmes MC. Inhibition of 11beta-hydroxysteroid dehydrogenase, the foeto-placental barrier to maternal glucocorticoids, permanently programs amygdala GR mRNA expression and anxiety-like behaviour in the offspring. Eur J Neurosci 2000;12:1047-54.
- (7) Valsamakis G, Kanaka-Gantenbein C, Malamitsi-Puchner A, Mastorakos G. Causes of intrauterine growth restriction and the postnatal development of the metabolic syndrome. *Ann N Y Acad Sci* 2006;1092:138-47.
- (8) Alehagen S, Wijma B, Wijma K. Fear of childbirth before, during, and after childbirth. *Acta Obstet Gynecol Scand* 2006;85:56-62.
- (9) Kramer MS. Determinants of low birth weight: methodological assessment and meta-analysis. *Bull World Health Organ* 1987;65:663-737.
- (10) Bodnar LM, Wisner KL. Nutrition and depression: implications for improving mental health among childbearing-aged women. *Biol Psychiatry* 2005;58:679-85.
- (11) Lien L, Sagatun A, Heyerdahl S, Sogaard AJ, Bjertness E. Is the relationship between smoking and mental health influenced by other unhealthy lifestyle factors? Results from a 3-year follow-up study among adolescents in Oslo, Norway. *J Adolesc Health* 2009;45:609-17.
- (12) Lasser K, Boyd JW, Woolhandler S, Himmelstein DU, McCormick D, Bor DH. Smoking and mental illness: A population-based prevalence study. *JAMA* 2000;284:2606-10.
- (13) Smith CA. Effects of maternal undernutrition upon the newborn infant in Holland (1944-1945). *The Journal of Pediatrics* 1947;30:229-43.

- (14) Hendrix N, Berghella V. Non-placental causes of intrauterine growth restriction. Semin Perinatol 2008;32:161-5.
- (15) Andres RL, Day MC. Perinatal complications associated with maternal tobacco use. *Seminars in Neonatology* 2000;5:231-41.
- (16) Kolas T, Nakling J, Salvesen KA. Smoking during pregnancy increases the risk of preterm births among parous women. Acta Obstet Gynecol Scand 2000;79:644-8.
- (17) Paarlberg KM, Vingerhoets AJ, Passchier J, Heinen AG, Dekker GA, van Geijn HP. Psychosocial factors as predictors of maternal well-being and pregnancy-related complaints. *Journal of Psychosomatic Obstetrics & Gynecology* 1996;17:93-102.
- (18) Wilcox MA, Smith SJ, Johnson IR, Maynard PV, Chilvers CE. The effect of social deprivation on birthweight, excluding physiological and pathological effects. *British Journal of Obstetrics & Gynaecology* 1995;102:918-24.
- (19) Shiono PH, Rauh VA, Park M, Lederman SA, Zuskar D. Ethnic differences in birthweight: the role of lifestyle and other factors. *Am J Public Health* 1997;87:787-93.
- (20) Fossli Jensen B, Gulbrandsen P, Dahl FA, Krupat E, Frankel RM, Finset A. Effectiveness of a short course in clinical communication skills for hospital doctors: results of a crossover randomized controlled trial (ISRCTN22153332). *Patient Education & Counseling* 2011;84:163-9.
- (21) Cegala DJ. Patient communication skills training: a review with implications for cancer patients. *Patient Education & Counseling* 2003;50:91-4.
- (22) Gulbrandsen P, Jensen BF, Finset A. [Self-efficacy among doctors in hospitals after a course in clinical communication]. [Norwegian]. *Tidsskr Nor Laegeforen* 2009;129:2343-6.
- (23) Saisto T, Halmesmaki E. Fear of childbirth: a neglected dilemma. *Acta Obstet Gynecol Scand* 2003;82:201-8.
- (24) Furr M, Bacharach VR. Psychometrics. Sage Publications, Inc., 2008.
- (25) Catalano R, Hartig T. Communal bereavement and the incidence of very low birthweight in Sweden. *Journal of Health & Social Behavior* 2001;42:333-41.
- (26) Zahran S, Snodgrass JG, Peek L, Weiler S. Maternal hurricane exposure and fetal distress risk. Risk Anal 2010;30:1590-601.
- (27) Auger N, Kuehne E, Goneau M, Daniel M. Preterm birth during an extreme weather event in Quebec, Canada: a "natural experiment". *Maternal & Child Health Journal* 2011;15:1088-96.
- (28) Maric NP, Dunjic B, Stojiljkovic DJ, Britvic D, Jasovic-Gasic M. Prenatal stress during the 1999 bombing associated with lower birth weight-a study of 3,815 births from Belgrade. *Archives of Women's Mental Health* 2010;13:83-9.

- (29) Lederman SA, Rauh V, Weiss L, Stein JL, Hoepner LA, Becker M, et al. The effects of the World Trade Center event on birth outcomes among term deliveries at three lower Manhattan hospitals. *Environ Health Perspect* 2004;112:1772-8.
- (30) Rich-Edwards JW, Kleinman KP, Strong EF, Oken E, Gillman MW. Preterm delivery in Boston before and after September 11th, 2001. *Epidemiology* 2005;16:323-7.
- (31) Eskenazi B, Marks AR, Catalano R, Bruckner T, Toniolo PG. Low birthweight in New York City and upstate New York following the events of September 11th. *Hum Reprod* 2007;22:3013-20.
- (32) Endara SM, Ryan MA, Sevick CJ, Conlin AM, Macera CA, Smith TC. Does acute maternal stress in pregnancy affect infant health outcomes? Examination of a large cohort of infants born after the terrorist attacks of September 11, 2001. BMC Public Health 2009;9:252.
- (33) Nugent JL, Khashan AS, Baker PN. Reduced infant birth weight in the North West of England consequent upon 'maternal exposure' to 7/7 terrorist attacks on central London. *Journal of Obstetrics & Gynaecology* 2011;31:118-21.
- (34) Hamilton BE, Sutton PD, Mathews TJ, Martin JA, Ventura SJ. The effect of Hurricane Katrina: births in the U.S. Gulf Coast region, before and after the storm. *Natl Vital Stat Rep* 1932;58:1-28.
- (35) Misra D, Strobino D, Trabert B. Effects of social and psychosocial factors on risk of preterm birth in black women. *Paediatr Perinat Epidemiol* 2010;24:546-54.
- (36) Peacock JL, Bland JM, Anderson HR. Preterm delivery: effects of socioeconomic factors, psychological stress, smoking, alcohol, and caffeine. *BMJ* 1995;311:531-5.
- (37) Zhu P, Tao F, Hao J, Sun Y, Jiang X. Prenatal life events stress: implications for preterm birth and infant birthweight. *American Journal of Obstetrics & Gynecology* 2010;203:34-8.
- (38) Obel C, Hedegaard M, Henriksen TB, Secher NJ, Olsen J. Stressful life events in pregnancy and head circumference at birth. *Developmental Medicine & Child Neurology* 2003;45:802-6.
- (39) Khashan AS, McNamee R, Abel KM, Pedersen MG, Webb RT, Kenny LC, et al. Reduced infant birthweight consequent upon maternal exposure to severe life events. *Psychosom Med* 2008;70:688-94.
- (40) Gyllstrom ME, Hellerstedt WL, McGovern PM. Independent and interactive associations of prenatal mood and substance use with infant birth outcomes. *Maternal & Child Health Journal* 2011;15:198-204.
- (41) Williams JW, Jr., Noel PH, Cordes JA, Ramirez G, Pignone M. Is this patient clinically depressed? *JAMA* 2002;287:1160-70.
- (42) Tambs K. Valg av spørsmål til kortversjoner av etablerte psykometriske instrumenter. Forslag til framgangsmåte og noen eksempler. [Choice of questions

- to short versions of established psychometric instruments. Proposed procedure and some examples.]. In: Sandanger I, Sørgaard K, Ingebrigtsen G, Nygaard J, editors. Ubevisst sjeleliv og bevisst samfunnsliv. Psykisk helse i en sammenheng. Festskriv til Tom Sørensens 60 års jumileum. [The incognisant mind and the cognisant society. Mental health in a context. Notes to Tom Sørensen's 60th anniversary.]. In Norwegian. No abstract available. Oslo: University of Oslo; 2004. p. 29-48.
- (43) APA Dictionary of Psychology. 1 ed. Americal Psychology Association, 2007.
- (44) Zigmond AS, Snaith RP. The hospital anxiety and depression scale. *Acta Psychiatr Scand* 1983;67:361-70.
- (45) Cohen S, Kamarck T, Mermelstein R. A global measure of perceived stress. *Journal of Health & Social Behavior* 1983;24:385-96.
- (46) Spitzer RL, Kroenke K, Williams JB. Validation and utility of a self-report version of PRIME-MD: the PHQ primary care study. Primary Care Evaluation of Mental Disorders. Patient Health Questionnaire. *JAMA* 1999;282:1737-44.
- (47) Rumpf HJ, Meyer C, Hapke U, John U. Screening for mental health: validity of the MHI-5 using DSM-IV Axis I psychiatric disorders as gold standard. *Psychiatry Res* 2001;105:243-53.
- (48) Goldberg DP, Hillier VF. A scaled version of the General Health Questionnaire. *Psychol Med* 1979;9:139-45.
- (49) Wijma K, Wijma B, Zar M. Psychometric aspects of the W-DEQ; a new questionnaire for the measurement of fear of childbirth. *Journal of Psychosomatic Obstetrics & Gynecology* 1998;19:84-97.
- (50) Wijma K, Alehagen S, Wijma B. Development of the Delivery Fear Scale. *Journal of Psychosomatic Obstetrics & Gynecology* 2002;23:97-107.
- (51) Green JM, Kafetsios K, Statham HE, Snowdon CM. Factor structure, validity and reliability of the Cambridge Worry Scale in a pregnant population. *Journal of Health Psychology* 2003;8:753-64.
- (52) Kramer MS, Lydon J, Seguin L, Goulet L, Kahn SR, McNamara H, et al. Stress pathways to spontaneous preterm birth: the role of stressors, psychological distress, and stress hormones. *Am J Epidemiol* 2009;169:1319-26.
- (53) Lobel M, Cannella DL, Graham JE, DeVincent C, Schneider J, Meyer BA. Pregnancy-specific stress, prenatal health behaviors, and birth outcomes. *Health Psychol* 2008;27:604-15.
- (54) Curry MA, Burton D, Fields J. The Prenatal Psychosocial Profile: a research and clinical tool. *Research in Nursing & Health* 1998;21:211-9.
- (55) Misra DP, O'Campo P, Strobino D. Testing a sociomedical model for preterm delivery. *Paediatr Perinat Epidemiol* 2001;15:110-22.

- (56) Orr ST, James SA, Casper R. Psychosocial stressors and low birth weight: development of a questionnaire. *Journal of Developmental & Behavioral Pediatrics* 1992;13:343-7.
- (57) Cox JL, Holden JM, Sagovsky R. Detection of postnatal depression. Development of the 10-item Edinburgh Postnatal Depression Scale. *Br J Psychiatry* 1987;150:782-6.
- (58) Scheier MF, Carver CS. Optimism, coping, and health: assessment and implications of generalized outcome expectancies. *Health Psychol* 1985;4:219-47.
- (59) Marsh HW, Scalas LF, Nagengast B. Longitudinal tests of competing factor structures for the Rosenberg Self-Esteem Scale: traits, ephemeral artifacts, and stable response styles. *Psychological assessment* 2010;22:366-81.
- (60) Fisher J, Astbury J, Smith A. Adverse psychological impact of operative obstetric interventions: a prospective longitudinal study. *Australian & New Zealand Journal of Psychiatry* 1997;31:728-38.
- (61) Strand BH, Dalgard OS, Tambs K, Rognerud M. Measuring the mental health status of the Norwegian population: a comparison of the instruments SCL-25, SCL-10, SCL-5 and MHI-5 (SF-36). *Nordic Journal of Psychiatry* 2003;57:113-8.
- (62) Abeysena C, Jayawardana P, Seneviratne RA. Effect of psychosocial stress and physical activity on low birthweight: a cohort study. *Journal of Obstetrics & Gynaecology Research* 2010;36:296-303.
- (63) Tegethoff M, Greene N, Olsen J, Meyer AH, Meinlschmidt G. Maternal psychosocial adversity during pregnancy is associated with length of gestation and offspring size at birth: evidence from a population-based cohort study. *Psychosom Med* 2010;72:419-26.
- (64) Holland ML, Kitzman H, Veazie P. The effects of stress on birth weight in low-income, unmarried black women. *Womens Health Issues* 2009;19:390-7.
- (65) Abeysena C, Jayawardana P, DE AS. Maternal sleep deprivation is a risk factor for small for gestational age: a cohort study. *Australian & New Zealand Journal of Obstetrics & Gynaecology* 2009;49:382-7.
- (66) St-Laurent J, De WP, Moutquin JM, Niyonsenga T, Noiseux M, Czernis L. Biopsychosocial determinants of pregnancy length and fetal growth. *Paediatr Perinat Epidemiol* 2008;22:240-8.
- (67) Borders AE, Grobman WA, Amsden LB, Holl JL. Chronic stress and low birth weight neonates in a low-income population of women. *Obstetrics & Gynecology* 2007;109:331-8.
- (68) Neggers Y, Goldenberg R, Cliver S, Hauth J. The relationship between psychosocial profile, health practices, and pregnancy outcomes. *Acta Obstet Gynecol Scand* 2006;85:277-85.

- (69) Berle JO, Mykletun A, Daltveit AK, Rasmussen S, Holsten F, Dahl AA. Neonatal outcomes in offspring of women with anxiety and depression during pregnancy. A linkage study from The Nord-Trondelag Health Study (HUNT) and Medical Birth Registry of Norway. *Archives of Women's Mental Health* 2005;8:181-9.
- (70) Krabbendam L, Smits L, de BR, Bastiaanssen J, Stelma F, van OJ. The impact of maternal stress on pregnancy outcome in a well-educated Caucasian population. *Paediatr Perinat Epidemiol* 2005;19:421-5.
- (71) Andersson L, Sundstrom-Poromaa I, Wulff M, aStrom M, Bixo M. Neonatal outcome following maternal antenatal depression and anxiety: a population-based study. *Am J Epidemiol* 2004;159:872-81.
- (72) Rondo PH, Ferreira RF, Nogueira F, Ribeiro MC, Lobert H, Artes R. Maternal psychological stress and distress as predictors of low birth weight, prematurity and intrauterine growth retardation. *Eur J Clin Nutr* 2003;57:266-72.
- (73) Chung TK, Lau TK, Yip AS, Chiu HF, Lee DT. Antepartum depressive symptomatology is associated with adverse obstetric and neonatal outcomes. *Psychosom Med* 2001;63:830-4.
- (74) Hoffman S, Hatch MC. Depressive symptomatology during pregnancy: evidence for an association with decreased fetal growth in pregnancies of lower social class women. *Health Psychol* 2000;19:535-43.
- (75) Paarlberg KM, Vingerhoets AJ, Passchier J, Dekker GA, Heinen AG, van Geijn HP. Psychosocial predictors of low birthweight: a prospective study. *British Journal of Obstetrics & Gynaecology* 1999;106:834-41.
- (76) Rini CK, Dunkel-Schetter C, Wadhwa PD, Sandman CA. Psychological adaptation and birth outcomes: the role of personal resources, stress, and sociocultural context in pregnancy. *Health Psychol* 1999;18:333-45.
- (77) Copper RL, Goldenberg RL, Das A, Elder N, Swain M, Norman G, et al. The preterm prediction study: maternal stress is associated with spontaneous preterm birth at less than thirty-five weeks' gestation. National Institute of Child Health and Human Development Maternal-Fetal Medicine Units Network. *American Journal of Obstetrics & Gynecology* 1996;175:1286-92.
- (78) Nordentoft M, Lou HC, Hansen D, Nim J, Pryds O, Rubin P, et al. Intrauterine growth retardation and premature delivery: the influence of maternal smoking and psychosocial factors. *Am J Public Health* 1996;86:347-54.
- (79) Hedegaard M, Henriksen TB, Sabroe S, Secher NJ. The relationship between psychological distress during pregnancy and birth weight for gestational age. *Acta Obstet Gynecol Scand* 1996;75:32-9.
- (80) Rauchfuss M, Maier B. Biopsychosocial predictors of preterm delivery. J Perinat Med 2011;39:515-21.
- (81) Glynn LM, Schetter CD, Hobel CJ, Sandman CA. Pattern of perceived stress and anxiety in pregnancy predicts preterm birth. *Health Psychol* 2008;27:43-51.

- (82) Heaman MI, Blanchard JF, Gupton AL, Moffatt ME, Currie RF. Risk factors for spontaneous preterm birth among Aboriginal and non-Aboriginal women in Manitoba. *Paediatr Perinat Epidemiol* 2005;19:181-93.
- (83) Andersson L, Sundstrom-Poromaa I, Wulff M, aStrom M, Bixo M. Implications of antenatal depression and anxiety for obstetric outcome. *Obstetrics & Gynecology* 2004;104:467-76.
- (84) Dole N, Savitz DA, Hertz-Picciotto I, Siega-Riz AM, McMahon MJ, Buekens P. Maternal stress and preterm birth. Am J Epidemiol 2003;157:14-24.
- (85) Orr ST, James SA, Blackmore PC. Maternal prenatal depressive symptoms and spontaneous preterm births among African-American women in Baltimore, Maryland. *Am J Epidemiol* 2002;156:797-802.
- (86) Tegethoff M, Greene N, Olsen J, Meyer AH, Meinlschmidt G. Maternal psychosocial stress during pregnancy and placenta weight: evidence from a national cohort study. PLoS ONE [Electronic Resource] 2010;5:e14478.
- (87) de Paz NC, Sanchez SE, Huaman LE, Chang GD, Pacora PN, Garcia PJ, et al. Risk of placental abruption in relation to maternal depressive, anxiety and stress symptoms. *J Affect Disord* 2011;130:280-4.
- (88) Wisborg K, Barklin A, Hedegaard M, Henriksen TB. Psychological stress during pregnancy and stillbirth: prospective study. *BJOG: An International Journal of Obstetrics & Gynaecology* 2008;115:882-5.
- (89) Obel C, Henriksen TB, Secher NJ, Eskenazi B, Hedegaard M. Psychological distress during early gestation and offspring sex ratio. *Hum Reprod* 2007;22:3009-12.
- (90) Saunders TA, Lobel M, Veloso C, Meyer BA. Prenatal maternal stress is associated with delivery analgesia and unplanned cesareans. *Journal of Psychosomatic Obstetrics & Gynecology* 2006;27:141-6.
- (91) Marleau JD, Saucier JF. Pregnant women's social status, stress, self-esteem, and their infants' sex ratio at birth. *Perceptual & Motor Skills* 2000;91:697-702.
- (92) Yang SN, Shen LJ, Ping T, Wang YC, Chien CW. The delivery mode and seasonal variation are associated with the development of postpartum depression. *J Affect Disord* 2011;132:158-64.
- (93) Patel RR, Murphy DJ, Peters TJ. Operative delivery and postnatal depression: a cohort study. *BMJ* 2005;330:879.
- (94) Chen CH, Wang SY. Psychosocial outcomes of vaginal and cesarean births in Taiwanese primiparas. *Research in Nursing & Health* 2002;25:452-8.
- (95) Lydon-Rochelle MT, Holt VL, Martin DP. Delivery method and self-reported postpartum general health status among primiparous women. *Paediatr Perinat Epidemiol* 2001;15:232-40.

- (96) Ryding EL, Wijma K, Wijma B. Psychological impact of emergency cesarean section in comparison with elective cesarean section, instrumental and normal vaginal delivery. *Journal of Psychosomatic Obstetrics & Gynecology* 1998;19:135-44.
- (97) Fuglenes D, Aas E, Botten G, Oian P, Kristiansen IS. Why do some pregnant women prefer cesarean? The influence of parity, delivery experiences, and fear. *American Journal of Obstetrics & Gynecology* 2011;205:45-9.
- (98) Kringeland T, Daltveit AK, Moller A. What characterizes women in Norway who wish to have a caesarean section? *Scandinavian Journal of Public Health* 2009;37:364-71.
- (99) Fenwick J, Gamble J, Nathan E, Bayes S, Hauck Y. Pre- and postpartum levels of childbirth fear and the relationship to birth outcomes in a cohort of Australian women. *J Clin Nurs* 2009:18:667-77.
- (100) Laursen M, Johansen C, Hedegaard M. Fear of childbirth and risk for birth complications in nulliparous women in the Danish National Birth Cohort. *BJOG: An International Journal of Obstetrics & Gynaecology* 2009;116:1350-5.
- (101) Nieminen K, Stephansson O, Ryding EL. Women's fear of childbirth and preference for cesarean section - a cross-sectional study at various stages of pregnancy in Sweden. *Acta Obstet Gynecol Scand* 2009;88:807-13.
- (102) Waldenstrom U, Hildingsson I, Ryding EL. Antenatal fear of childbirth and its association with subsequent caesarean section and experience of childbirth. *BJOG: An International Journal of Obstetrics & Gynaecology* 2006;113:638-46.
- (103) Heimstad R, Dahloe R, Laache I, Skogvoll E, Schei B. Fear of childbirth and history of abuse: implications for pregnancy and delivery. *Acta Obstet Gynecol Scand* 2006;85:435-40.
- (104) Johnson R, Slade P. Does fear of childbirth during pregnancy predict emergency caesarean section? *BJOG: An International Journal of Obstetrics & Gynaecology* 2002;109:1213-21.
- (105) Ryding EL, Wijma B, Wijma K, Rydhstrom H. Fear of childbirth during pregnancy may increase the risk of emergency cesarean section. *Acta Obstet Gynecol Scand* 1998;77:542-7.
- (106) Syddall HE, Sayer AA, Simmonds SJ, Osmond C, Cox V, Dennison EM, et al. Birth weight, infant weight gain, and cause-specific mortality: the Hertfordshire Cohort Study. *Am J Epidemiol* 2005;161:1074-80.
- (107) Barker DJ, Eriksson JG, Forsen T, Osmond C. Fetal origins of adult disease: strength of effects and biological basis. *Int J Epidemiol* 2002;31:1235-9.
- (108) Grote NK, Bridge JA, Gavin AR, Melville JL, Iyengar S, Katon WJ. A metaanalysis of depression during pregnancy and the risk of preterm birth, low birth weight, and intrauterine growth restriction. *Arch Gen Psychiatry* 2010;67:1012-24.

- (109) Lurie S. The changing motives of cesarean section: from the ancient world to the twenty-first century. *Archives of Gynecology & Obstetrics* 2005;271:281-5.
- (110) Devendra K, Arulkumaran S. Should doctors perform an elective caesarean section on request?. *Ann Acad Med Singapore* 582;32:577-81.
- (111) Betran AP, Merialdi M, Lauer JA, Bing-Shun W, Thomas J, Van LP, et al. Rates of caesarean section: analysis of global, regional and national estimates. *Paediatr Perinat Epidemiol* 2007;21:98-113.
- (112) Kolas T, Hofoss D, Daltveit AK, Nilsen ST, Henriksen T, Hager R, et al. Indications for cesarean deliveries in Norway. American Journal of Obstetrics & Gynecology 2003;188:864-70.
- (113) Penn Z, Ghaem-Maghami S. Indications for caesarean section. *Best Practice & Research in Clinical Obstetrics & Gynaecology* 2001;15:1-15.
- (114) Finger C. Caesarean section rates skyrocket in Brazil. Many women are opting for caesareans in the belief that it is a practical solution. *Lancet* 2003;362:628.
- (115) Medisinks fødselsregister [The Medical Birth Registry of Norway]. Medisinsk fødselsregisters statistikkbank [Norwegian] [updated 2012]. [<u>http://mfr-nesstar.uib.no/mfr/</u>]. Accessed 4 June 2012.
- (116) Paterson-Brown S. Should doctors perform an elective caesarean section on request? Yes, as long as the woman is fully informed. BMJ 1998;317:462-3.
- (117) Harris LH. Counselling women about choice. *Best Practice & Research in Clinical Obstetrics & Gynaecology* 2001;15:93-107.
- (118) Turner M. Should women be able to request a caesarean section? Yes. *BMJ* 2011;343:d7570.
- (119) Clement S. Psychological aspects of caesarean section. *Best Practice & Research in Clinical Obstetrics & Gynaecology* 2001;15:109-26.
- (120) Liao JB, Buhimschi CS, Norwitz ER. Normal labor: mechanism and duration. *Obstetrics & Gynecology Clinics of North America* 2005;32:145-64.
- (121) Friedman EA. Primigravid labor; a graphicostatistical analysis. *Obstetrics & Gynecology* 1955;6:567-89.
- (122) Pitkin RM. Friedman EA. Primigravid labor: a graphicostatistical analysis. Obstet Gynecol 1955;6:567-89. *Obstetrics & Gynecology* 2003;101:216.
- (123) Bergsjo P, Bakketeig L, Eikhom SN. Duration of labour with spontaneous onset. *Acta Obstet Gynecol Scand* 1979;58:129-34.
- (124) Bobrow CS, Soothill PW. Causes and consequences of fetal acidosis. *Archives of Disease in Childhood Fetal & Neonatal Edition* 1999;80:F246-F249.

- (125) Sheiner E, Levy A, Feinstein U, Hallak M, Mazor M. Risk factors and outcome of failure to progress during the first stage of labor: a population-based study. *Acta Obstet Gynecol Scand* 2002;81:222-6.
- (126) Helsedirektoratet [The Norwegian Directorate of Health and Care Services]. Nasjonale faglige retningslinjer for svangerskapsomsorgen [Norwegian] [updated 2005]. [http://www.helsedirektoratet.no]. Accessed 24 May 2012.
- (127) Helsedirektoratet [The Norwegian Directorate of Health and Care Services]. Veiledende retningslinjer for bruk av ultralyd i svangerskapet [Norwegian] [updated 2004]. [http://www.helsedirektoratet.no]. Accessed 7 June 2012.
- (128) Helse- og omsorgsdepartementet [Ministry of Health and Care Services]. Evaluering av lov om medisinsk bruk av bioteknologi [Norwegian] [updated 2002]. [http://www.regjeringen.no]. Accessed 15 May 2012.
- (129) Magnus P, Irgens LM, Haug K, Nystad W, Skjaerven R, Stoltenberg C, et al. Cohort profile: the Norwegian Mother and Child Cohort Study (MoBa). *Int J Epidemiol* 2006;35:1146-50.
- (130) CSAM Partus [updated 2012]. [http://www.csamhealth.com]. Accessed 4 June 2012.
- (131) Blix E, Kumle M, Oian P. [What is the duration of normal labour?]. [Norwegian]. *Tidsskr Nor Laegeforen* 2008;128:686-9.
- (132) Spice K, Jones SL, Hadjistavropoulos HD, Kowalyk K, Stewart SH. Prenatal fear of childbirth and anxiety sensitivity. *Journal of Psychosomatic Obstetrics & Gynecology* 2009;30:168-74.
- (133) Rothman KJ. Epidemiology, an introduction. 1 ed. Oxford University Press, 2002.
- (134) Nilsen RM, Vollset SE, Gjessing HK, Skjaerven R, Melve KK, Schreuder P, et al. Self-selection and bias in a large prospective pregnancy cohort in Norway. *Paediatr Perinat Epidemiol* 2009;23:597-608.
- (135) Tambs K, Moum T. How well can a few questionnaire items indicate anxiety and depression? *Acta Psychiatr Scand* 1993;87:364-7.
- (136) Fink P, Orbol E, Hansen MS, Sondergaard L, De JP. Detecting mental disorders in general hospitals by the SCL-8 scale. *J Psychosom Res* 2004;56:371-5.
- (137) Veijola J, Jokelainen J, Laksy K, Kantojarvi L, Kokkonen P, Jarvelin MR, et al. The Hopkins Symptom Checklist-25 in screening DSM-III-R axis-I disorders. *Nordic Journal of Psychiatry* 2003;57:119-23.
- (138) Nettelbladt P, Hansson L, Stefansson CG, Borgquist L, Nordstrom G. Test characteristics of the Hopkins Symptom Check List-25 (HSCL-25) in Sweden, using the Present State Examination (PSE-9) as a caseness criterion. *Social Psychiatry & Psychiatric Epidemiology* 1993;28:130-3.

- (139) Sandanger I, Moum T, Ingebrigtsen G, Dalgard OS, Sorensen T, Bruusgaard D. Concordance between symptom screening and diagnostic procedure: the Hopkins Symptom Checklist-25 and the Composite International Diagnostic Interview I. *Social Psychiatry & Psychiatric Epidemiology* 1998;33:345-54.
- (140) Eberhard-Gran M, Eskild A, Tambs K, Opjordsmoen S, Samuelsen SO. Review of validation studies of the Edinburgh Postnatal Depression Scale. *Acta Psychiatr Scand* 2001;104:243-9.
- (141) Murray D, Cox JL. Screening for depression during pregnancy with the edinburgh depression scale (EDDS). *Journal of Reproductive and Infant Psychology* 1990;8:99-107.
- (142) Garthus-Niegel S, Størksen HT, Torgersen L, von Soes T, Eberhard-Gran M. The Wijma Delivery Expectancy/Experience Questionnaire a factor analytic study. *Journal of Psychosomatic Obstetrics and Gynecology*. 2011;32:160-163.
- (143) Sterne JA, White IR, Carlin JB, Spratt M, Royston P, Kenward MG, et al. Multiple imputation for missing data in epidemiological and clinical research: potential and pitfalls. *BMJ* 2009;338:b2393.
- (144) Pallant J. SPSS Survival Manual. 3 ed. Open University Press, 2007.
- (145) Eberhard-Gran M, Eskild A, Opjordsmoen S. Treating mood disorders during pregnancy: safety considerations. [Review] [118 refs]. *Drug Saf* 2005;28:695-706.
- (146) Fønhus, M. S., Håvelsrud, K., Wang, H., and Reinar, L. M. [Internet]. Prosjekt: Depresjonsscreening av gravide og barselkvinner [Norwegian] [updated 2012] [http://www.kunnskapssenteret.no]. Accessed 7 June 2012.
- (147) National Institute for Health and Clinical Excellence (NICE). Antenatal care: Routine care for the healthy pregnant woman [updated 2007]

 [http://publications.nice.org.uk/antenatal-care-cg62/guidance#clinical-examination-of-pregnant-women]. Accessed 7 June 2012.
- (148) Sundhedsstyrelsen [Danish Helath and Medicines Authority]. Anbefalinger for svangreomsorgen [Danish]. [updated 2009] [<u>http://www.sst.dk</u>]. Accessed 7 June 2012.
- (149) Socialstyrelsen [The National Board of Health and Welfare]. Nationella riktlinjer for vård vid depression och ångestsyndrom 2010 [Swedish]. [updated 2010] [http://www.socialstyrelsen.se]. Accessed 7 June 2012.
- (150) Dennis CL, Ross LE, Grigoriadis S. Psychosocial and psychological interventions for treating antenatal depression. [Review] [65 refs]. *Cochrane Database of Systematic Reviews* (3):CD006309, 2007 2007;CD006309.



APPENDIX I

The Norwegian Mother and Child Cohort Study

Questionnaire at pregnancy week 17

den norske Mor & barn undersøkelsen

Questionnaire 1

This questionnaire will be processed by a computer. It is t	herefore important that you follow these instructions:									
Please use a blue or black ballpoint pen.										
 Put a cross in the box that is most relevant like this: Should you put a cross in the wrong box correct it by filling in the box completely like this: 										
In the large green boxes write a number or a capital letter										
It is important that you only write in the white area of each box li	ike this:									
Number: 0 1 2 3 4 5 6 7 8 9	Letter: A B C D									
When filling in a single figure in boxes containing two or more so	guares, please use the square to the right. Example:									
	f pregnancy. For example, fill in week 5 for something that occurred									
5 weeks after your last period.										
Specific information concerning, for example, medication or pro	fession should be written in the boxes or on the lines provided.									
Please write clearly in CAPITAL LETTERS.										
Remember to provide the date when you completed the question Officers and the date when you completed the question in the second of the date when you completed the question in the second of the date when you completed the question in the second of the date when you completed the question in the second of the date when you completed the question in the second of the date when you completed the question in the second of the date when you completed the question in the second of the date when you completed the question in the second of the date when you completed the question in the second of the date when you completed the question in the second of the date when you completed the question in the second of the date when you completed the question in the second of the date when you can be a second of the date whe										
Please return the completed questionnaire in	the stamped addressed envelope provided.									
Date on which the questionnaire was completed	(write the year with 4 numbers, e.g. 2000)									
Day Mo	onth Year									
Menstruation										
Mensudation										
1. How old were you when you had your first menstrual period?	6. During the last year before you became pregnant, did you lose your period for more than three months?									
Years	No									
2.How many days are there usually between the first day in your	Yes, due to an earlier pregnancy									
menstrual period and the first day in your next menstrual period?	Yes, for other reasons									
Days	7. Date of first day of last menstrual period.									
•										
3. Are you usually depressed or irritable before your period?	Day Month Year									
☐ No ☐ Yes, noticeably	8. Did your last menstrual period come at the expected time?									
☐ Yes, but just slightly ☐ Yes, very much	□ No									
4. If yes, does this feeling disappear after you get your period?	Yes									
□ No	9. Are you certain about the date of first day of last menstrual									
☐ Yes	period? Certain									
	Uncertain									
5. Were your periods regular the year before you became pregnant?	10. Describe the duration, amount of bleeding and menstrual									
□ No.	pains of your last period ?									
☐ Yes	As More than Less than usual usual usual									
_ 103										
	Duration									
	Duration									

Contraception and pregnancy	
11. Have you/your partner at any time during the last year used the following methods to avoid becoming pregnant? (Fill in all that apply.) Condom Diaphragm	20. If you became pregnant while using an IUD, has it now been removed? No Yes
☐ IUD☐ Hormone IUD	21. How long have you and the baby's father had a sexual relationship?
☐ Hormone injection ☐ Mini pill	months or years
□ Pill	
Spermicides (foam, suppositories, cream) Safe period	22. How often did you have sexual intercourse during the four weeks before you became pregnant and during the last four
Withdrawal	weeks? Before Now
☐ No such methods ☐ Other	Every day
12. If you have used the pill/mini-pill, how long altogether have	3-4 times a week
you used them? Pill Mini-pill	1-2 times a week
Less than one year	Less than 1-2 times every 2 weeks
1-3 years	Never
7-9 years	23. Have you ever been treated for infertility? No
10 years or more	Yes
13. If you have used the pill/mini-pill, how old were you when you first used it?	24. If yes, was it in connection with this pregnancy or an earlier
Years old	pregnancy and what type of treatment did you have? (Fill in all that apply.)
14. Were you taking the pill/mini-pill during the last 4 months	Earlier This Pregnancy Pregnancy
before this pregnancy?	Fallopian tube surgery
☐ No ☐ Yes	Medication for endometriosis
15. If yes, how long before your last menstrual period did you stop taking the pill/mini-pill?	Hormone treatment
Weeks	25. Have you been given information about having an
16. Was this pregnancy planned?	amniocentesis performed? ☐ No
□ No □ Yes	Yes
	26. What was your blood pressure at your first antenatal visit?
17. If yes, how many months did you have regular intercourse without contraception before you became pregnant?	(Check your medical card.)
Less than I month	
☐ 3 months or more	27. What did you weigh at the time you became pregnant and
Number of months if more than 3	what do you weigh now (in kilograms)? When I
18. Did you become pregnant even though you or your partner	became pregnant : kg Now: kg
used contraceptives? No (proceed to question 21)	28. How tall are you?
Yes	20. Now tall are you.
19. If yes, which type? (Fill in all that apply.)	cm
☐ Condom ☐ Diaphragm	29. How tall is the baby's father?
□ IUD	
☐ Hormone IUD ☐ Hormone injection	cm
Mini pill	30. How much does the baby's father weigh (in kilograms)?
☐ Pill ☐ Spermicides (foam, suppositories, cream)	,
Safe period	kg
☐ Withdrawal ☐ Other	

Prev	ious pre	gnan	cies						
	u been pregnan eed to question 3		(Include all	pregnancies	that ended in	abortion, miscarria	nge or stillbirt	h as well)	
State the year		began, ho	w many kilos	you gained d		bortion, miscarriage nancy and the numb			
Pregnancy Number pre	Year egnancy started	Live infant born	Spontaneous abortion/ stillbirth	Termination of pregnancy	Ectopic pregnancy	Week of pregnancy for abortion/ still birth	Number of months breast feeding	Weight gain during pregnancy (in kg)	Smoked during pregnancy
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									
1. Pelvic gi 2. Pelvic gi 3. Serious 4. Pre-ecla	u had any of the s? (Fill in all that irdle pain requirin irdle pain requirin nausea and vomi impsia during pre- icy diabetes urine	apply.) g medical g bed rest	N leave [to b	When did the pain months a	Iteave, when after start of prostop?	did the pain sta	
7. Problem	s with incontinen	ce				still have	; раш		
Illnes	sses and	l hea	Ith pro	blems	s during	g this pre	gnancy		
36. Have		g from the	e vagina ond	ce or more d	uring this preg	nancy?			
37. If yes, o	describe the firs Date wher			1		tarted, how many onter a cross in a box indicates	ating the amount of	_	
First bleedi Last bleedi						☐ Trace of blood		•	☐ Clots
	Day	Month	Year						
If more that	n two enisodes o	f bleeding	write in the	number of tim	nes				

38. Have you experienced any of the following illnesses or problems during this pregnancy? If you have used medication in connection with these problems give the name of the medicine, the weeks you took the medicines and how many days you took them. (Include all types of medication, both prescription and over the counter medicines in addition to alternative and herbal remedies. Do not include vitamins and dietary supplements as these are discussed elsewhere.)

Illness/health problem during this pregnancy	Use of medication during this preg				
Week of pregnancy	Week of pregnancy of c				
Illness/health problem 0-4 5-8 9-12 13+ Name of medicine taken	0-4 5-8 9-12 13+	taken			
1 Pelvic girdle pain					
2 Abdominal pain					
3 Back pain					
4 Neck and shoulder pain					
5 Nausea					
6 Nausea with vomiting					
7 Vaginal thrush					
8 Vaginal catarrh/unusual discharge .					
9 Pregnancy itch					
10 Constipation					
11 Diarrhoea/gastric flu					
12 Unusual tiredness/sleepiness \ \ \ \ \ \ \ \ \ \ \					
13 Sleeping problems					
14 Heartburn/reflux					
15 Oedema					
16 Fever with rash					
17 Fever over 38.5 C					
18 Common cold					
19 Throat infection					
20 Sinusitis/ear infection					
21 Influenza					
22 Pneumonia/bronchitis					
23 Sugar in urine					
24 Protein in urine					

Previous and current illnesses and health problems

39. Do you have or have you had any of the following illnesses or health problems? If you have taken medication (tablets, mixtures, suppositories, inhalers, creams, etc.) in conjunction with the illness or health problem give the name(s) of the medication(s) and when you took them.

Illness/health problem duri	ng this pregna	ncy	U	se of medication		
	Before [During		Last 6 months before	Pregnancy week	Number of days
Illness/health problem	Pregnancy F	Pregnancy	Name of medicines	pregnancy	0-4 5-8 9-12 13+	used
Asthma/Allergy/Skin disorders						
1 Asthma	_	_		_		
2 Hay fever, pollen allergy						
3 Animal hair allergy						
4 Other allergy						
5 Atopic dermatitis (childhood eczema)						
6 Urticaria (hives)						
7 Psoriasis						
8 Other eczema						
9 Cold sores (herpes)						
10 Acne/pimples (serious)						
Diabetes						
11 Diabetes treated with insulin						
12 Diabetes not treated with insulin						
Heart/Blood/Metabolism/Blood ve	ssels					
13 Congenital heart defect						
14 Other heart disease						
15 High cholesterol						
16 High blood pressure						
17 Hypothyroidism or hyperthyroidism						
18 Anaemia/low haemoglobin						
19 B-12/folic acid insufficiency						
Gastrointestinal						
20 Hepatitis/jaundice						
21 Gall stones						
22 Duodenal/stomach ulcer						
23 Crohn's disease/ulcerative colitis						
24 Celiac sprue (gluten sensitivity)						
25 Other gastro-intestinal problems						
Muscle/Skeleton/Connective tissu	e					
26 Arthritis (rheumatoid arthritis)/						
Bechterev's reflex						

Before During Pregnancy Pregnancy Name of medicines Pregnancy Pr
28 Sciatica
28 Sciatica
29 Fibromyalgia
Genital and urinary tract 30 Ovary/fallopian tube infection
30 Ovary/fallopian tube infection
31 Endometriosis
32 Uterus prolaps
33 Ovarian cyst
34 Myoma
35 Cervical cell changes
36 Herpes
37 Venereal warts/condyloma
38 Gonorrhea
39 Chlamydia
40 Kidney stones
41 Kidney infection/pyelonephritis
42 Urinary tract infections/cystitis
43 Incontinence
Other illnesses/health problems
44 Anorexia/bulimia/other eating disorders
45 Migraine
46 Other headache
47 Epilepsy
48 Multiple sclerosis
49 Cerebral palsy
50 Cancer
51 Depression
52 Anxiety
53 Other long illiness or health problems
Which

40. Do you have a congenital malfor No Yes 41. If yes, which? 42. Do your gums bleed when you No, rarely or never Yes, sometimes Yes, often Yes, almost always				ent?	your beca		term bloant? 0.5			came preg (HbA1c) be	inant, what was efore you
Other medicines											
44. Have you used other medication	n not pro	eviously	mention	ed? If ye	s, which					ancy weeks	
Name of medication (e.g. Valium, Rohypnol, Paracetamol)				_	Last 6 before p	months regnancy	0-4	5-8	9-12	13+	Number of days used
				-							
				-	[
				-							
					[
					[
Vitamins, minerals and dietary supplements											
45. Do you take vitamins, minerals No (proceed to question 49) Yes 46. If yes, fill in the table below for the taken cod liver oil for the last six months before bed	e vitamir coming pre	ns and mi gnant, enter	nerals for a cross for a	ound in the	under "Whe	n" (i.e. 7 cros	sses) and e		in "Daily" In this		ten"). v often
	26-9 weeks	8-5 weeks	4-0 weeks	0-4 weeks	5-8	9-12 weeks	13+ weeks	D	aily	4-6 times a week	1-3 times a week
1 Folate/folic acid 2 Vitamin B1 (Thiamine) 3 Vitamin B2 (Riboflavin) 4 Vitamin B6 (Pyridoxine) 5 Vitamin B12 6 Niacin 7 Pantothenic acid 8 Biotin 9 Vitamin C 10 Vitamin A 11 Vitamin D 12 Vitamin E 13 Iron 14 Calcium 15 Iodine 16 Zinc 17 Selenium 18 Copper 19 Chromium 20 Magnesium 21 Cod liver oil											

47. 0	ive th	ne co	omn	lete	nar	nels	s) of	all	vitan	nins	anc	l die	etarv	/ SU	pple	eme	nts	VOL	tak	e. In	clu	de a	lter	nati	ve/h	erb	al re	eme	dies	anc	die		
47. Give the complete name(s) of all vitamins and dietary supplements you take. Include alternative/herbal remedies and diet products. (Write clearly in CAPITAL LETTERS.)																																	
E ~	1/	1	T	1	D	1	E	X		W	1	7	H		1	D	Δ	N															
E.g.	,		′	A	r	L	2	Λ	Щ	VV	4	′	п		′	R	U	//	L		L	L	L	L	L	L	L	L	L		Щ	Ц	
1																																	
2				П														П															
	H	Н	H	Н	Н	Н	H	H	Н		=	\dashv	Н	H	H	Н	Н	H	H	H	H	H	H	H	H	H	H		H		Н	H	
3	L	Ш		Ш	Щ	Ш	Щ	Ш	Ш			Щ	Щ	Щ	Щ	Ш	Ш	Ш	L			L	L	L	L	L	L	L	L		Щ	Ц	
4																																	
5				П																													
6				П	П		П		П				П		П			П	Г				Г				Г				П		
	you i	use	mul	tivita	amir	ns (v	with	or v	witho	out n	nine	erals	s) do	the	ese	con	tain	foli	c ac	id?													
□ Y																																	
	on't k	(nov	,																														
C	ivi	ء ا	ta	tu	<u> </u>	ar	nd	_	dı	IC:	ati	io	n																				
						<u> </u>	-		ac		4 6		···																				
49. V	/hat is	s yo	ur c	ivil s	statı	us?																											
_	1arried					_	_		ced/	sepa	arate	ed																					
	ohabi	itant				_	_ v																										
	ingle					L	c	the	r																								
									by's	fath	er h	nave	e ? (E	nte	rac	ross	s ind	licati	ng t	he h	ighe	est l	evel	of e	duc	atio	n yo	u bo	th h	ave	com	plete	ed and
curren	Stud	ies ii	you	ı are	Still	Stu	ayın	g.)																You							's Fa		
																							olete	ed	On-	goir	g	Co	mpl	eted	0	n-go	ing
1 9-y 2 1-2																						_	7		ا [Ħ			H			H	
3 Te	-	-																				_			[
4 3-y	ear hi	gh s	cho	ol ge	ener	al st	udie	s, ju	unior	colle	ege					٠.									[
5 Reg																						_]	4			H			H	
 6 Un 7 Otl 						-								_								-			ا]	=			H			F	
2							-			-				-																			
V	Vor	k	ar	nd	le	is	ur	е																									
51. WI	nat wa	as yo	our	and	the	bab	y's t	fath	er's	wor	k si	tuat	tion	whe	en y	ou k	eca	me	pre	gna	nt?	(Fill	in o	ne o	r se	/era	l bo			ach.	,	,	-41-
1 S	tuden	t																											ou		Bab	y S I	ather
	t hom																											_					
	tern/a																											_					
4 N	ilitary	serv	vice																														
	nemp	-																										_					
	ehabil																											_				H	
	mploy																											_				F	
	mploy elf-em																											_				F	
																												_					
	0 Family member without steady income in family company (e.g. Farming, business)																																

52. Did you have an extra job (with or without sale became pregnant? (For example, accountant, hair of dance band, club leader) No Yes, describe 53. Have you been absent from your usual wor weeks altogether during this pregnancy? No Yes	dresser, singer in a	St. Are you absent No Yes The Several boxes.) Medical leave Leave of absence Sick child Other	the reason for y	·		
56. The usual number of paid working hours a week	ek before you became pr	Before the	pregnancy:	Hou		
(Questions about current work situation to be illness, being on leave or for similar reasons.)						
57. Describe the type of work carried out at your and the baby's father's place of work as accurately as possible. (Write for example, hospital department for children with cancer, body shop at a garage for diesel vehicles, farming with grain and swine, work in the home.)	You			Baby's Father		
58. Occupation/title at this workplace? (Write for example, staff nurse, mechanic, foreman, lecturer, student, cleaning assistant, housewife/at home.)						
59. Indicate the appropriate answer for each of t	he following questions o	Ye r r	es every day Yes e more than les nalf of the hal	every day Yes, ss than periodically If of the but not	/ Seldom or	
Do you sometimes have so much to do that your work situation becomes taxing? Do you have to turn or bend many times in the course of an hour? Do you work with your hands up at shoulder level or higher? Do you work standing or walking? Can you choose to work a little faster some days and a little slower on other days? Are you subjected to a lot of uncomfortable background noise? Are you subjected to a lot of background noise that makes you have to raise your voice when talking to others, even at a distance of one metre?						
60. How do the following statements describe	your work situation? (F	ill in only one box in e	ach line.)			
I have physically heavy work. My work is very stressful I learn a lot at work My work is very monotonous My work demands a lot of me. I am able to decide how my work is to be carried out. I lenjoy my work Agree Magree mostly Disagree mostly Disagree completely Disagree mostly Disagree						
61. When are your working hours? (Fill in one or Permanent day work Permanent afternoon or evening work Permanent night work Shift work or shift rotations No set times (extra help, extra shifts, temporary employed) Other	·	62. During your prethan 10 kg (10 kilos Seldom or never Yes, less than 20 tir Yes, more than 20 t Yes, 10-20 times a Yes, more than 20 t	s is the equivaler mes a week imes a week day	nt of a full bucket of At Hom		

63. How often have you worked with radio transmitters or radar after becoming pregnant? Seldom/Never	66. How often have you worked with a computer monitor, laser printer or copying machine (at a distance of less than two metres) after you became pregnant? Computer Copying
A few times a week	monitor Laser printer machine
☐ Daily☐ On average more than an hour daily	Seldom/Never
64. How often do you talk on a cell phone?	Daily
Seldom/Never A few times a week	an hour daily
Daily	67. How often have you worked with X-ray equipment (at a
On average more than an hour daily	distance of less than two metres) after you became pregnant? (This does not include treatment as a patient)
65. Do your cell phone calls last more than 15 minutes? Never	Seldom/Never A few times a week
Seldom Often	Daily
C. Oiteil	☐ On average more than an hour daily
68. Have you been in contact with any of the following substances either at w	vork or in your leisure time during the last six months? (Fill in each line.)
	If Yes, Fill in if you have Fill in if you number of days used a hood for have used
	the last 6 months gases or protective No Yes (daily = 180 days) breathing protection gloves
Lead vapours, lead dust, lead particles or lead alloys	
2 Chrome, arsenic, cadmium or combinations of these	
3 Gasoline or exhaust (does not apply to filling gasoline in your own car)	
4 Mercury vapours, mercury or work with amalgam fillings (does not apply to your own den	tal treatment)
5 Disinfectants, vermin poisons.	
6 Weed killers, insecticides, fungicides	
7 Oil-based paint	
8 Water-based or latex paint	
9 Paint thinner, paint-lacquer-glue remover or other solvents	
(e.g. lynol, turpentine, toluene, carbon tetrachloride)	
10 Industrial dyes or ink	
11 Motor oil, lubrication oil or other types of oil	
12 Photographic chemicals (fixatives or developers)	
13 Substances used in welding	
14 Substances used in soldering	
15 Formalin/formaldehyde	
16 Chemotherapeutic substances/chemotherapy treatment (does not apply to your own me	dical treatment).
17 Laughing gas or other anaesthetic gases (does not apply to your own treatment as a	a patient)
18 Other substances and conditions, describe	
69. How often have you been to a discotheque since you became pregnant?	70. Are you in contact with animals either at work or in your leisure time?
Less often	∐ No □ Yes
□ Never	

71. If yes, what sort of animals and how often are you in contact with them on a weekly basis? 3-6 times 1-2 times Daily a week a week a week	79. What is your and the baby's father's yearly gross income? (Include child support, unemployment benefits and other allowances.)
,	Your gross income Child's father's gross income
1 Dog	□ No income □ No income
2 Cat	☐ Under 150.000 NOK ☐ Under 150.000 NOK
3 Guinea pig	☐ 150-199.999 NOK ☐ 150-199.999 NOK
4 Hamster	200-299.999 NOK 200-299.999 NOK
5 Rabbit	☐ 300-399.999 NOK ☐ 300-399.999 NOK
6 Canary or other bird .	☐ 400-499.999 NOK ☐ 400-499.999 NOK
	□ over 500.000 NOK □ over 500.000 NOK
	Don't know
8 Cow	□ Boil t Niow
9 Pig	80. Is it possible for your household to manage financially without your income?
10 Sheep, goat	No
11 Horse	Yes, but with difficulty
12 Poultry	Yes, without difficulty
13 Other	81. What type of house do you live in?
	Detached house
	Farm
Housing and household	Semi detached
	Four-flat house
72. With whom do you live? (Fill in one or several boxes.)	Maisonette
☐ Spouse/partner	Terraced flat
Parents	Basement flat
☐ Parents-in-law	Apartment building
Children	☐ Townhouse/tenement
□ No one	☐ Which floor?
Other describe	Other
	Utilei
73. How many people including you live in your home?	82. Has there been damp damage, visible signs of
	fungus/mildew or a smell of mildew in your home in the past 3
Number of people over 18 years	months? (Fill in one or several boxes.)
N. ob conference to the conference of the confer	No
Number of people between 12 - 18 years	Yes, damp damage
Notes to the last of the last	Yes, signs of fungus and mould
Number of people between 6 - 11 years	Yes, a smell of mildew
Number of people under 6 years	00 M/h d d-i-him
Number of people under 6 years	83. Where does your drinking water come from? Public or private water company
74. How many children are at nursery school/day care?	Water from a local source (e.g. own well)
	Water from a local source (c.g. own well)
children	84. How many times have you moved in the last 3 years?
75. Do you or the baby's father have a mother tongue other than Norwegian?	
□ No	times
Yes	95 Has aware in your barre had influence a prelament south shildhood
	85.Has anyone in your home had influenza, a prolonged cough, childhood disease or an illness with fever and a rash after you became pregnant?
76. If yes, which language? You Baby's Father	No
Sámi	Yes
Urdu	
English	86. If yes, which illness? (fill in one or several boxes)
Other	German measles
	☐ Chicken pox
If other, which?	Measles
77. Do your parents or the baby's father's parents have a mother	☐ Roseola infantum ☐ Other fever with rash
tongue other than Norwegian?	Influenza
□ No	Prolonged cough
Yes	Tuberculosis
70 Kara arhigh language	Hand, foot and mouth disease
78. If yes, which language? Your Your Mother of Father of	Other
Mother Father the child's the child's	
father father	
Sámi	
Urdu	
English	
Other	
If other, which?	

Living habits	
87. Did your mother smoke when she was pregnant with you? No Yes Don't Know	102. Do you smoke when you are ill? ☐ No ☐ Yes
88. Are you exposed to passive smoking at home? No Yes	103. Do you smoke more often during the first few hours after you wake up than you do during the rest of the day? ☐ No ☐ Yes
89. If yes, how many hours a day are you exposed to passive smoking?	104. If you have used other kinds of nicotine indicate which and when you used them.
90. Are you exposed to passive smoking at work?	Before pregnancy During pregnancy Chewing tobacco/snuff
☐ No ☐ Yes 91. If yes, how many hours a day are you exposed to passive smoking?	Nicotine chewing gum
hours per day	105. What was your fluid consumption (number of cups/glasses) per day before and during pregnancy? (1 mug = 2 cups, 1 small plastic bottle (0.5 litre) = 4 cups, 1 large plastic bottle (1.5 litres) = 12 cups)
92. Did the baby's father smoke before you became pregnant? No Yes	Number of cups/glasses
93. Does he smoke now?	Before Decaffeinated pregnancy Now (Enter a cross)
□ No □ Yes	1 Filter coffee
94. Have you ever smoked? No (proceed to question 104)	2 Instant coffee
□ Yes 95. Do you smoke now (after you became pregnant)?	3 Boiled coffee
□ No	4 Tea
☐ Sometimes cigarettes per week	5 Herbal tea
☐ Daily cigarettes per day	6 Coca Cola/Pepsi etc
96. Did you smoke during the last 3 months before you became pregnant this time?	7 Other fizzy drinks
☐ Sometimes cigarettes per week	8 Diet Coca Cola/Pepsi .
□ Daily cigarettes per day	9 Other diet fizzy drinks .
97. How old were you when you started to smoke on a daily basis?	10 Tap water
Years	11 Bottled water
98. Have you stopped smoking completely? No Yes	Before Ecological pregnancy Now (Enter a cross)
99. If yes, how old were you when you stopped smoking?	12 Juice/squash
Years 100. If you stopped smoking after you became pregnant, in	13 Diet juice/squash
which week of pregnancy did you stop?	14 Milk (skim, low fat, whole)
week of pregnancy	15 Yogurt, all types
101. How long after you get up in the morning until you light your first cigarette?	16 Yogurt/active Lactobacillus
☐ 5 minutes ☐ 6-29 minutes ☐ 30-60 minutes	17 Other type of cultured milk - Kefir
☐ More than one hour	18 Other

106. Have you used any of the following substances?	113. Have other people irritated you or hurt your feelings by
Last month During Never Previously before pregnancy pregnancy	criticising how much you drink?
1 Hash	∐ Yes
2 Amphetamine .	114. Have you ever felt that you ought to drink less alcohol?
3 Ecstasy	∐ No □ Yes
5 Heroin	
	115. Have you ever drunk alcohol in the morning to calm your nerves or to get rid of a hangover?
107. Have you ever consumed alcohol?	No
☐ No (proceed to question 117)	Yes
Yes	440 11.
Alcohol units are used to compare the different types of alcoholic	116. Have you ever experienced any of the following problems during the last year in relation to your alcohol consumption?
beverages. 1 alcohol unit (= 1.5 cl. pure alcohol) is equivalent to:	Several
1 bottle/can energy drink or cider	Never Once times
1 glass (1/3 litre) of beer 1 wine glass red or white wine	Argued with or had negative feelings for a family member
1 sherry glass sherry or fortified wine 1 snaps glass spirits or liqueur	Suddenly found yourself somewhere
1 Shape glade opinio of Inqueur	without knowing how you got there
108. How often did you consume alcohol in the 3 months before you became pregnant and how often do you consume alcohol during the	Been absent from work or school
pregnancy?	Fainted or passed out suddenly
Last 3 months	Title 4 544 poilise
before During pregnancy pregnancy	
1 Approximately 6-7 times a week	Weight and weight control
2 Approximately 4-5 times a week	117. Do you think you were overweight just before this pregnancy?
3 Approximately 2-3 times a week	Yes, a lot
4 Approximately once a week	Yes, a little
6 Less than once a month	□ No
7 Never	118. Are you worried about putting on more weight than
109. What type of alcohol do you usually drink? (Fill in one or	necessary during this pregnancy?
several boxes.)	Yes, very worried Somewhat worried
1 Light beer	No, not especially worried
2 Beer	110. Has among said that you ware too thin while you felt that
3 Red wine	119. Has anyone said that you were too thin while you felt that you were overweight during the last 2 years?
5 Low alcohol sodas	Yes, often
6 Fortified wines (sherry, port, Madeira)	Yes, occasionally
7 Spirits (vodka, gin, snaps, cognac, whisky, liqueur) \square	∐ No
110. Did you drink 5 units or more at least once during the last	120. Have you ever felt that you lost control while eating and
3 months before pregnancy or during pregnancy? Last 3	were not able to stop before you have eaten far too much?
months before During pregnancy pregnancy	Last 6 months before this pregnancy Now
1 Several times per week	No
2 Once a week	Infrequently
3 1-3 times a month	Yes, at least once a week
4 Less than once a month	121. Have you ever used any of the following methods to
	control your weight?
111. How many units of alcohol do you usually drink when you consume alcohol? Last 3	Land Consenting
months before During pregnancy pregnancy	Last 6 months before this pregnancy Now
10 or more	At least Seldom/ At least Seldom/
7-9 🔲	once a week Never once a week Never
5-6	Vomiting
3-4	Fasting
Less than 1	Hard physical exercise
112. How many units of alcohol do you have to drink before you	400 le it immentent formans als immentent and a second and
feel any effect?	122. Is it important for your self-image that you maintain a certain weight? Yes, very important
	Yes, quite important
units	No, not especially important

Physical activity									
123. How often do you exercise? (Fill in each line for both	before a	nd during	this pre	gnancy.)					
		onths befo	ore this pr	· ·			ng this pre	egnancy	0
Never	1-3 times a month	1 time a week	2 times a week	3 or more times a week	Never	1-3 times a month	1 time a week	2 times a week	3 or more times a week
1 Walking									
124. How often do you do exercises for the following m		oups? (Fil months be			h before a		g this pre ring preg		
Never	1-3 times a month	1 time a week	2 times a week	3 or more times a week	Never	1-3 times a month	1 time a week	2 times a week	3 or more times a week
Abdominal muscles Back muscles Pelvic floor muscles (muscles around the vagina, urethra, anus)									
125. How often are you so physically active in your leisure and/or at work that you get out of breath or sweat?									
Last	3 months Leisure		s pregnar	ncy		During t	this pregr	ancy At work	
Never Less than once a week Once a week 2 times a week 3-4 times a week 5 times a week or more							ŕ		
A little more about yoursel	f and	l hov	v yo	u are	keep	oing	now	'	
My life is largely what I wanted it to be My life is very good I am satisfied with my life To date, I have achieved what is important for me in my life If I could start all over, there is very little I would do differen			D co	isagree mpletely Disa	Disa	what disa	r Agi	ewhat Agre	Agree completel
127. How do these statements describe your relationship?	(Only ans		u have a Agree	partner.) (F	II in only o	one box ir Disagree			agree
My husband/partner and I have a close relationship My partner and I have problems in our relationship I am very happy in my relationship My partner is usually understanding I often think about ending our relationship I am satisfied with my relationship with my partner We often disagree about important decisions I have been lucky in my choice of a partner We agree about how children should be raised I think my partner is satisfied with our relationship		Co	mpletely	Agree	somewhat	-			agree inpletely

	10	
128. Do you have anyone other than your husband/partner you can ask for advice in a difficult situation?		133. Have you ever been pressured or forced to have sexual intercourse? (Fill in one or several boxes.)
☐ No ☐ Yes 1-2 people ☐ Yes more than 2 people		Last 6 During this months before pregnancy pregnancy Earlier
129. How often do you meet or talk on the telephone with your family (other than those you live with) or close friends? ☐ Once a month or less		No, never
2-8 times a month More than twice a week		134. How do you feel about yourself? (Enter a cross for each line.)
130. Do you often feel lonely?		Agree Disagree completely Agree Disagree completely
☐ Almost never ☐ Seldom		I have a positive attitude toward myself
☐ Sometimes ☐ Usually		useless at times
☐ Almost always		I feel that I do not have much to be proud about
131. Have you been bothered by any of the following during the last two weeks? (Enter a cross for each line.)		I feel that I am a valuable person,
Not A little Quite Very bothered bothered bothered		as good as anyone else
Feeling fearful		135. Have you ever experienced the following for a continuous period of 2 weeks or more? (Fill in each line.)
Nervousness or shakeiness inside		Relt depressed, sad
132. Have you ever in your adult life been slapped, hit, kicked or bothered in any way physically? (fill in one or several boxes)		Really blamed yourself and felt worthless
Last 6 During this months before		Had problems with concentration or had problems making decisions
pregnancy pregnancy Earlier		Had at least 3 of the problems named above simultaneously
No		136. If you have had 3 or more of these problems at the same time, how many weeks did the longest period last? Weeks 137. Was there a particular reason for this? No, no particular reason Yes (e.g. death, divorce, miscarriage, accident)

We would be grateful if you would write anything else you would like to tell us about this pregnancy or previous births/pregnancies that are not addressed in this questionnaire on the next page.

Comments
Have you remembered to fill in the date on which you completed the questionnaire on page 1?
Thank you very much for your help!
Please return the completed questionnaire in the stamped addressed envelope provided.
Avd. for medisinsk fødselsregister Kalfarveien 31 5018 Bergen

APPENDIX II

The Norwegian Mother and Child Cohort Study

Questionnaire at pregnancy week 30

den norske Mor & barn undersøkelsen

Questionnaire 3C

This questionnaire applies mainly to the period after week 12 of your pregnancy. We will ask you some questions which you may recognise from the first questionnaire. We do this because we want to continue following your and your child's progress. It would be useful for you to consult your pregnancy health card before you start answering the questions so that you can use the information contained in it when completing this questionnaire. If you feel uncomfortable with a question or it is difficult to answer, you can skip this question and go on to the next one

This questionnaire will be processed by a computer. It is therefore important that you follow these instructions: Use a blue or black ballpoint pen. Put a cross in the box that is most relevant like this: If you put a cross in the wrong box, correct it by filling in the box completely like this: Write a number or capital letter in the large green boxes. It is important that you only write in the white area of each box like this: Number: 1 2 3 4 5 6 7 8 9 0 Letter: A B C D When entering a single-digit number in boxes containing two or more squares, use the square on the right. For example: 5 is written like this: A number of questions in this questionnaire concern the week of pregnancy. For example: If you want to indicate something that happened 14 weeks after your last period, enter a cross in the box for week 13-16. Specific information concerning, for example, medication or profession should be written in the boxes or on the lines provided. Please write clearly in CAPITAL LETTERS. Remember to enter the date when you completed the questionnaire. Please return the completed questionnaire in the stamped addressed envelope provided.							
Date when the questionnaire was completed Day Month Year (write the year in full, e.g. 2001)							
Antenatal care and health							
Where have you been to antenatal check- ups? (Fill in one or more boxes.) Specify how many times.	3. Is your doctor male or female? How many times have you gone to him/her?						
Public health centre times	General practitioner						
☐ Doctor's surgery times	☐ male times						
☐ Hospital (outpatients) clinic times	Gynaecologist						
Who has examined you each time? (Fill in one or more boxes.) Specify how many times.	☐ male times						
Midwife	4. If you visit or have visited a gynaecologist or hospital clinic for your antenatal check-ups, what is or was the reason?						
General practitioner times	Referred due to complications during this pregnancy						
Gynaecologist times	Referred due to previous illness or complications in previous pregnancies						
Public health nurse times	☐ On your own initiative without a referral ☐ Referred for another reason						
	☐ Referred for another reason						

Questionnaire 3c M&B 20,000 1101

Do you agree with the following statements concerning your antenatal check-ups?	14. Were there complications during the first 2 weeks following the amniocentesis?						
Agree Agree Disagree Disagree Disagree completely Agree somewhat somewhat completely	No						
I have been given sufficient advice and information	Yes						
I have been well taken care of	15. If yes, what kind of complications?Vaginal bleeding						
There was not enough time during the consultations	Leakage of amniotic fluid Abdominal pain (similar to or stronger than menstrual pains) Other						
I felt secure during these check-ups	16. Have you had an X-ray during pregnancy?						
I have been able to discuss everything I needed to during the check-ups	☐ No ☐ Yes						
On the whole, I am satisfied with the way I have been followed up by the health service \ \qquad \qquad \qquad \qquad \qquad \qquad \qqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqq	17. If yes, what part of your body was X-rayed? How many X-rays were taken and in which week of pregnancy? (Fill in one or more boxes.) Week of pregnancy No. of 1.12 1.16 1.17 20 21 21 25 28 294 times						
6. Have you contacted a midwife or doctor in addition to your	0-12 13-16 17-20 21-24 25-28 29+ times						
normal check-ups? No Yes	Teeth						
Midwife	Lungs.						
7.lf yes, was it difficult to get an appointment?	Arms or legs						
Midwife Doctor Not difficult □ □	Pelvis/abdomen/ back						
Somewhat difficult	Other						
8. Have you had a gynaecological examination during your pregnancy (internal examination)? If so, how many times? No Yes Times	18. Have you received treatment to prevent a premature birth during this pregnancy? (Fill in one or more boxes.) No Yes, relax or bed-rest Yes, medication Which medicines?						
How many ultrasound examinations have you had during your pregnancy?	19. Have you been vaccinated during this pregnancy?☐ No☐ Yes						
External ultrasound examination Times	Which vaccine?						
Internal ultrasound examination Times 10. How many children are you expecting?	 20. Has the midwife or doctor told you that you have or have had high blood pressure during this pregnancy? No Yes 						
11. Have you been offered an amniocentesis or placenta biopsy? No (go to question 16) Yes	21. If yes, what was the highest reading during this pregnancy? (High blood pressure is over 140/90) (Refer to your health card.)						
12. If yes, were any tests performed and what were the results? Was the test performed? Were the results normal?	/ E.g. 150/ 95						
Yes No Yes No Amniocentesis	Don't know22. Have you had high blood pressure without being pregnant?						
	☐ No ☐ Yes ☐ Don't know						
13. If an amniocentesis or placenta biopsy was performed, what was the reason?	23. If yes, what was the highest reading before this						
☐ Due to my age (normally 38 or older at the time of delivery) ☐ Previous child with a chromosome disorder	pregnancy?						
Previous child with neural tube defect (spina bifida)	/ E.g. 150/ 95						
☐ Epilepsy (medication for epilepsy) ☐ Ultrasound findings ☐ Other	☐ Don't know						

	What was your blood percent ing this pregnancy? (Refer to most recent, in addition to the	your health card a	and not	e the		much did yo when was it?				check-up
	most recent, in addition to the	Haemoglobin (Hb)	W	/eek preg				1.		
		(FID)	01	pieg	Weigl	nt	<u></u>	kg		
	e at last antenatal check-up ng pregnancy	,								
High	nest value during pregnancy					of antenatal				
Low	rest value during pregnancy				checl	k -up	Day	Month	ı Ye	ar
	Don't know	,	L							
	DOTT KNOW									
26	Have you been admitted to	the hospital sinc	e vou b	necame prec	mant?					
ı		the nospital sinc	e you i	became preg	griarit:					
□ \	Yes, which hospital(s)									
			···							
27.	If yes, why and when were	you hospitalised?	? (Fill in	one or more	,	which week	of pregnan	cy were y	ou admitted	?
					0–4	5–8 9–12	13–16	17–20 2	1–24 25–28	29+
	Prolonged nausea and vomit	•								
	Bleeding									
	Leakage of amniotic fluid							H		
	Threatening preterm labour . High blood pressure							H		
П	(Pre-)Eclampsia				П		П	П		Ä
	Other									
28.	Do you have or have you e	ver had any of the		ving? yes, how oft	en have you	had problem	ıs?		How much a	at a time?
				1–4	1–6		More that	an		
	Before this pregnancy:	No	Yes	1–4 times a month	1-6 times a week	Once a day	More that once a day	an	Drops	Large amounts
	Before this pregnancy: Incontinence when coughing, snee		Yes	times	times		once	an	Drops	
	Incontinence when coughing, snee	ezing or laughing		times	times a week		once	an	Drops	
	Incontinence when coughing, sner Incontinence during physical (running / jumping)	ezing or laughing activity		times	times a week		once	an	Drops	
	Incontinence when coughing, snee Incontinence during physical (running / jumping)	ezing or laughing activity		times	times a week		once	ลท	Drops	
	Incontinence when coughing, snet Incontinence during physical (running / jumping)	ezing or laughing activity to urinate.		times	times a week		once	an	Drops	
	Incontinence when coughing, snee Incontinence during physical (running / jumping) Incontinence with a strong need Problems retaining faeces Problems with flatulence	ezing or laughing activity to urinate.		times	times a week		once	an	Drops	
	Incontinence when coughing, snee Incontinence during physical (running / jumping)	ezing or laughing activity to urinate.		times	times a week		once	an	Drops	
	Incontinence when coughing, snee Incontinence during physical (running / jumping)	ezing or laughing activity		times	times a week		once	an	Drops	
	Incontinence when coughing, snee Incontinence during physical (running / jumping)	ezing or laughing activity		times	times a week		once	an	Drops	
	Incontinence when coughing, snee Incontinence during physical (running / jumping)	ezing or laughing activity to urinate		times	times a week		once	an		
	Incontinence when coughing, snee Incontinence during physical (running / jumping)	ezing or laughing activity		times a month	times a week	a day	once	an		
	Incontinence when coughing, snee Incontinence during physical (running / jumping) Incontinence with a strong need Problems retaining faeces Problems with flatulence In this pregnancy: Incontinence when coughing, snee Incontinence during physical (running / jumping) Incontinence with a strong no Problems retaining faeces	ezing or laughing activity		times a month	times a week	a day	once	an		
29.	Incontinence when coughing, snee Incontinence during physical (running / jumping) Incontinence with a strong need Problems retaining faeces Problems with flatulence In this pregnancy: Incontinence when coughing, snee Incontinence during physical (running / jumping) Incontinence with a strong no Problems retaining faeces	ezing or laughing activity to urinate		times a month	times a week	a day	once a day			
29.	Incontinence when coughing, snee Incontinence during physical (running / jumping)	ezing or laughing activity to urinate	the following this p	times a month	times a week	a day	once a day	egnancies	Prior to firs	amounts
29.	Incontinence when coughing, snee Incontinence during physical (running / jumping)	ezing or laughing activity to urinate	the following this p	times a month	times a week	a day	once a day			amounts
29.	Incontinence when coughing, snee Incontinence during physical (running / jumping)	ezing or laughing activity to urinate	the following this p	times a month	times a week	a day	once a day	egnancies Severe	Prior to firs	amounts
29.	Incontinence when coughing, sneel Incontinence during physical (running / jumping)	ezing or laughing activity to urinate	the following this p	times a month	times a week	a day	once a day	egnancies Severe	Prior to firs	amounts
29.	Incontinence when coughing, snee Incontinence during physical (running / jumping) Incontinence with a strong need Problems retaining faeces Problems with flatulence In this pregnancy: Incontinence when coughing, snee Incontinence during physical (running / jumping) Incontinence with a strong need I	ezing or laughing activity to urinate	the following this p	times a month	times a week	a day	once a day	egnancies Severe	Prior to firs	amounts
29.	Incontinence when coughing, snee Incontinence during physical (running / jumping)	ezing or laughing activity to urinate	the following this p	times a month	times a week	a day	once a day	egnancies Severe	Prior to firs	amounts
29.	Incontinence when coughing, snee Incontinence during physical (running / jumping)	ezing or laughing activity to urinate	the following this p	times a month	times a week	a day	once a day	egnancies Severe	Prior to firs	amounts
29.	Incontinence when coughing, snee Incontinence during physical (running / jumping)	ezing or laughing activity to urinate	the following this p	times a month	times a week	a day	once a day	egnancies Severe	Prior to firs	amounts

30. Do you wake up at night due to pelvic pain?	39. If yes, where and when was it done?
Yes, frequently	(Fill in one or more boxes.)
Yes, sometimes No, never	Tattoo Body piercing
ino, never	Before this pregnancy: In Norway
	Abroad
31. Do you have to use a stick or crutches in order to walk	
due to pelvic pain?	During this pregnancy: In Norway
 No, never Yes, but not every day, the pain varies from day to day 	Abroad
Yes, I have to use a stick or crutches every day	
	40. Have you ever had a blood transfusion? If yes, give the
	number of transfusions.
32. Have you received an anaesthetic in connection with surgery or dental treatment during this pregnancy?	No
No	Yes, during this pregnancy
Yes	Yes, before this pregnancy Times
	Times
	41. If yes, in which country and which year? (Give the last
 If yes, what type of anaesthetic have you had? (Fill in one or more boxes.) 	2 transfusions.) YEAR
General (full) anaesthetic	
Spinal anaesthetic (epidural)	Country:
Local anaesthetic	
☐ Don't know	Country:
34. Have you been to the dentist during this pregnancy? No	42. Have you ever had breast surgery?
Yes	No
	Yes
35. If yes, did the dentist perform any of the following treat-	
ments? (Fill in one or more boxes.)	43. If yes, was it:
Yes No	☐ Breast enlargement
Put in new amalgam fillings (silver fillings)	☐ Breast reduction ☐ Cancer/biopsy
Removed or replaced amalgam fillings	Other, describe:
Put in new white fillings	
	44. Have you ever had cervical dysplasia?
36. How many teeth do you have and how many have	□ No
fillings? (Look in the mirror and count.)	Yes
Total number of teeth	Year the dysplasia was detected the first time
Number of teeth with amalgam fillings	45. Have you had an operation on your cervix?
	□ No
Number of teeth with other types of fillings	Yes
	Year of operation
37. At present, do your gums bleed when you brush your	
teeth?	46. Have you ever had a gamma globulin injection? (used
☐ No, seldom or never☐ Yes, sometimes	to prevent infection of hepatitis A, primarily when
Yes, frequently	travelling abroad.)
Yes, nearly always	☐ Yes
38. Have you had a tattoo or body piercing, including extra holes in the ears? (Do not include pierced ears if you	If yes, which year?
have one hole in each ear.)	
□ No	
Yes	

How have you been recently?														
Some questions about the time that has elapsed since the 13th week of pregnancy.														
47 .	47. Have you had one or more episodes of vaginal bleeding after the 13th week of pregnancy? No Yes													
48.	If yes, how much did you bleed, in which week(s) of pregnancy and how many days did the bleeding last? (If you have had more than 2 episodes of bleeding, describe the last 2 only.)													
	more than 2 episo		amour	nt of bl	lood		In which week of pregnancy did the bleeding occur? 13–16 17–20 21–24 25–28 29+	No. of days bleeding lasted						
	1. Spotting	☐ More	than s	spottin	g 🗌	Large	amounts	Щ						
	2. Spotting	☐ More	than s	spottin	g 🗆	Large	amounts							
	☐ Number of episodes of bleeding if more than 2													
	49. Do you know why you bled? No Yes No Yes If yes, what was the reason? (Fill in one or more boxes.) The placenta is too low/is in a difficult position/placenta previa Premature separation of the placenta/abruptio/ablatio placenta Threatening miscarriage/premature birth Cervical ulcer, bleeding of the mucous membrane in the vagina Following intercourse Other reason													
	Following intercourse	ig of the mi	icous r	Herribra										
mix hov	Following intercourse Other reason Do you have or have y tures, suppositories, it wong you took them.	you had an nhalers, cn (Fill in one ie. Do not i In wh did 13-	y of the eams, or modinclude nich well you h	e followetc. in re boxe vitamineek of nave pro	wing ill conne es.) (Th ins and pregnaroblem 25-	nesses ction w is appli I nutriti	or problems after the 13th week of pregnancy? If you have use the the illness or problem, give the name(s) of the medication(s) is to all types of medicines including alternative and herbal rennal supplements as these are asked about elsewhere.) In which week of prediction of the	when and edies, both when and edies, but when a supplication and edies, but when a supplic						
mix hov	Following intercourse Other reason Do you have or have y tures, suppositories, it wong you took them.	you had an nhalers, cn (Fill in one ie. Do not i In wh did	y of the eams, or modinclude	e followetc. in re boxe vitamineek of nave pr	wing ill conne es.) (Th ins and pregna	nesses ction w is appli I nutriti ancy is?	or problems after the 13th week of pregnancy? If you have use th the illness or problem, give the name(s) of the medication(s) is to all types of medicines including alternative and herbal ren nal supplements as these are asked about elsewhere.) In which week of preg did you take medic	when and edies, both when and edies, but when a supplication and edies, but when a supplic						
mix hov	Following intercourse Other reason Do you have or have y tures, suppositories, it wong you took them.	you had an nhalers, cr (Fill in one se. Do not i In wh did 13- 16	y of the eams, or modinclude nich well you h	e followetc. in re boxe vitamineek of nave pro	wing ill conne es.) (Th ins and pregnaroblem 25-	nesses ction w is appli I nutriti ancy is?	or problems after the 13th week of pregnancy? If you have use the the illness or problem, give the name(s) of the medication(s) is to all types of medicines including alternative and herbal rennal supplements as these are asked about elsewhere.) In which week of prediction of the	when and edies, both when and edies, but when a supplication and edies, but when a supplic						
mix hov reg	Following intercourse Other reason Do you have or have yourses, suppositories, in wong you took them. ular and occasional us	you had annhalers, cr. (Fill in one ie. Do not i In who did 13- 16	y of the eams, or modinclude nich well you h	e followetc. in re boxe vitamineek of nave pro	wing ill conne es.) (Th ins and pregnaroblem 25-	nesses ction w is appli I nutriti ancy is?	or problems after the 13th week of pregnancy? If you have use the the illness or problem, give the name(s) of the medication(s) is to all types of medicines including alternative and herbal rennal supplements as these are asked about elsewhere.) In which week of prediction of the	when and edies, both when and edies, but when a supplication and edies, but when a supplic						
mix how reg	Following intercourse Other reason Do you have or have your course, suppositories, in wong you took them. utlar and occasional us Pelvic girdle pain .	you had annhalers, cr (Fill in one te. Do not i In wh did 13- 16	y of the eams, or modinclude nich well you h	e followetc. in re boxe vitamineek of nave pro	wing ill conne es.) (Th ins and pregnaroblem 25-	nesses ction w is appli I nutriti ancy is?	or problems after the 13th week of pregnancy? If you have use the the illness or problem, give the name(s) of the medication(s) is to all types of medicines including alternative and herbal rennal supplements as these are asked about elsewhere.) In which week of prediction of the	when and edies, both when and edies, but when a supplication and edies, but when a supplic						
mix how reg	Following intercourse Other reason Do you have or have your courses, suppositories, in wong you took them. ullar and occasional us Pelvic girdle pain . Back pains	you had annhalers, cr. (Fill in one ie. Do not i In who did 13- 16	y of the eams, or modinclude nich well you h	e followetc. in re boxe vitamineek of nave pro	wing ill conne es.) (Th ins and pregnaroblem 25-	nesses ction w is appli I nutriti ancy is?	or problems after the 13th week of pregnancy? If you have use the the illness or problem, give the name(s) of the medication(s) is to all types of medicines including alternative and herbal rennal supplements as these are asked about elsewhere.) In which week of prediction of the	when and edies, both when and edies, but when a supplication and edies, but when a supplic						
mix hov reg	Following intercourse Other reason Do you have or have your course, suppositories, in wong you took them. In pullar and occasional us Pelvic girdle pain Back pains Other pains in muscles/joints	you had annhalers, cr. (Fill in one ie. Do not i In who didd 13- 16	y of the eams, or modinclude nich well you h	e followetc. in re boxe vitamineek of nave pro	wing ill conne es.) (Th ins and pregnaroblem 25-	nesses ction w is appli I nutriti ancy is?	or problems after the 13th week of pregnancy? If you have use the the illness or problem, give the name(s) of the medication(s) is to all types of medicines including alternative and herbal rennal supplements as these are asked about elsewhere.) In which week of prediction of the	when and edies, both when and edies, but when a subject when a su						
nix hov reg	Following intercourse Other reason Do you have or have your course, suppositories, in wong you took them. ular and occasional us Pelvic girdle pain Back pains Other pains in muscles/joints Nausea Long-term nausea	you had an nhalers, crifill in one lee. Do not it lid did 13-16	y of the eams, or moinclude nich we will 177-20	e followetc. in re boxe vitamineek of nave pro	wing ill conne ss.) (Thins and or oblem 25-, 28	nesses ction w is appli I nutriti ancy is?	or problems after the 13th week of pregnancy? If you have use the the illness or problem, give the name(s) of the medication(s) is to all types of medicines including alternative and herbal rennal supplements as these are asked about elsewhere.) In which week of prediction of the medication taken 16 20 24 28 25 26 26 26 26 26 26 26 26 26 26 26 26 26	when and edies, both when and edies, but when a subject when a su						
nix how reg	Following intercourse Other reason Do you have or have yetures, suppositories, in wong you took them. ular and occasional us Pelvic girdle pain Back pains Other pains in muscles/joints Nausea Long-term nausea and vomiting	you had an nhalers, cr. (Fill in one lee. Do not in did did did did did did did did did	y of the eams, or moinclude nich we will 177-20	e followetc. in re boxe vitamineek of nave pro	wing ill conne ss.) (Thins and or oblem 25-, 28	nesses ction w is appli I nutriti ancy is?	or problems after the 13th week of pregnancy? If you have use the the illness or problem, give the name(s) of the medication(s) is to all types of medicines including alternative and herbal rennal supplements as these are asked about elsewhere.) In which week of prediction of the medication taken 16 20 24 28 25 26 26 26 26 26 26 26 26 26 26 26 26 26	when and edies, both when and edies, but when a subject when a su						
nix how reg	Following intercourse Other reason Do you have or have your course, suppositories, in wong you took them. ular and occasional us Pelvic girdle pain Back pains Other pains in muscles/joints Nausea Long-term nausea and vomiting Vaginal thrush Vaginal catarrh,	you had an nhalers, cru (Fill in one lee. Do not it lin who did 13-16	y of the eams, or moinclude nich we will 177-20	e followetc. in re boxe vitamineek of nave pro	wing ill conne ss.) (Thins and or oblem 25-, 28	nesses ction w is appli I nutriti ancy is?	or problems after the 13th week of pregnancy? If you have use the the illness or problem, give the name(s) of the medication(s) is to all types of medicines including alternative and herbal rennal supplements as these are asked about elsewhere.) In which week of prediction of the medication taken 16 20 24 28 25 26 26 26 26 26 26 26 26 26 26 26 26 26	when and edies, both when and edies, but when a subject when a su						
1 2 3 4 5 6 7	Following intercourse Other reason Do you have or have yetures, suppositories, in wong you took them. ular and occasional us Pelvic girdle pain Back pains Other pains in muscles/joints Nausea Long-term nausea and vomiting Vaginal thrush Vaginal catarrh, unusual discharge.	you had an anhalers, cru (Fill in one lee. Do not in the did 13-16	y of the eams, or moinclude nich we will 177-20	e followetc. in re boxe vitamineek of nave pro	wing ill conne ss.) (Thins and or oblem 25-, 28	nesses ction w is appli I nutriti ancy is?	or problems after the 13th week of pregnancy? If you have use the the illness or problem, give the name(s) of the medication(s) is to all types of medicines including alternative and herbal rennal supplements as these are asked about elsewhere.) In which week of prediction of the medication taken 16 20 24 28 25 26 26 26 26 26 26 26 26 26 26 26 26 26	when and edies, both when and edies, but when a subject when a su						

							6						
		did 13-	nich we you h	ave pr 21-	oblem 25-		T	dio 13-	d you t 17-	eek of ake mo	edicati 25-		No. of days taken
11	Llauranal fatigue	16	20	24	28		The name of the medication taken	16	20	24	28		
11	Unusual fatigue /drowsiness												
	Heartburn												
13	Swelling of the body (oedema)												
14	Common cold												
15	Throat infection												
16	Sinusitis/ear infection												
17	Influenza												
18	Pneumonia /bronchitis												
19	Other cough												
20	Sugar in urine												
	Protein in urine												
22	Bladder infection/ cystitis												
23	Incontinence												
24	High blood pressure												
25	Leg cramps												
26	Asthma												
27	Hay fever/other allergy												
28	Headache/migraine												
29	Depression					□ .							
30	Other psychological problems												
31	Other												
53. If	53. If you have had a fever once or more since the 13th week of pregnancy, indicate in which week of pregnancy, name of any medication												
	taken to reduce the fever and the highest temperature measured. (If more than 3 times, indicate the last 3.)												
Which week of pregnancy did you have a fever? taken to lower temperature										Temperature not taken			
,	et time									П	T	i	
1:	st time			_						Ħ	-	°C	
2	nd time					-			_	H	7	°C	
3	rd time					_			_	Ц	,	°C	
	Fever more than 3 times												

54.	Have you taken other medication after the 13th w the name, when and how many days altogether the remedies, both regular and occasional use. Do not in	medication	was take	n for. (Thi	s applies	to all typ	es of me	dicines in	cluding a	Iternative ar	
	Name of medication (e.g. Valium, Rohypnol, Paracetamol)						medicati 17–20		ek of preg 25–28	nancy 29+	No. of days taken
55.	During this pregnancy have you been invol- injured (e.g. traffic accident, fall, hit in the sto No Yes	ved in an mach)?	accider	t or bee	en		56. If	yes, in	which v	veek of pr	egnancy?
1	/itamins, minerals and	dieta	ary s	supp	lem	ent	S				
57.	Have you taken vitamins, minerals or other No (go to question 61)	nutrition	al suppl	ements	after th	e 13th	week of	pregna	ancy?		
	Yes If you take supplements, please find the pa	ackage/bo	ottle.								
58.	Fill in the table below for the vitamins and approximately how often you have taken the		found o	n the vit	amin pa	ackage	/bottle.	Fill in w	hen and	I	
	-	Week of	pregna	ncy supp	olement	taken?	_	How	often did	you take thi	is supplement?
		13–16	17–20	21–24	25–28	29+			Daily	times a week	times a week
1	Folate/folic acid										
	Vitamin B1 (Thiamine)										
	Vitamin B2 (Riboflavin)										
	Vitamin B12										
	Niacin										
7	Pantothenic acid										
8	Biotin										
9	Vitamin C										
10	Vitamin A										
	Vitamin D										
	Vitamin E										
	Calcium										
	lodine										
16	Zinc										
17	Selenium										
18	Copper										
19	Chromium										
	Magnesium										
	Cod liver oil										
22	Omega-3 fatty acid										

59.	Give the																			clud	e al	so h	erba	l ren	nedie	s and	l diet	:
1	e.g.	V	1	T	Α	P	L	E	Х		М	E	D		J	E	R	N									Т	
•			T	Ť	T		Т	T																			寸	
2	-	+	H	÷	+		H	H																			+	-
3			L	L																							\perp	
4		Т	Г	Т	Т			Г																			Т	
4			÷	÷	+		H																				+	-
5			L	L																								
6																												
60	If you	taka i	mult	ivito	mino	(sarit)	h or	with	out n	oino	rale)	do	thon		ntoir	fold	nto/6	olio	oid'									
00.	No No	lake i	nun	ivita	1111115	(VVIL	ii Oi	WILII	out II	IIIIe	ais),	uo	uies	6 60	IIIaii	1 1016	ate/i	one a	iciu									
	Yes																											
	Don't k	now																										
V	VOR	K																										
61.	Have yo pregnan		en in	paid	d em	ployı	ment	dur	ing tl	nis					66.	this	pre	gnar	icy r	nakir	ng ye	our j			n cha suita			
	No (go to	o ques	stion	76)											П	No	v uria	it yo	u are	pre	gnai	itr						
	Yes														Yes													
62.	Do you l	nave	the	samo	e job	con	ditio	ns no	ow a	fter t	the																	
	13th we			gnan	cy th	at y	ou d	escri	bed	n th	e fir	st			67.										ns no for y		n	
	No	manc	•														nec						J		,	-		
	Yes (go t	o que	stio	n 66))															arly in	npos	sible	;					
63.	If no, in	which	ı we	ek c	of voi	ır pr	eana	ncv	did v	our	work	(
	situation				,,	_	-3	,	,																			
	Week of	pregi	nanc	CV												IVOI	ie oi	trie a	abov	e (ex	piaii	wriy	')					
						_									68.	Wh	at ar	е уо	ur w	orkir	ng h	ours	? (Fil	ll in e	one c	or mo	re bo	xes.)
	How has					on cl	nang	ed?								Per	mane	ent d	ay w	ork								
	I have st				-									Permanent afternoon or evening work														
	I have go Other	one ov	er u	оар	art-ti	me p	OSITI	on							H				-	work rota								
				a al	. a ulcin		da e d	lial		2												shift	s, ten	npora	ary em	ploym	ent, e	tc.)
	lf you ha I handed				OI KII	ıg, w	riy 0	iiu y	วน รถ	ν h ι						Oth												
\equiv	The work				rv (se	asor	nals	hort-	term	cont	ract)																	
	I was fire		tom	рога	. y (OC	uooi	iai, o	11011	tomi	00111	ilaotj																	
	Other																											
60	America		-6.0	ha s	.lle:	in.								, /E·	II :	2001	ite	. \										
09.	Answer	eacii	OI L	ne n	JIIOW	iiig c	lues	uons	ior	oui	pres	ent	WOII	(FI		acii	itein	.)		s dail			daily			es		
																				re than			s tha alf of			odical t not	y, S	eldom or
																				ing h						aily		never
	Do you ev	er hav	e so	much	n to de	that	your	work	situat	ion b	ecom	nes st	ressf	ul and	d ann	oying	?								[
	Do you ha					-		-																	[_		
	Do you wo																			H			H] [=		H
	Do you wo In some job			-		_																			·			
	a little fast																								[
	Is there so																								[
	Is there so with othe																								[

70. How often have you worked with a radio transmitter or radar after the 13th week of pregnancy? Seldom/never A few times a week Daily On average, more than 1 hour a day 71. How often have you worked with X-ray equipment (at a distance of less than 2 metres) after the 13th week of pregnancy? (Do not include treatment as a patient.) Seldom/never A few times a week Daily On average, more than 1 hour a day 72. Have you been absent from your normal job for more than two weeks after the 13th week of pregnancy?	73. Are you absent from regular work at the present time? No Yes, part time Yes 74. If yes, why are you currently absent from work? (Fill in for only one item.) Sick leave (with sick compensation pay) Absent due to sick child Made redundant with compensation Absent with maternity allowance due to the working environment Started maternity leave (with allowance) Service leave Other (describe)
□ No □ Yes, part time	
Yes	
75. Complete the table below if you were on sick leave (full or part pelvic girdle pain, pneumonia), which weeks you were on sick leave represents. (Give one reason for sick leave per lir	leave, the number of days and the percentage of time each peri-
Reason for sick leave	Sick leave during week of pregnancy: Number of % days sick leave
neason for sick leave	13- 17- 21- 25- 29+ days sick leave 16 20 24 28
Example: Pelvic girdle pain	
	Habits
76. Do you currently lift anything over 10 kilos while you are pregnant? (10 kilos is equivalent to a full bucket of water) Home Work Seldom or never	79. How often do you talk on a mobile phone? Seldom/never A few times a week Daily On average, more than 1 hour a day 80. Do you talk on your mobile phone for longer than 15
 77. Have others helped you with housework or childcare more than they usually do to relieve you during this pregnancy? Yes, considerably 	minutes at a time? Never Seldom Frequently
Yes, to a fair extent No, no one has offered	81. How frequently have you worked with a computer monitor, laser printer or photocopy machine (at a distance of less than 2 metres) after the 13th week of pregnancy?
No, it has not been necessary	Computer Laser Photocopy monitor printer machine
78. If you are on maternity leave for this pregnancy, when did it start? Date:	Seldom/never
day month year	1 hour a day

82. Do you live close to high-voltage power lines? No Yes, closer than 50 metres Yes, between 50 - 100 metres Yes, more than 100 metres	83. How often have you been to a discotheque since you answered the previous questionnaire? Never At least 1-2 times a week Less often
84. How often do you exercise at present? (Fill in for each item	1.) 1-3 3 times times Once Twice or more Never a month a week a week a week
1. Walking . 2. Brisk walking . 3. Running/jogging/orienteering . 4. Cycling . 5. Training studio/weight training . 6. Special gymnastics/aerobics for pregnant women . 7. Aerobics/gymnastics/dance without running and jumping . 8. Aerobics/gymnastics/dance with running and jumping . 9. Dancing (swing/rock/folk) . 10. Skiing . 11. Ball sports . 12. Swimming . 13. Riding . 14. Other .	
85. How often do you do exercises at home or at a gym for the Never Abdominal muscles Back muscles Pelvic floor muscles	1-3 times Once Twice 3 times
86. How often at the moment are you so physically active in you sweat? (Fill in for both spare time and work.) Never	our spare time and/or at work that you get out of breath or Spare time At work
Less than once a week Once a week Twice a week 3-4 times a week 5 or more times a week	
87. How often on average have you had sexual intercourse during the last month? Daily 5-6 times a week 3-4 times a week 1-2 times a week Less frequently Never	89. If yes, which countries did you visit and when? Country Month Year I I I I I I I I I I I I I I I I I I I
88. Have you been abroad during the last year? ☐ No ☐ Yes	90. Have you come into contact with animals either at work or in your free time? ☐ No ☐ Yes

91. If yes, which animals have you come into contact with and how often?	98. Do you smoke at present? If yes, how many cigarettes?
3–6 1-2	□ No
Daily times times Less a week a week often	☐ Sometimes Cigarettes per week
Dog	☐ Daily Cigarettes per day
Canary or other caged birds	99. Does the baby's father smoke at present? If yes, how many cigarettes?
Horse	□ No
Other	☐ Sometimes ☐ Cigarettes per week
92. How many hours a day do you usually sleep now when you are pregnant?	☐ Daily Cigarettes per day
☐ Over 10 hours ☐ 8–9 hours ☐ 6-7 hours	100.If one or both of you have stopped smoking during the pregnancy, in which week of pregnancy did you stop?
4-5 hours	☐ You Week of pregnancy
Less than 4 hours	Baby's father Week of pregnancy
93. Do you currently sleep on a waterbed or use an electric blanket? Yes No Waterbed	101. If you or the baby's father have smoked during the pregnancy, were there periods during which you or the baby's father did not smoke? (Fill in the weeks during pregnancy when you did not smoke.)
Electric blanket	weeks of pregnancy without smoking
94. Can you rest during the day (both at home and at work)?	0-4 5-8 9-12 13-16 17-20 21-24 25-28 29+
☐ No☐ Yes	You
95. Have you been in a sauna while you have been pregnant? No	102. Have you used other forms of nicotine after the 13th week of pregnancy?
☐ 1–5 times ☐ 6-10 times	No Yes
☐ More than 10 times	Nicotine chewing gum
96. Have you been in a solarium while you have been pregnant?	Nicotine patches
□ No	Chewing tobacco/snuff
☐ 1-5 times ☐ 6-10 times ☐ More than 10 times	103. Have you used any of the following substances after the 13th week of pregnancy?
97. Are you exposed to passive smoking either at home or at	No Yes
work? If yes, how many hours a day? No Yes No. of hrs	Hash
Home	Ecstasy
Work	Heroin.
104. Have you ever used any of the following substances? (Fill in f	
	Last 6 months During before this No Previously pregnancy pregnancy
Anabolic steroids	
Testosterone products	
Growth hormones (e.g. genotropin/somatropin)	

Food and drink							
105. How often do you eat the following foods? (Fill in for each item.)							
Before the pregnancy During the pregnancy							
Never	A few times a year	1–3 times a Month	Once a week or more	Neve	1–3 r times a month	Once a week or more	
1 Crab							
4 Fish liver							
6 Flounder/other flat fish	Н						
7 Pike or perch							
9 Reindeer meat							
10 Mutton							
11 Liver or kidney from game	Н						
12 Wild mushrooms							
106. How often do you eat the following types of food? (Fill in for each item.) A few							
107. Do you avoid eating the following foods during this pregnancy? No Yes Fish		cu pr	ps/glasses egnancy ? (ur fluid consum) per day after 1 mug = 2 cups, 1 large plastic l	the 13th week 1 small plastic	of bottle (0.5	
Eggs					Number of cups / glasse	Decaffeinated s (fill in)	
Oranges, lemons		1. Fil	ter coffee		Н		
Other, specify		2. Ins	stant coffee		H		
108. What type of drinking water do you have where you Own water source (e.g. well)	live?				H		
Water company (public or private) Other source					H		
Name of water company Don't know the name of the water company				psi, etc	H		
109. Is your water treated (chlorinated or UV-radiated)?				nks			
□ No □ Yes, UV radiation				a, diet Pepsi			
Yes, chlorinated Don't know		9. Ot	her diet fizz	y drinks			
		10. Ta	p water				
		11. Bo	ttled water.				

Number of Organic	112. In the period just before you became pregnant and during this
cups/glass (fill in)	pregnancy, how many times have you consumed 5 units or more of alcohol? (See the explanation for units.)
12. Juice/squash	Last 3 mths before last week of pregnancy period 0–12 13–24 25+
13. Diet juice/squash	Several times a week
14. Milk (skimmed, low fat, whole)	1-3 times a month
15. Yogurt, all types	Never L
16. Yogurt with active Lactobacillus all types	113. How many units do you usually drink when you consume alcohol? (See the above explanation.) Lock 3 mits. In this pregnancy
17. Other type of cultured milk (kefir)	Last 3 mths this pregnancy before last week of pregnancy period 0–12 13–24 25+
18. Other	10 or more
	7-9
	3–4
111. How often did you consume alcohol before and how	1–2
often do you consume it now? Last 3 months In this pregnancy	Less than 1
before last week of pregnancy period 0-12 13-24 25+	114. If you have changed your drinking habits before this pregnancy, when did the change occur? (Fill in one or more boxes.)
Roughly 6-7 times a week .	Reduced intake Increased intake
Roughly 4–5 times a week	Last 3 months before last period
Roughly 2-3 times a week.	During pregnancy weeks 0-6
Roughly 1 time a week	During pregnancy weeks 7-12
Roughly 1–3 times a month Less then once a month	During pregnancy weeks 13-24 After pregnancy week 25
Never	After pregnancy week 25
	115. If you have modified your consumption of alcohol, how important were the following factors? (Fill in one or more boxes.)
Alcohol units	Not Not very Quite Important Very relevant important important
Alcohol units are used to compare the different types of alcoholic beverages. 1 alcohol unit = 1.5 cl. pure alcohol.	Nausea, discomfort
	Altered taste
1 glass of beer = 1 alcohol unit 1 wine glass of red or white wine = 1 alcohol unit	For the baby's sake
1 sherry glass of sherry or other fortified wine = 1 alcohol unit 1 spirit glass of spirits or liqueur = 1 alcohol unit	Depression/problems .
1 bottle/can breezer or cider = 1 alcohol unit	Other reasons
You and your life now	
Tou and your me now	
116. What is your current civil status?	119. Do you often feel lonely?
☐ Married	☐ Almost never
☐ Cohabiting ☐ Single	☐ Seldom ☐ Sometimes
☐ Divorced/separated	Usually
Widowed	Almost always
☐ Other	·
117. Do you have anyone other than your husband/partner you	
can ask for advice in a difficult situation?	120. If you have given birth before, in general, how was the
☐ No.	experience of giving birth?
Yes, 1 or 2 people Yes, more than 2 people	☐ Very good☐ Good
	Alright
118. How frequently do you meet or talk on the telephone with your family (other than your husband/partner and children) or close friends?	☐ Bad ☐ Very bad
Once a month or less	
2-8 times a month	
More than twice a week	

121. Do you agree or disagree with the following statements relating (Fill in for each statement.)	to the forth	coming birth	of your ba	by?	
(III III los cacin cacinosis,		Agree		ree Disagree	Disagree
		completely	Agree some	wnat somewnat	Disagree completely
I want to give birth as naturally as possible without painkillers or intervention					
I am really dreading giving birth					
I want to have enough medication so that the birth will be painless		📙			
I want to have an epidural regardless		📙			
I want to have an epidural if the midwife agrees		📙			
If I could choose I would have a caesarean					
I think the woman herself should decide whether or not to have a caesarean.		📙			
I worry all the time that the baby will not be healthy or normal					
I am really looking forward to the baby coming					
122. How do these statements describe your relationship? (Only answ	er if you hav	ve a partner.)			
(Fill in for each statement.)	Agree	Agree A	gree Dis	sagree Disa	gree Completely
	completely	-	-	newhat	disagree
My husband/partner and I have a close relationship					
My partner and I have problems in our relationship					
I am very happy in my relationship					
My partner is usually understanding					
I often think about ending our relationship					
I am satisfied with my relationship with my partner					
We often disagree about important decisions					
I have been lucky in my choice of a partner					
We agree on how children should be raised					
I think my partner is satisfied with our relationship					
Feeling fearful		Not bothered	Slightly bothered		Very much bothered
·					
2. Nervousness or shakiness inside					
3. Feeling hopeless about the future					
4. Feeling blue					
5. Worrying too much about things					
6. Feeling everything is an effort					
7. Feeling tense or keyed up					
8. Suddenly scared for no reason					
124. How often do you experience the following in your everyday life	? (Fill in for e Seldom/ never	each statemer Fairly seldom	· ·	es Often	Very often
Feel pleased about something					
Feel happy					
Feel joyful, as though everything is going your way	Н				
Feel that you will scream at someone or hit something					
Feel angry, irritated or annoyed					
125. How well do these statements describe you? (Fill in for each state		correct	Partly correct	Almost correct	Completely correct
I always manage to solve difficult problems if I try hard enough					
If anyone opposes me, I find a way to get what I want					
I am sure that I can cope with unexpected events					
	cope				

126. Do you agree or disagree with the following statement: My life is largely what I wanted it to be	Disagree	Disagree	Disagree	Don't agree		Agree	Agree completely
My life is very good I am satisfied with my life I have achieved so far what is important for me in my life If I could start all over, there is very little I would do differen							
127. How do you feel about yourself? (Fill in for each statement	ent.)	Agre comple		Agree	Disagree	Disagr comple	
I have a positive attitude toward myself I feel completely useless at times I feel that I do not have much to be proud about I feel that I am a valuable person, as good as anyone else			, and the second				, and the second
128. Have you experienced any of the following during the la (Fill in for each statement.)	ast 12 months?	If yes, how	v painful	or difficult	was it for y		
		No	Yes	Not too bad	Painfu difficul		painful/ fficult
Have you had problems at work or where you study? Have you had financial problems? Have you been divorced, separated or ended your relationship with							
Have you had problems or conflicts with your family, friends or neighbor Have you been seriously ill or injured?	ghbours?						
Has anyone close to you been seriously ill or injured?							
Have you been involved in a serious accident, fire or robbery?							
Other							
129. Have you ever experienced any of the following? (Fill in	for each statem	ent.)					
129. Have you ever experienced any of the following? (Fill in	Yes, as Yes, as	٠ ١	Vho was r	esponsible	for this?	Has	
129. Have you ever experienced any of the following? (Fill in No, never		s \	A Fa	esponsible amily or relative kno	Another		d during
No, never Someone has over a long period of time	Yes, as Yes, as a child an adu (under (over	s \	A Fa	amily or	Another	occurre the last	ed during t year?
No, never Someone has over a long period of time systematically tried to subdue, degrade or humiliate you	Yes, as Yes, as a child an adu (under (over	s \	A Fa	amily or	Another	occurre the last	ed during t year?
No, never Someone has over a long period of time systematically tried to subdue, degrade or humiliate you	Yes, as Yes, as a child an adu (under (over	s \	A Fa	amily or	Another	occurre the last	ed during t year?
No, never Someone has over a long period of time systematically tried to subdue, degrade or humiliate you	Yes, as Yes, as a child an adu (under (over	s \	A Fa	amily or	Another	occurre the last	ed during t year?
No, never Someone has over a long period of time systematically tried to subdue, degrade or humiliate you	Yes, as a child (under 18) Yes, as an addu (over 18)	s \	A Fa	amily or	Another	occurre the last	ed during t year?
No, never Someone has over a long period of time systematically tried to subdue, degrade or humiliate you	Yes, as a child (under 18) Yes, as an addu (over 18)	s \	A Fa	amily or	Another	occurre the last	ed during t year?
No, never Someone has over a long period of time systematically tried to subdue, degrade or humiliate you	Yes, as a child (under 18) Yes, as an addu (over 18)	s \	A Fa	amily or	Another	occurre the last	ed during t year?
No, never Someone has over a long period of time systematically tried to subdue, degrade or humiliate you	Yes, as a child (under 18) Yes, as an addu (over 18)	s \\ st	A Faranger	amily or elative kno	Another	occurre the last	ed during t year?
No, never Someone has over a long period of time systematically tried to subdue, degrade or humiliate you	Yes, as a child (under 18)	s \\ st	A Faranger	amily or elative kno	Another own person	occurre the last	ed during t year?
No, never Someone has over a long period of time systematically tried to subdue, degrade or humiliate you	Yes, as a child (under (8) (18) (18) (18) (18) (18) (18) (18)	st t st	A Faranger	amily or relative known in the control of the contr	Another own person	occurre the last	ed during t year?
No, never Someone has over a long period of time systematically tried to subdue, degrade or humiliate you	Yes, as a child (under 18) 132. Tricol) M: M: M: M: M: M: M: M	s tit st	A Faranger in a second of the	f cot death Boy Boy Boy Boy Boy Boy	Another own person	occurre the last No	nown
No, never Someone has over a long period of time systematically tried to subdue, degrade or humiliate you	Yes, as a child (under 18) The second of th	s tit st	A Faranger in a second of the	f cot death Boy Boy Boy Boy Boy Boy	Another own person	occurre the last No	nown
No, never Someone has over a long period of time systematically tried to subdue, degrade or humiliate you	Yes, as a child (under 18)	st t st	A Faranger in a second of the	f cot death Boy Boy Boy Boy Boy Boy	Another own person	occurre the last No	nown
No, never Someone has over a long period of time systematically tried to subdue, degrade or humiliate you	Yes, as a child (under 18)	st t st	A Faranger in a second of the	f cot death Boy Boy Boy Boy Boy Boy	Another own person	occurre the last No	nown
No, never Someone has over a long period of time systematically tried to subdue, degrade or humiliate you	Yes, as a child (under 18)	st t st	A Faranger in a second of the	f cot death Boy Boy Boy Boy Boy Boy	Another own person	occurre the last No	nown

Baby's father's brother Baby's father's sister's sited Boy Girl Baby's father's brother's child Boy Girl Baby's father's brother's child Boy Girl Baby's paternal grandmother's sibling Boy Girl Sex unknown Girl Sex unknown Baby's paternal grandfather's sibling Boy Girl Sex unknown Sex unknown Girl Sex unknown Sex unknown
Baby's father's brother's child
Baby's paternal grandmother's sibling Boy Girl Sex unknown Other Sex unknown Baby's paternal grandfather's sibling Boy Girl Sex unknown Other No (if no, you are finished with the questionnaire) Yes Yes 135. If yes, what was the cause of death and when did the death occur? Stillbirth (Birth after the 16th week of pregnancy.) Cot death Accident Illness/birth defect Which illness/birth defect: Other Year Child's age Child 1 Child 1 Sex unknown Number of sessions via telephone (approximately): Stillbirth (Birth after the follow -up you received after your child's death was adequate? No follow-up was provided Very good Good enough Should have been better Bad 138. Has the death made you more anxious during this pregnancy? No, not very much Yes, ver
Other Number of sessions via telephone (approximately): Weeks of support (approximately): Weeks of support (approximately):
134. Have you ever lost a child? (approximately): No (if no, you are finished with the questionnaire) Yes 137. Do you feel that the follow -up you received after your child's death was adequate? No follow-up was provided Very good Good enough Should have been better Bad Accident Illness/birth defect Which illness/birth defect: Other Year Child's age Child 1 138. Has the death made you more anxious during this pregnancy? No, not very much Yes, very much 139. Do you feel that the health care staff at the antenatal clinics took into consideration this painful experience in their contact with you?
Yes 137. Do you feel that the follow -up you received after your child's death was adequate? No follow-up was provided Very good Good enough Stillbirth (Birth after the 16th week of pregnancy.) Should have been better Bad Should have been better Bad No, not at all No, not very much Year Child's age 138. Has the death made you more anxious during this pregnancy? No, not at all No, not very much Yes, very much 139. Do you feel that the health care staff at the antenatal clinics took into consideration this painful experience in their contact with you?
Stillbirth (Birth after the 16th week of pregnancy.) Stillbirth (Birth after the 16th week of pregnancy.) Cot death Accident Illness/birth defect Which illness/birth defect: Other Year Child's age Child 1 Child 1 Child 1 Very good Good enough Should have been better Bad Should have been better Bad No, not at all No, not at all No, not very much Yes, very much 139. Do you feel that the health care staff at the antenatal clinics took into consideration this painful experience in their contact with you?
Stillbirth (Birth after the 16th week of pregnancy.) Cot death Accident Illness/birth defect Which illness/birth defect: Other Year Child's age Child 1 Should have been better Bad Bad 138. Has the death made you more anxious during this pregnancy? No, not at all No, not very much Yes, to a fair extent Yes, very much 139. Do you feel that the health care staff at the antenatal clinics took into consideration this painful experience in their contact with you?
Cot death Accident Illness/birth defect Which illness/birth defect: Other Year Child 1 Cot death Bad 138. Has the death made you more anxious during this pregnancy? No, not at all No, not very much Yes, to a fair extent Yes, very much 139. Do you feel that the health care staff at the antenatal clinics took into consideration this painful experience in their contact with you?
Accident Illness/birth defect Which illness/birth defect: Other 138. Has the death made you more anxious during this pregnancy? No, not at all No, not very much Year Child 1 139. Do you feel that the health care staff at the antenatal clinics took into consideration this painful experience in their contact with you?
Which illness/birth defect: Other No, not at all No, not very much Year Child's age 139. Do you feel that the health care staff at the antenatal clinics took into consideration this painful experience in their contact with you?
No, not at all No, not very much Year Child 1 No, not very much Yes, to a fair extent Yes, very much 139. Do you feel that the health care staff at the antenatal clinics took into consideration this painful experience in their contact with you?
Year Child's age Thild 1 Year Child's age 139. Do you feel that the health care staff at the antenatal clinics took into consideration this painful experience in their contact with you?
Year Child's age Yes, very much 139. Do you feel that the health care staff at the antenatal clinics took into consideration this painful experience in their contact with you?
Child 1 Child 1 139. Do you feel that the health care staff at the antenatal clinics took into consideration this painful experience in their contact with you?
Child 1 clinics took into consideration this painful experience in their contact with you?
Yes, to a fair extent
Years Months No, not at all
Have you remembered to fill in the date on which you completed the questionnaire on page 1? Thank you very much for your help!
Please return the completed questionnaire in the stamped addressed envelope provided.

APPENDIX III

The Norwegian Mother and Child Cohort Study

Questionnaire at six months postpartum

den norske Mor & barn undersøkelsen

+

Questionnaire 4 - When your child is around 6 months old

This questionnaire comes in two parts. The first part is about your child, while the other part is about yourself. It will help if you have your child's health card to hand before you start answering the questions so that you can use the information contained in it when completing this questionnaire. If you find a question difficult to answer, you can skip it and go onto the next question.

If you have had twins or triplets, complete one questionnaire for each child.

The questionnaire will be processed by a computer. instructions when completing it:	It is therefore important that you follow these					
 Use a blue or black ballpoint pen. In the small check boxes, enter a cross to indicate what you think If you make a mistake you can delete the cross by filling in the box Write numbers in the large green boxes. 	and the state of t					
It is important that you only write in the white area of each box like this: Number: 0 1 2 3 4 5 6 7 8 9 In the case of numbered boxes with more than one square, enter a one-digit number in the right box. Example: 5 is entered as follows Date boxes are split into 3 sections, with the first one for the day of the month, the second one for the month and the last one for the year. So, enter the date as follows: 6 5 2 0 0 5 Day Month Year Specific information concerning, for example, medication should be written on the lines provided. Please write clearly! As soon as you have completed the questionnaire, return it to us in the enclosed stamped addressed envelope.						
Specify the day, month and year when the questionnaire was completed Day Month Year (write the year in full, e.g. 2005) +						
1. Is your child a boy or girl? Boy Girl 2. How big was your child when he/she was born? Birth weight: g Length: cm	4. How long was your child in hospital after the birth? Number of days or weeks 5. Was your child transferred to another department or hospital after the birth? No Yes If yes, specify					
3. In which week of your pregnancy did you give birth? week +	6. Was your child delivered by caesarean section? No Yes					

7. If yes, was the caesarean section planned?	11. How many days were you in hospital in connection with the birth?
Yes +	Before the birth Number of days
If yes, why? Breech presentation Previous caesarean Pregnancy complication or mother taken ill Poor growth or other factor relating to the foetus Own preference Other 8. Were there any complications during the birth? No Yes If so, describe: 9. Were you admitted or transferred to another department or other hospital due to complications in connection with	After the birth Number of days 12. Did the birth go as you had expected? Yes, as expected No, it went better No, it was worse Don't know 13. How true do you think the following descriptions are of the birth? (Enter a cross in a box for each item.) Fairly Partially Not true true true
the birth? (Applies both before and after the birth.) No Yes 10. If yes, where?	I felt safe and in good hands
Department:	14. Was anyone from your close family present at the birth? Yes, child's father
Hospital:	Yes, someone else No
About your child	
About your child Nutrition	
-	16. What has your child been given to drink during the first 6 months of his/her life? (Enter a cross for each month you gave your child the relevant drink.) Child's age in months 0 1 2 3 4 5 6
Nutrition 15. What did you give your child to drink during the first week of life? (You can enter a cross in more than one box.)	6 months of his/her life? (Enter a cross for each month you gave your child the relevant drink.) Child's age in months
Nutrition 15. What did you give your child to drink during the first week of life? (You can enter a cross in more than one box.) Breast milk	6 months of his/her life? (Enter a cross for each month you gave your child the relevant drink.) Child's age in months 0 1 2 3 4 5 6
Nutrition 15. What did you give your child to drink during the first week of life? (You can enter a cross in more than one box.) Breast milk Water +	6 months of his/her life? (Enter a cross for each month you gave your child the relevant drink.) Child's age in months 0 1 2 3 4 5 6 Breast milk
Nutrition 15. What did you give your child to drink during the first week of life? (You can enter a cross in more than one box.) Breast milk Water + Sugar water Formula	6 months of his/her life? (Enter a cross for each month you gave your child the relevant drink.) Child's age in months 0 1 2 3 4 5 6 Breast milk
Nutrition 15. What did you give your child to drink during the first week of life? (You can enter a cross in more than one box.) Breast milk Water + Sugar water Formula Other, specify:	6 months of his/her life? (Enter a cross for each month you gave your child the relevant drink.) Child's age in months 0 1 2 3 4 5 6 Breast milk
Nutrition 15. What did you give your child to drink during the first week of life? (You can enter a cross in more than one box.) Breast milk Water + Sugar water Formula	6 months of his/her life? (Enter a cross for each month you gave your child the relevant drink.) Child's age in months 0 1 2 3 4 5 6 Breast milk
Nutrition 15. What did you give your child to drink during the first week of life? (You can enter a cross in more than one box.) Breast milk Water + Sugar water Formula Other, specify:	6 months of his/her life? (Enter a cross for each month you gave your child the relevant drink.) Child's age in months 0 1 2 3 4 5 6 Breast milk
Nutrition 15. What did you give your child to drink during the first week of life? (You can enter a cross in more than one box.) Breast milk Water Sugar water Formula Other, specify: Don't know/don't remember	6 months of his/her life? (Enter a cross for each month you gave your child the relevant drink.) Child's age in months 0 1 2 3 4 5 6 Breast milk
Nutrition 15. What did you give your child to drink during the first week of life? (You can enter a cross in more than one box.) Breast milk Water Sugar water Other, specify: Don't know/don't remember	6 months of his/her life? (Enter a cross for each month you gave your child the relevant drink.) Child's age in months 0 1 2 3 4 5 6 Breast milk
Nutrition 15. What did you give your child to drink during the first week of life? (You can enter a cross in more than one box.) Breast milk Water Sugar water Formula Other, specify: Don't know/don't remember 17. How often do you give your child the following to drink at the moment? (Enter a cross in a box for each item.) 1. Breast milk 2. Breast milk supplement 3. Normal sweet milk, any type	6 months of his/her life? (Enter a cross for each month you gave your child the relevant drink.) Child's age in months 0 1 2 3 4 5 6 Breast milk
Nutrition 15. What did you give your child to drink during the first week of life? (You can enter a cross in more than one box.) Breast milk Water Formula Other, specify: Don't know/don't remember 17. How often do you give your child the following to drink at the moment? (Enter a cross in a box for each item.) 1. Breast milk 2. Breast milk supplement 3. Normal sweet milk, any type 4. sour milk (yogurt, buttermilk, etc.)	6 months of his/her life? (Enter a cross for each month you gave your child the relevant drink.) Child's age in months 0 1 2 3 4 5 6 Breast milk
Nutrition 15. What did you give your child to drink during the first week of life? (You can enter a cross in more than one box.) Breast milk Water Sugar water Formula Other, specify: Don't know/don't remember 17. How often do you give your child the following to drink at the moment? (Enter a cross in a box for each item.) 1. Breast milk 2. Breast milk supplement 3. Normal sweet milk, any type	6 months of his/her life? (Enter a cross for each month you gave your child the relevant drink.) Child's age in months 0 1 2 3 4 5 6 Breast milk

	+		Never/ seldom	1-3 times a week	4-6 times a week	At least once a day
7. Tap water						
8. Bottled water						
Bottled baby cordial						
10. Other type of cordial, sweetened						
11. Cordial, artificially sweetened						
12. Juice						
40.00					П	П
13. Other, specify:						
18. How often does your child eat the following	food at the	moment, and ho	w old was your	child when you	started giving	+ him/her this food?
+		ten do you give t				l was your child ou gave him/her
	Never/ seldom	1-3 times a week	4-6 times a week	At least once a day		for the first time?
Instant porridge						
Rice porridge, maize porridge						months
Oatmeal porridge, different types						months
3. Wheat porridge, all types, rusk porridge						months
Home-made porridge using:						
4. Wheat flour (rough/fine), rusk, semolina, oats						months
5. Iron-enriched wheat flour						months
6. Helios baby flour						months
	_			_		
7. Millet				Ш		months
Processed dinner in a jar:						
8. Vegetables						months
9. Vegetables and meat						months
Home-made dinner:						
Potato/vegetable puree						months
·						
11. Meat and vegetables/potatoes						months
12. Fish and vegetables/potatoes						months
13. Other type of home-made dinner						months
Snack/dessert:						
14. Home-made fruit puree						months
and the same of th						
15. Fruit/berry puree in a jar						months
16. Rusks/biscuits/bread						months
17. Other, specify:						months
		+			+	
					-	

19. Do you think or do you know that your child has a reaction to milk/dairy products? No Yes	+	Cream/whip Yogurt/sour	k/skimmed milk oped cream/ice cream	nilk
21. Do you give your child cod liver oil, vita	mins, iron or any othe	er dietary suppleme	nt?	+
22. If you give your child cod liver oil, vitam time and how often. How old was your child				
Name of product	How many teaspoons each time?	How often do you giv	How old w ve your child this? started giv	as your child when you ing the product?
1. Cod liver oil	teaspoons		sometimes me	onths and weeks
2. Biovit	teaspoons		sometimes me	onths and weeks
3. Sanasol	teaspoons		sometimes me	onths and weeks
Nycoplus Multi-Vitamin mixture for children	teaspoons	aaily	sometimes	onths and weeks
Fluoride		daily	sometimes	onths and weeks
о. пои зарриентент, эреспу.		daily	sometimes	onths and weeks
7. Other dietary supplement, specify:		daily	sometimes mo	onths and weeks
Growth, health and us	se of medic			
You will find the information to help you a			hild's health card	
23. How many times have you been to the mand child health centre with your child? Never 1-2 times 3-5 times		24. Has your chil by the health cel Yes No, don't wan	Id been given the vaccina ntre?	ations recommended
G-10 times			I has been often ill ons postponed for practical	reasons
more than 10 times		☐ Don't know		+
25. Referring to your child's health card, er vaccinations had any side-effect. (Enter a co			was there any side-effect resulting in contact with a doctor?	Was there any side-effect resulting in hospital admission?
+ Vaccinations	No Yes	No Yes	No Yes	No Yes
DTP (Infanrix) DT (diphtheria/tetanus)				
D1 (diphtheria/tetanus)				
4. Hepatitis B (Engerix-B)				
5. BCG (tuberculosis)				
6. Pneumococcus (Prevenar)				+
7. Other vaccination:				

26. Referring to your child's health card, enter below yo around 6 weeks, 3 months and 6 months.	ur child's wei	ght, length	h and head circu	mference wher	he/she was
	Length		Head circumferer	ice	Weight
Approx. 3 months	,	cm	,	cm cm	g
5-6 months		ст		ст	g
The following questions concern any illnesses or heal longterm problems, then about illnesses and problems. 27. Does your child have or has he/she had any of the for someone else referred your child for further specialis	ms of a more	acute nat	ns? If yes, has the a cross in a box for	ne mother and o	child health centre
	Has(had) y	our child		specialist inve	stigation?
+	No	Yes	No fro	Yes, referred om health centre	Yes, referred by someone else
d. His disaudor/dislocated bis	П	П			П
Hip disorder/dislocated hip Impaired hearing					
Impaired hearing Impaired vision					
Delayed motor development (movement development)					
5. Too little weight gain					
6. Too much weight gain					
7. Abnormal head circumference					
8. Heart defect					
Testicles not descended into scrotum					
10. Asthma					<u></u> +
11. Atopic eczema (childhood eczema)		Ц			
12. Hives					
13. Food allergy/intolerance					
14. Delayed psychomotor development (several functions)					
15. (Other) malformations:	П		П		
16. Other:					
28. If your child was referred for a specialist investigation what did this investigation show?		9. Is you o		of having a syn	drome or chromo-
☐ Everything was fine		No			
Still some doubts/further investigations needed	Г	Yes as	syndrome		
		_	-		
☐ Don't know	L	Yes, a o	chromosomal defe	ect	
Given the following diagnosis:		If yes, s	specify the name	or describe the p	oroblem:
30. Has your child been treated for a hip problem (hip	dysplasia)?				
□ No □ Yes, treate	ed with a plaste	r caet			
	·	ii Casl			+
Yes, treated with a cushion Yes, treated	ed with braces				
If yes, how lon	g did the treatr	ment go on	n for? mon	ths	

			child had	Number		go to a to hospital		child beer
+	+	No	Yes		for this?	for this? Yes	No	Yes
1. Common cold								
2. Throat infection								
3. Ear infection								
4. Pseudocroup								
5. Bronchitis/RS virus/pneumonia								
6. Gastric flu/diarrhoea				Щ				
7. Urinary tract infection				Щ				
8. Conjunctivitis				Щ				
9. Febrile convulsions				Щ				
10. Other convulsions (without any fever)			Щ				
11. Colic				Щ				
12. Nappy rash				Щ				
13. Other, describe				Ш				
32. Have your child ever been given a No Yes 33. If yes, give the name of the medic	ines and		ere given. <i>(</i> I	nclude all typ	oes of medicat	ion, as well		⊢ nedicines,
taken both on a regular and occasional l	basis.)			How o	ld was your ch	ild when you	и	
Name of medicine				11011 0	gave the med	cine?		
		+		<1		4 5-		
Name of medicine (e.g. Apocilin, Paracetamol)		+		<1	gave the med	4 5-	nths giv	
		+		<1 Month m	gave the med	4 5- oths mor	nths giv	
		+		<1 Month m	gave the med	4 5- ths mor	nths giv	nber of da en in tota

34. Has your child been examined at or admitted to hospital (since returning home from hospital after birth)? No Yes, specify:	35. Has your child been op condition requiring an ope No Yes, specify:			es he/she	have a
Development, childcare and life s 36. The following questions concern your child's development. If y looking at what he/she can actually do. (Enter a cross in a box for ea	ou haven't actually observed	your ch	nild, spen	d a little t	ime
	+	Yes often	Yes, but seldom	No, not yet	Don't know
1. When your child is lying on his/her back, does he/she play by grabb	oing hold of his/her feet?				
When your child is lying on his/her tummy, does he/she raise his/he ground with straight arms?					
3. Does your child roll over from his/her back onto his/her tummy?4. When you "chat" to your child, does he/she try to "chat" back to you					
 Does your child babble and make sounds when he/she is lying on h Can you tell how your child is just by listening to the sounds he/she contented, hungry, angry,in pain)? 	is making (e.g.				
7. Do you get a smile from your child when you just smile at him/her (v					П
8. When you call your child, does he/she turn towards you one of the f you say his/her name?	first times				
9. Does your child grab hold of a toy you give him/her and then put it in his/l	her mouth or hold it?				
When your child is sitting on your lap, does he/she stretch out for a the table in front of you?					
11. Does your child hold onto a toy with both hands when he/she is exa	amining it?				
37. Where is your child cared for during the day? At home with mother/father/other family member At home with an unqualified childminder At a childminder's In a family day nursery In a day nursery	40. How often is your chil Seldom Often, but less than 1 h 1-3 hours a day More than 3 hours a da 41. Does your child use a	nour a da	ay		eross.)
38. How many other children are there usually along with your child during the day? children	Seldom or never Only when he/she goes Often Most of the time			ld sleen r	nor 24
39. Does your child go to baby swimming? No Yes If yes, indicate the number of times during the last 2 months	42. How many hours in to hours? Less than 8 hours 8 - 10 hours 11 - 13 hours 13 - 14 hours More than 14 hours	tal does	s your chi	ia sieep p	+

(Enter a cross in a box for each item.) On back On side On tummy After the birth	44. Does your (at least half the After the birth At 2 months At 4 months At 6 months				ox for ea	
45. Enter a cross to indicate whether you agree or disagree with the ment. Think about how he/she usually is. (Enter a cross in a box for each of the should be about the should be about the should be about the should be a		Slightly	Neither agree or	Slightly agree	od and te	mpera- Totally agree
Your child whimpers and cries a lot						
2. Your child is usually easy to pacify when he/she is crying						
3. It doesn't take much for your child to become upset and start crying						
4. When your child is crying, he/she usually screams angrily and loudly						
5. Your child is very easy to deal with						
6. Your child demands an awful lot of attention			Ш			Ш
7. When your child is left alone, he/she usually plays contentedly on his/her own				П		
Nour child is so demanding that he/she would pose a major						
problem for most parents						
9. Your child smiles and laughs often						
10. Your child is easy to put down and goes to sleep quickly						
46. Currently how often does your child usually wake up during the 3 or more times every night Once or twice every night A few times a week	night? (Enter just	t one cross.)			+	
☐ Seldom or never						
Comments						

About yourself

+

The last time you completed a questionnaire was around week 30 of your pregnancy. The questions we are asking you now are mainly about the period after this up until your child was 6 months old.

nealth and us	5	71 1116	uice	ation						
47. Did you go to your doc own health problems durin No Yes times					t	0. Apart from being ed to hospital since No Yes, specify hos	you completed	the pre	vious qu	estionnaire?
48. If yes, what was the real Perninealwound/stitches Caesarean section wour Mastitis Sore nipples Breastfeeding problems Other presifing	nd				s	1. Do you have a cince you complete No Yes, specify:	ed the previous	s quest	ionnaire	
49. When you think back to you feel depressed during No Yes, specify how long:	the t	ime just a	fter the	birth, did	t [he moment? Very good Good Poor Very poor	ala you descr	ibe you	п риузк	+
53. Have you had any of the for taken medication for these pro (Enter a cross in a box for ea	oblems	? (This incl								
Have you suffer	ed fror	n?				If you have take	en medication			
		Yes, last part of	Yes, after				Last part of	After t	he birth	Number of days
lilness / problem	No	during pregnancy	the	Nam	ne of me	dication taken	this pregnancy	0-3 mth	4-6 mth	taken in total
1. Sugar in urine							_ 🗆			
2. Protein in urine										
3. High blood pressure							_ 🗆			
4. Swelling (oedema)							_ 🗆			
5. Cystitis							_ 🗆			
6. Sluggish bowels/constipation	n 🗌						_ 🗆			
7. Diarrhoea/vomiting							_ 🗆			
8. Heartburn/acidity										
9. Common cold/influenza										
10. Sore throat/sinusitis/earinfection	on									
			+						con	t. next page

,	ed fror	n? Yes, last	Yes,		If you	have taken	medication Last		,	Numb
llness / problem	No	part of during pregnancy	after the		Name of medication tal	ken	part of this pregnancy	O-3 mth	4-6 mth	of day taker in tota
11. Pneumonia/bronchitis										
2. Asthma										
3. Hay fever/other allergy.										
4. Headache/other pains .										
5. Vaginitis										
6. Mental health problems										
7. Mastitis										
8. Fever										
9. Other, specify:										
i4. Have you taken medici	nes ot	her than t	those n	nentioned	in Question 53? (For in	nstance, sle	eping tablets	, sedativ	es or a	nalgesics.,
No Yes	the me	edicines ar			them. (Include all types	of medicatio	n, as well as i		nedicine 4-6 n	+ s, taken
No Yes 5. If yes, give the name of tooth on a regular and occase lame of medicine	the me ional b	dicines ar asis.)			them. (Include all types Last part of pregnancy Taken Number	of medicatio 0- afte Taken	n, as well as r 3 months er the birth Number	natural m T	nedicine 4-6 n after t	+ s, taken nonths he birth Number
No Yes 5. If yes, give the name of tooth on a regular and occase lame of medicine	the me ional b	dicines ar asis.)	nd wher		them. (Include all types Last part of pregnancy	of medicatio 0- afte Taken	n, as well as r 3 months er the birth	natural m T	nedicine 4-6 n after t	+ s, taken nonths he birth
No Yes 15. If yes, give the name of the oth on a regular and occase. Itame of medicine	the me ional b	dicines ar asis.)	nd wher		them. (Include all types Last part of pregnancy Taken Number	of medicatio 0- afte Taken	n, as well as r 3 months er the birth Number	natural m T	nedicine 4-6 n after t	+ s, taken nonths he birth Number
No Yes So If yes, give the name of the poth on a regular and occase. Name of medicine	the me ional b	dicines ar asis.)	nd wher		them. (Include all types Last part of pregnancy Taken Number	of medicatio 0- afte Taken	n, as well as r 3 months er the birth Number	natural m T	nedicine 4-6 n after t	+ s, taken nonths he birth Number
No Yes 15. If yes, give the name of the other on a regular and occase. Itame of medicine e.g. Valium, Rohypnol, Para	the me	ol)	+	n you took	them. (Include all types Last part of pregnancy Taken Number medication of days	of medication One after Taken medication	an, as well as a 3 months er the birth Number on of days	natural m	4-6 n after t aken dication	+ s, taken nonths he birth Number of days
No Yes 15. If yes, give the name of the poth on a regular and occass Name of medicine e.g. Valium, Rohypnol, Para	the me	ol)	+	n you took	them. (Include all types Last part of pregnancy Taken Number medication of days	of medication One after Taken medication	an, as well as a 3 months er the birth Number on of days	natural m	4-6 n after t aken dication	+ s, taken nonths he birth Number of days
No Yes 15. If yes, give the name of the poth on a regular and occase. Itame of medicine e.g. Valium, Rohypnol, Para 16. Do you take or have you No Yes	tthe medicinal L	ol)	+ er oil, v	n you took	them. (Include all types Last part of pregnancy Taken Number medication of days	of medication	3 months er the birth Number on of days	natural m	4-6 n after t aken dication	+ s, taken months he birth Number of days
No Yes 15. If yes, give the name of the poth on a regular and occase. Itame of medicine e.g. Valium, Rohypnol, Para 16. Do you take or have you No Yes	the meional b	ol) en cod live	+ er oil, v	itamins or	Last part of pregnancy Taken Number medication of days other dietary supplements cen? (One line for each When did you take the p	of medication after Taken medication medication medication product.)	3 months er the birth Number on of days	Ti med	4-6 n after t aken dication	+ s, taken nonths he birth Number of days
No Yes 15. If yes, give the name of the proof of a regular and occass. 16. If yes, give the name of the proof of the name of medicine e.g. Valium, Rohypnol, Para of the proof of the pro	tthe medicinal L	ol) en cod live	+ er oil, v	n you took	them. (Include all types Last part of pregnancy Taken Number medication of days other dietary supplements are 100 for each	of medication after Taken medication medication medication product.) roduct? 4-6 n	3 months er the birth Number on of days	natural m	4-6 n after t aken dication	s, taken nonths he birth Number of days re? + often? Taken
No Yes 15. If yes, give the name of the proof of a regular and occass. 16. If yes, give the name of the proof of the name of medicine e.g. Valium, Rohypnol, Para of the proof of the pro	the meional b	ol) en cod live	+ er oil, v	itamins or	Last part of pregnancy Taken Number medication of days other dietary supplementation of the	of medication after Taken medication medication medication product.) roduct? 4-6 n	an, as well as a ser the birth Number on of days	natural m	4-6 n after t aken dication	s, taken nonths he birth Number of days re? + often? Taken
Name of medicine e.g. Valium, Rohypnol, Para	the meional b	ol) en cod live	+ er oil, v	itamins or	Last part of pregnancy Taken Number medication of days other dietary supplementation of the	of medication after Taken medication medication medication product.) roduct? 4-6 n	an, as well as a ser the birth Number on of days	natural m	dedicine 4-6 n after t aken dication tionnain How ken aily	+ s, taken nonths he birth Number of days re? + often? Taken sometimes

58. Have you experienced any pain in your ☐ No ☐ Yes +	back or p	elvis sind	ce you co	mpleted the p	orevious q	uestionnair	e?	+
59. If yes, enter a cross to indicate where y	ou have e	xperienc	ed pain, v	when and how	v much.			
		part of nancy	_		nonths he birth		4-6 mon after the l	
Where was the pain?	Some pain	Majo pair		Some pain	Major pain		Some pain	Major pain
Small of the back	Pairi	Pan		ραπ	рап		раш	
One of the pelvic/sacroiliac joints at the back				П				
Both pelvic/sacroiliac joints at the back								
Over the coccygeal bone								
In the buttocks								
Over the pubic bone								
Groin								
Other back pains	Ш			Ш				
60. Currently, do you wake up at night becapain? No, never Yes, but only sometimes Yes, often 61. Do you have such problems walking at to pelvic pain that you have to use a stick on No, never Yes, but not every day Yes, every day 62. Have you ever received treatment for pelling in No Yes	the mome	ent due s?	F C N C	3. If yes, enter hen it was. Physiotherapy Chiropractic	was it beforth?	Before this pregnancy	During this pregnancy	After this birth
65. Do you have any of the following problem	ns at the m	oment: if	so how o	often and to w	hat extent?	(Enter a cro	ss in a hox for	each item)
- ,				do you have th				ch at a time?
			1-4	1-6		More than		
Problem		Never	times a month	times a week	Once a day	Once a day	Drops	Large amounts
Incontinence when coughing, sneezing or laug	ghing							
Incontinence during physical activity (running/j	umping)							
Incontinence with a strong need to urinate								
Problems retaining faeces								
Problems with flatulence								
66. How many times did you go for an ultra during your pregnancy? times 67. Was everything OK with the ultrasound Yes No		an	6	Suspected	was not gro	wing enough		+
	-	H		, 000	,			

69. How much did you weigh at the end of your pregnancy and how much do you weigh now? At end of pregnancy		your pregna		artly on sick include mater	leave after week nity leave)
Now kg +		es,partly on s es,completely	ick leave on sick leav	е	+
71. If you were on sick leave after week 30 of your pregnancy, com leave. Give the reason and enter a cross indicating which weeks o days and what percentage of the period you were on sick leave ea	f your pre ch time.	gnancy you	were on sid	k leave. Spe	
Reason for sick leave:	30- 33	34- 37	egnancy wee	Number of days	% sick leave
Example: pelvic girdle pains		X		10	50
Finances – lifestyle			40004		,,,,,
72. Would your current financial situation allow you to cope with an unexpected bill of NOK 10,000 for a dental visit or a repair, for a instance? No Yes Don't know	☐ D ☐ G ☐ B ☐ O	og at uinea pig, ra udgie, other ther type of	bbit, mouse, type of bird animal:	rat, etc.	more than one box.)
six month to cope with running expemces for food, transport, rent etc.? No, never Yes, but infrequently Yes, sometimes	water	the floor in borne heati	rooms whe		cal heating cables is? (Do <u>not</u> include
Yes, often 74. Are there pets in the child's home?					
□ No □ Yes	Li Ki	res, in which r iving room itchen hild's room edroom all athroom	ooms? (You ca	an enter a cross	in more than one box.)
□ No	Li Ki	iving room itchen hild's room edroom all	ooms? (You ca	an enter a cross	in more than one box.)
□ No □ Yes	Li Ki Ci Bi Hi	iving room itchen hild's room edroom all athroom ther rooms			
□ No □ Yes +	Li Ki Ci Bi Bi Bi Di O	iving room itchen hild's room edroom all athroom ther rooms t present? (1-3 times times	Enter a cross Once	in a box for ead Twice	<i>ch item.)</i> Three times or more

79. How often are you physically active a	t present? (Ente	er a cross in a	box for e	each item.)				
				1-3 times	Once	Twice	Three time	
+		N	lever	a month	a week	a week	a week	
1 Walking								
2 Brisk walking								
3 Running/jogging/orienteering								
4 Cycling								
5 Training studio/weight training								
6 Special gymnastics/aerobics for pregnant	women							
7 Aerobics/gymnastics/dancing without runn	ning and jumping	1						
8 Aerobics/gymnastics/dancing with running	and jumping .							
9 Dancing (swing, rock, folk)								
10 Skiing								
11 Ball sport								
12 Swimming								
13 Riding								
14 Other								
80. Currently how often are you physicall	y active (durinç		time or a	at work) tha	At work	ut of breath	ı or sweat?	
Never								
Less than once a week							+	
Once a week			\sqcup					
Twice a week								
3-4 times a week			Ш					
5 times or more a week			_	et 3 months		reanancy ar	nd in the ne	ariod
81. What were your and your partner/hus after the birth? (Enter a cross in a box for each of the birth? (Enter a cross in a box for each of the birth?) Didn't smoke	Last 3 mths during pregnancy		ng the la	1-6 s after n	s of your p	our partner/h 0-3 mths aft birth	nusband er mth	4-6 s after oirth
81. What were your and your partner/hus after the birth? (Enter a cross in a box for each of the birth?) + Didn't smoke	Last 3 mths during pregnancy	yourself 0-3 mths after birth	ang the later and the later an	4-6 s after n irth	Last 3 nths during pregnancy ny of the foour pregna box for each	our partner// 0-3 mths aft birth	er mth	4-6 ss after spirith
81. What were your and your partner/hus after the birth? (Enter a cross in a box for each of the birth?) (Enter a cross in a box for each of the birth?) (Enter a cross in a box for each of the birth?) (Enter a cross in a box for each of the birth?) (Enter a cross in a box for each of the birth?) (Enter a cross in a box for each of the birth?) (Enter a cross in a box for each of the birth?) (Enter a cross in a box for each of the birth?) (Enter a cross in a box for each of the birth?) (Enter	Last 3 mths during pregnancy	yourself 0-3 mths after birth	mg the land	you take a nonths of ya a cross in a	Last 3 nths during pregnancy ny of the foour pregna box for each	our partner//r 0-3 mths aft birth	er mth	4-6 is after oirth uring the ? Yes after
81. What were your and your partner/hus after the birth? (Enter a cross in a box for each of the birth?) (Enter a cross in a box for each of the birth?) (Enter a cross in a box for each of the birth?) (Enter a cross in a box for each of the birth?) (Enter a cross in a box for each of the birth?) (Enter a cross in a box for each of the birth?) (Enter a cross in a box for each of the birth?) (Enter a	Last 3 mths during pregnancy	yourself 0-3 mths after birth	83. Did last 3 n (Enter &	you take a nonths of y a cross in a	Last 3 nths during pregnancy ny of the foour pregna box for each	our partner//r 0-3 mths aft birth	er mth	4-6 is after oirth uring the ? Yes after
81. What were your and your partner/hus after the birth? (Enter a cross in a box for each of the birth? (Enter a cross	Last 3 mths during pregnancy	yourself 0-3 mths after birth	83. Did last 3 n (Enter a	you take a months of y a cross in a	Last 3 nths during pregnancy ny of the foour pregnabox for each	our partner//r 0-3 mths aft birth	er mth	4-6 ss after oirth uring the ? Yes after
81. What were your and your partner/hus after the birth? (Enter a cross in a box for each of the birth?) (Enter a cross in a box for each of the birth?) (Enter a cross in a box for each of the birth?) (Enter a cross in a box for each of the birth?) (Enter a cross in a box for each of the birth?) (Enter a cross in a box for each of the birth?) (Enter a cross in a box for each of the birth?) (Enter a	Last 3 mths during pregnancy	yourself 0-3 mths after birth	83. Did last 3 n (Enter a	you take a nonths of y a cross in a stamines	Last 3 nths during pregnancy ny of the foour pregna box for each	our partner//r 0-3 mths aft birth	er mth	4-6 is after oirth uring the ? Yes after
81. What were your and your partner/hus after the birth? (Enter a cross in a box for each of the birth?) (Enter a cross in a box for each of the birth?) (Enter a cross in a box for each of the birth?) (Enter a cross in a box for each of the birth?) (Enter a cross in a box for each of the birth?) (Enter a cross in a box for each of the birth?) (Enter a cross in a box for each of the birth?) (Enter a	Last 3 mths during pregnancy	yourself 0-3 mths after birth	83. Did last 3 n (Enter a Hanish Amphet Ecstasy Cocaine Heroin	you take a months of y a cross in a stamines	Last 3 nths during pregnancy ny of the foour pregna box for each	our partner//r 0-3 mths aft birth	er mth	4-6 is after oirth uring the ? Yes after
81. What were your and your partner/hus after the birth? (Enter a cross in a box for each of the birth?) (Enter a cross in a box for each of the birth?) (Enter a cross in a box for each of the birth?) (Enter a cross in a box for each of the birth?) (Enter a cross in a box for each of the birth?) (Enter a cross in a box for each of the birth?) (Enter a cross in a box for each of the birth?) (Enter a	Last 3 mths during pregnancy	yourself 0-3 mths after birth	83. Did last 3 n (Enter a	you take a months of y a cross in a stamines	Last 3 nths during pregnancy ny of the foour pregna box for each	our partner//r 0-3 mths aft birth	er mth	4-6 is after oirth uring the ? Yes after

84. Have you taken any of the following substances in a box for each item.)	s during the last 3	months of y	our pregnancy a	and after the	birth? (Enter a cros
+		No	Yes, last 3 months of	Yes, after birth	
		_	pregnancy		
Anabolic steroids					+
estosterone preparations					
Growth hormone (e.g. genotropin/somatropin)					
Roughly 6-7 times a week Roughly 4-5 times a week Roughly 9-3 times a week Roughly 1-3 times a month Respondent to the number of alcohol units (= 1.5 cl of pure alcohol) In practice, this means the following: 1 glass (1/3 litre) of beer = 1 alcohol unit sherryglass of sherry = 1 alcohol unit brandy glass of spirits or liquer = 1 alcohol unit brandy glass of spirits or liquer = 1 alcohol unit bottle of alcopol/cider = 1 alcohol unit bottle of alcopol/cider = 1 alcohol unit 1 alcohol unit 1 bottle of alcopol/cider = 1 alcohol unit 1 alcohol u	Last 3 months of your Last 3 months of pregnancy	pregnancy a	_	After the 0-3 months	
1 brandy glass of spirits or liquer = 1 alcohol un = 1 bottle of alcopop/cider = 1 alcohol un =	hen you consume a Enter a cross in a bo Last 3 months of pregnancy		fod.) —	After the 0-3 nonths	
3-4	. 🗆				
-2	. 🗆				
ess than 1	_				
A little more about yourse	olf and be	W VOL	are kee	ning p	OW
A fittle more about yourse	en and no	w you	are kee	ping n	
37. Do you have a boyfriend/ nusband/partner?					
Yes +					+

88. If yes, to what extent do you agree with the following description	ns? (Enter ju	st one cross	in a box i	for each ite	m.)	
	Totally		Slightly	Slightly	,	Totally
	agree	Agree	agree	disagree	Disagree	disagree
My husband/partner and I have a close relationship						
My partner and I have problems in our relationship						
I am very happy in my relationship						
My partner is usually understanding						
I often think about ending our relationship						
I am satisfied with my relationship with my partner						
We often disagree about important decisions						
I have been lucky in my choice of partner						
We agree on how children should be raised						
I think my partner is satisfied with our relationship					Ш	
+				+	 	
89. In your daily life, how often do you (Enter just one cross in a box to	or each item)				
os. In your daily life, now often do you (Enter just one cross in a box i	Seldom	<i>)</i> Fairly	A	few		Very
	never	seldom	tin	nes	Often	often
Feel pleased about something						
Feel happy						
Feel joyful, as though everything is going your way						
Feel that you will scream at someone or hit something						
Feel angry, irritated or annoyed						
Feel mad at somebody						
		+				
90. Indicate with a cross whether you agree or disagree with the foll (Enter just one cross in a box for each item.)	owing state	ments.	Neit			
90. Indicate with a cross whether you agree or disagree with the foll (Enter just one cross in a box for each item.)	Totally	Sligl	agr	ee r Slight		Totally
	Totally		agr	ee r Slight		Totally agree
	Totally	Sligl isagree disag	agr ntly o gree disag	ee r Slight		
(Enter just one cross in a box for each item.)	Totally	Sliglisagree disag	agr ntly o gree disag	ee r Slight	Agree	
(Enter just one cross in a box for each item.) My life is largely what I wanted it to be	Totally	Sligl isagree disag	agr ntly o gree disag	ee r Slightl gree agree	Agree	
(Enter just one cross in a box for each item.) My life is largely what I wanted it to be	Totally disagree D	Sligi	agr ntly o gree disag	ee r Slight gree agree	Agree	agree
(Enter just one cross in a box for each item.) My life is largely what I wanted it to be	Totally disagree D	Sliglisagree disag	agr ntly o gree disag	ee r Slight gree agree	Agree	agree
(Enter just one cross in a box for each item.) My life is largely what I wanted it to be My life is very good I am satisfied with my life. I have achieved so far what is important for me in my life	Totally disagree D	Sligi	agr ntly o gree disag	ee r Slight gree agree	Agree	agree
(Enter just one cross in a box for each item.) My life is largely what I wanted it to be My life is very good I am satisfied with my life. I have achieved so far what is important for me in my life	Totally disagree D	Sligi	agr ntly o gree disag	ee r Slight gree agree	Agree	agree
(Enter just one cross in a box for each item.) My life is largely what I wanted it to be My life is very good I am satisfied with my life. I have achieved so far what is important for me in my life	Totally disagree D	Sligi	agr ntly o gree disag	ee r Slight gree agree	Agree	agree
My life is largely what I wanted it to be	Totally disagree D	Sligi isagree disag	agrantly o gree disagnation	ee r Slight gree agree	e Agree	agree
My life is largely what I wanted it to be My life is very good I am satisfied with my life. I have achieved so far what is important for me in my life If I could start all over, there is very little I would do differently.	Totally disagree D	Sligi isagree disag	agrantly o gree disagnation	ee r Slighti agree agree	e Agree	agree
My life is largely what I wanted it to be	Totally disagree D	Sligi isagree disag	agrantly o agree disage	eer Slighti gree agree	e Agree	agree
My life is largely what I wanted it to be	Totally disagree D	Sligi isagree disag	agrantly o gree disagnation	ee r Slight gree agree	e Agree	agree
My life is largely what I wanted it to be My life is very good I am satisfied with my life. I have achieved so far what is important for me in my life If I could start all over, there is very little I would do differently. 91. Have you experienced any of the following situations since the this for you? (Enter a cross in a box for each item.)	Totally disagree D	Sligisagree disaged di	agrantly or	ee r Slighti gree agree	Agree	agree
My life is largely what I wanted it to be My life is very good I am satisfied with my life. I have achieved so far what is important for me in my life If I could start all over, there is very little I would do differently. 91. Have you experienced any of the following situations since the this for you? (Enter a cross in a box for each item.) + Have you had problems at work or where you study?	Totally disagree D	Sligisagree disagree	agrantly or	ee r Slighti gree agree	Agree	agree
My life is largely what I wanted it to be My life is very good I am satisfied with my life. I have achieved so far what is important for me in my life If I could start all over, there is very little I would do differently. 91. Have you experienced any of the following situations since the this for you? (Enter a cross in a box for each item.) + Have you had problems at work or where you study? Have you had financial problems?.	Totally disagree D	Sliglisagree disagree	agrantly or	ee r Slighti gree agree	I or difficu	agree
My life is largely what I wanted it to be My life is very good I am satisfied with my life. I have achieved so far what is important for me in my life If I could start all over, there is very little I would do differently. 91. Have you experienced any of the following situations since the this for you? (Enter a cross in a box for each item.) + Have you had problems at work or where you study? Have you had financial problems?. Have you been divorced, separated or ended your relationship with your partner?	Totally disagree D	Sligisagree disagree	agrantly or	ee r Slighti gree agree	I or difficu	agree
My life is largely what I wanted it to be My life is very good I am satisfied with my life. I have achieved so far what is important for me in my life If I could start all over, there is very little I would do differently. 91. Have you experienced any of the following situations since the this for you? (Enter a cross in a box for each item.) + Have you had problems at work or where you study? Have you had financial problems?. Have you been divorced, separated or ended your relationship with your partner? Have you had problems or conflicts with family, friends or neighbours?.	Totally disagree D	Sligisagree disagree	agrantly or	ee r Slighti gree agree	I or difficu	agree
My life is largely what I wanted it to be	Totally disagree D	Sligisagree disagree	agrantly or	ee r Slighti gree agree	I or difficu	agree
My life is largely what I wanted it to be My life is very good I am satisfied with my life. I have achieved so far what is important for me in my life If I could start all over, there is very little I would do differently 91. Have you experienced any of the following situations since the this for you? (Enter a cross in a box for each item.) + Have you had problems at work or where you study? Have you had financial problems? Have you been divorced, separated or ended your relationship with your partner? Have you had problems or conflicts with family, friends or neighbours?. Have you been seriously worried that there is something wrong with your child? Have you been seriously ill or injured?	Totally disagree D	Sligisagree disaged di	agrantly or	ee r Slighti gree agree	I or difficu	agree
My life is largely what I wanted it to be My life is very good I am satisfied with my life. I have achieved so far what is important for me in my life If I could start all over, there is very little I would do differently 91. Have you experienced any of the following situations since the this for you? (Enter a cross in a box for each item.) + Have you had problems at work or where you study? Have you had financial problems? Have you been divorced, separated or ended your relationship with your partner? Have you been seriously worried that there is something wrong with your child? Have you been seriously ill or injured? Has anyone close to you been seriously ill or injured?	Totally disagree D	Sligisagree disagree	agrantly or	ee r Slighti gree agree	I or difficu	agree
My life is largely what I wanted it to be My life is very good I am satisfied with my life. I have achieved so far what is important for me in my life If I could start all over, there is very little I would do differently 91. Have you experienced any of the following situations since the this for you? (Enter a cross in a box for each item.) + Have you had problems at work or where you study? Have you been divorced, separated or ended your relationship with your partner? Have you been seriously worried that there is something wrong with your child? Have you been seriously ill or injured? Has anyone close to you been seriously ill or injured? Have you been involved in a serious accident, fire or robbery?	Totally disagree D	Sligisagree disaged di	agrantly or	ee r Slighti gree agree	I or difficu	agree
My life is largely what I wanted it to be My life is very good I am satisfied with my life. I have achieved so far what is important for me in my life If I could start all over, there is very little I would do differently 91. Have you experienced any of the following situations since the this for you? (Enter a cross in a box for each item.) + Have you had problems at work or where you study? Have you had financial problems?. Have you been divorced, separated or ended your relationship with your partner? Have you been seriously worried that there is something wrong with your child? Have you been seriously ill or injured? Has anyone close to you been seriously ill or injured? Have you been involved in a serious accident, fire or robbery? Have you lost someone close to you?	Totally disagree D	Sligisagree disaged di	agrantly or	ee r Slighti gree agree	I or difficu	agree
My life is largely what I wanted it to be My life is very good I am satisfied with my life. I have achieved so far what is important for me in my life If I could start all over, there is very little I would do differently 91. Have you experienced any of the following situations since the this for you? (Enter a cross in a box for each item.) + Have you had problems at work or where you study? Have you had financial problems? Have you been divorced, separated or ended your relationship with your partner? Have you been seriously worried that there is something wrong with your child? Have you been seriously ill or injured? Have you been involved in a serious accident, fire or robbery? Have you lost someone close to you? Have you been pressurized into having sexual intercourse?	Totally disagree D	Sligisagree disaged di	agrantly or	ee r Slighti gree agree	I or difficu	agree
My life is largely what I wanted it to be My life is very good I am satisfied with my life. I have achieved so far what is important for me in my life If I could start all over, there is very little I would do differently 91. Have you experienced any of the following situations since the this for you? (Enter a cross in a box for each item.) + Have you had problems at work or where you study? Have you had financial problems?. Have you been divorced, separated or ended your relationship with your partner? Have you been seriously worried that there is something wrong with your child? Have you been seriously ill or injured? Has anyone close to you been seriously ill or injured? Have you been involved in a serious accident, fire or robbery? Have you lost someone close to you?	Totally disagree D	Sligisagree disaged di	agrantly or	ee r Slighti gree agree	I or difficu	agree

		just one cross in a	DOX TOT EACH ILEM	1.)
	Yes, almost all the time	Yes, now and then	Not very often	No, never
Really reproached yourself when something went wrong				
Have been anxious or worried for no reason				
Have been afraid or panicked for no reason				
Have been so unhappy that you've had problems sleeping				
Felt down or unhappy				
Have been so unhappy that you've cried				
93. How do you feel about yourself? (Enter just one cross in a box for	each item.)	+	-	
	Totally agree	Agree	Disagree	Totally disagree
I have a positive attitude towards myself		Agree		uisagict
			H	
I feel completely useless at times I feel that I do not have much to be proud about				
I feel that I am a valuable person, as good as anyone else				
Treel that I am a valuable person, as good as anyone else				
94. Have you been bothered by any of the following feelings during	the past 2 week Not bothered	A little bothered	cross in a box for Quite bothered	each item.) Very bothere
Feeling fearful				
Nervousness or shakiness inside			Ц	
Feeling hopeless about the future				
Feeling blue		Ц	Ц	
Worrying too much about things				
Feeling everything is an effort				
Feeling tense or keyed up				
Feeling tense or keyed up				
				+
Suddenly scared for no reason		our help!		+
Suddenly scared for no reason	nch for yo	_	elope.	+
+ Thank you very mu	nch for yo	_	elope.	+
+ Thank you very mu	nch for yo	_	elope.	+
+ Thank you very mu	nch for yo	_	elope.	+
+ Thank you very mu	nch for yo	_	elope.	+
+ Thank you very mu	nch for yo	_	elope.	+
+ Thank you very mu	nch for yo	_	elope.	+
+ Thank you very mu	nch for yo	_	elope.	+
+ Thank you very mu	nch for yo	_	elope.	+
+ Thank you very mu	nch for yo	_	elope.	+
+ Thank you very mu	nch for yo	_	elope.	+
+ Thank you very mu	nch for yo	_	elope.	+
+ Thank you very mu	nch for yo	_	elope.	+

APPENDIX IV

The Akershus Birth Cohort Study Questionnaire at pregnancy week 18



I løpet av svangerskapet går du til helsekontroll for å undersøke om du selv og barnet er fysisk friske. Blodtrykket kontrolleres, urinprøve undersøkes og barnet undersøkes med ultralyd. Det har vært gjort svært få undersøkelser av kvinners psykiske helse og velvære under svangerskapet og i barseltiden. Denne studien på Kvinneklinikken på Akershus universitetssykehus er den første i sitt slag i Norge.

Hvordan har kvinner det under svangerskapet og barseltiden?

Hva påvirker psykisk helse i denne perioden? For å få vite mer om dette, er dine erfaringer viktige. Vi håper du vil dele dem ved å delta i denne studien. Resultatene kan bidra til å skape en bedre svangerskapsomsorg.

Det er frivillig å delta

Alle data vil bli behandlet strengt konfidensielt og anonymisert. Du har anledning til å trekke deg fra studien når som helst. Studien er godkjent av personvernombudet og av Regional komité for medisinsk forskningsetikk.

Praktisk gjennomføring

Vennligst fyll ut spørreskjemaet og svar så fullstendig du kan. Er det spørsmål du ikke ønsker å svare på, kan du selvsagt la det være. Spørreskjemaet kan legges i vedlagte konvolutt i forskningsprosjektets boks før du går. Du kan også ta med skjemaet hjem og returnere det i ferdigfrankert konvolutt.

Dersom du aksepterer å delta, vil du få tilsendt ett spørreskjema i posten mot slutten av svangerskapet og ett i barseltiden. Håper du tar deg tid til å fylle ut skjemaet. Hvis du har noen spørsmål (evt hvis du lurer på noe), er du hjertelig velkommen til å kontakte undertegnede.

På forhånd takk og lykke til

Malin Eberhard-Gran

lege / prosjektleder tel: 21 07 82 33 **Tone Breines Simonsen** jordmor / kontaktperson

tel: 67 96 05 12

Alle deltakere er med i loddtrekning av gavekort:

Besvarelse av første skjema – gavekort til barnebutikk á 2000 kroner Besvarelse av andre skjema – gavekort til barnebutikk á 5000 kroner Besvarelse av tredje skjema – reisegavekort á 15 000 kroner

Skjemaet vil bli lest maskinelt, det er derfor viktig at du krysser av riktig: Riktig Galt Galt Gom du krysser feil, retter du ved å fylle boksen slik Skriv tydelige tall 1234567890 Riktig Galt Galt Galt Bruk kun sort eller blå penn, bruk ikke blyant eller tusj

 T 2 T

T T

1	Dato for utfylling (dag) (mnd) (år)
	MENSTRUASJON OG TIDLIGERE SVANGERSKAP
2	Hvor gammel var du da du fikk menstruasjon første gang?
3	Pleier du å ha regelmessig menstruasjon? (omtrent likt antall dager mellom hver menstruasjon) ☐ Nei ☐ Ja
4	Har det noen gang gått minst 3 måneder uten menstruasjon uten at du har vært gravid eller har brukt prevensjon som innholder hormoner? Nei Ja
5	Pleier du å føle deg nedtrykt (deprimert) eller irritabel før menstruasjon? Nei Ja, merkbart Ja, plagsomt mye
6	Hvis ja, forsvinner denne følelsen etter at menstruasjonen er kommet igang? Nei Ja
7	Hvor sterke smerter pleier du å ha i forbindelse med menstruasjon: Ingen 0 1 2 3 4 5 6 7 8 9 10 Den sterkeste smerten du kan forestille deg
8	Har du hatt migrene i forbindelse med menstruasjon? Nei Ja, men ved mindre en halvparten av menstruasjonene Ja, ved mer enn halvparten av menstruasjonene Ja, omtrent 2 av 3 ganger jeg har menstruasjon Hver gang jeg har menstruasjon
9	Hvis du har født, fyll ut barnets fødselsår.
•	Barn Fødselsår Barn Fødselsår Barn Fødselsår
	1 5
	2 6
10	Har du noen gang opplevd abort eller dødfødsel?
	Nei Ja, ufrivilig abort
	Ja, tatt abort (selvbestemt)
11	Ja, dødfødsel (etter 16 ukers svangerskap) (antall ganger) Har du noen gang opplevd graviditet utenfor livmoren?
	Nei Ja (antall ganger)
12	Hvor lenge hadde dere regelmessige samleier uten prevensjon før du ble gravid?
	Antall måneder (omtrent) Vet ikke Brukte prevensjon da jeg ble gravid
13	Var dette svangerskapet planlagt? Nei Ja
14	Har du vært i kontakt med helsevesenet på grunn av barnløshet/ønske om barn? Nei Ja Dette svangerskapet er blitt til etter behandling for barnløshet

Følgende spørsmål gjelder bare hvis du har fått barn tidligere. Spørsmålene gjelder ditt siste svangerskap. Hvis du ikke har født barn, kan du gå direkte til spørsmål nr. 30

	OM SISTE	гриз	C L											
15	Når fikk du d	ditt sist	te barn	?			(dag)			(mnd)			(år)	
16	Var det tvilli	nger (t	rillinge	r)?		lei	Ja	3						
17	Hvordan ble Vanlig va Med tang	ginal fø	ødsel	\equiv	eteføds lanlagt	sel keisers	nitt	A	kutt ke	isersnitt				
18	Hva slags be Ingen Akupunk Lystgass		se fikk o	Pe	etidin /	morfin / spina					nnet et ikke			
19	Hvor sterke		er hadd	e du ur	nder fø	dselen	?							
	Ingen smerte	0		2	3	4	5	6	7	8	9	10	Den sterkeste smerten du kan forestille deg	
20	Hvor redd va	ar du u	nder fø	dselen	?									
	Overhodet ikke redd	0		2	3	4	5	6	7	8	9		Ekstremt redd	
21	Hvor sliten v	ar du	rett ette	er føds	elen?									
	Overhodet ikke sliten	0		2	3	4	5	6	7	8	9	10	Ekstremt sliten	
22	Hvordan var	din op	plevel	se av fø	dselen	i det s	tore og	det he	ele?					
	Veldig god	0		2	3	4	5	6	7	8	9	10	Ekstremt dårlig	
23	Hvor ivareta	tt følte	e du de	g?	S	Svært god	lt	Godt		Dårlig	Sı	vært dår	lig	
	Under fødse På barselavd													
24 For noen kan en fødsel oppleves som påkjenning i lang tid etterpå. Les hver påstand under og sett kryss i ruten som best beskriver følelsene du har hatt knyttet til din siste fødsel i løpet av siste uke. Jeg har hatt vonde følelser knyttet til forrige fødsel							Ofte							

T T

25 Hadde du noe av det følgende i svangerskapet eller rett etter fødselen? Kraftig blødning Morkaken satt fast og måtte hentes ut Blodpropp mens jeg var gravid eller etter fødselen Alvorlig infeksjon Diabetes Annet	
26 Fikk du rifter under forrige forløsning? (besvares hvis du ikke hadde keisersnitt) Nei, ingen rifter Ble klippet Ja, rift i endetarmsmuskelen Husker ikke	
27 Hvordan var barnets helse rett etter fødselen? (sett ett eller flere kryss) Barnet var friskt Barnet ble innlagt på barneavdeling, men var ikke alvorlig syk Barnet ble innlagt på barneavdeling og var alvorlig syk	
28 Hvordan er barnets helse nå? (sett ett eller flere kryss) Barnet er friskt Barnet er sykt	
PSYKISK VELVÆRE	
30 Har det noen gang i livet ditt vært sammenhengende perioder på 2 uker eller mer, da du: Følte deg deprimert, trist eller nedfor	
31 Har du svart ja på siste spørsmål (tre problemer samtidig), vil vi gjerne vite når dette var? I løpet av de første 3 månedene etter en tidligere fødsel I løpet av siste måneden Annet tidspunkt	
32 Har du i perioder vært engstelig nesten daglig, <u>uten</u> at bekymringen har vært knyttet til bestemte situasjoner? (sett ett eller flere kryss) Nei Ja, i løpet av siste måneden Ja, i løpet av siste halvåret før jeg ble gravid	
33 Hvis ja, stemmer noe av det følgende? (sett ett eller flere kryss) Bekymringene er av og til overdrevne eller urimelige Det er vanskelig å skyve disse bekymringene unna Bekymringene skaper problemer slik at jeg ikke får konsentrert meg om det jeg holder på med	
34 Hvis du har vært bekymret eller engstelig, har du da hatt noen av følgende følelser? (sett ett eller flere kryss) Rastløs, oppskrudd Utslitt, svak eller utmattet Konsentrasjonsvansker Søvnvansker	

35	Føler du deg engstelig på steder eller i situasjoner hvor det å kunne trekke seg tilbake er vanskelig? (eks. i en stor menneskemengde, i en kø eller alene borte fra hjemmet) Nei Ja	36 Hvis ja, frykter du disse situasjonene så mye at du prøver å unngå dem, eller trenger en ledsager for å kunne utsette deg for dem? Nei Ja
37		ilkk? (sett ett eller flere kryss) i løpet av de første 3 månedene etter en tidligere fødsel dre perioder i livet
38	Svettetokter Svi	it ett eller flere kryss) alme, mageproblemer mmelhet kkinger, nummenhet i huden
39	Åndenød eller pustevansker He	te- eller kuldetokter kt for å dø Nei Ja
	Utviklet anfallet seg til et toppnivå i løpet av 10 minutter Kommer anfallene noen ganger uten forvarsel? (i situasjon Har du vært bekymret for å få nye anfall, eller for at det	er hvor du ikke forventer å være nervøs eller føle ubehag)
40	Småkryp (eks. insekter, edderkopper, mus) Høyder Underslivsundersøkelse Undersøkelse hos tannlege Mg	rfrykt eller panikk hos deg? (sett ett eller flere kryss) arpe gjenstander (sprøyter, kniver) kkede eller trange rom kdom eller død deller skader brike met
41	Hvis ja, stemmer noe av det følgende? (sett ett eller flere k Redselen er av og til overdreven eller urimelig Jeg prøver å unngå slike situasjoner Redselen kan forstyrre meg i arbeid eller sosiale akti	
42	Har du i løpet av den siste måneden vært redd eller flau for å være iakttatt, i sentrum av oppmerksomheten eller redd for å bli ydmyket? (eks. å snakke overfor mange eller å være i sosiale situasjoner) Nei Ja	45 Hvis ja på siste spørsmål, stemmer noe av det følgende: Disse tankene kommer tilbake selv om jeg prøver å la være å tenke på dem Disse tankene oppstår i mitt eget hode
43	Hvis ja, stemmer noe av det følgende: Redselen er av og til overdreven eller urimelig Jeg prøver å unngå slike situasjoner Redselen kan forstyrre meg i arbeid eller sosiale aktiviteter	46 Har du i løpet av den siste måneden gjort noe om og om igjen uten å kunne la det være? (eks. rengjøring eller vasking, telle eller kontrollere ting om og om igjen) Nei Ja
44	Har du i løpet av den siste måneden vært plaget av tilbakevendende tanker eller fantasier som er uønskede eller urovekkende? (eks. frykt for smitte/sykdom, overdreven grubbling eller aggressive og seksuelle tanker) Nei	47 Hvis ja, stemmer noe av det følgende: Disse handlingene er av og til overdrevne eller urimelige Disse handlingene kan forstyrre mine vanlige aktiviteter eller oppta mer enn 1 time i løpet av en dag

48	Har du noen gang opplevd eller selv vært involvert i en dramatisk og skremmende hendelse? (eks. ulykke, vold/overgrep mot deg selv eller andre) Nei							
	☐ Ja, og jeg reagerte med intens frykt, hjelpeløshet eller forferdelse							
	Ja, wen jeg lot det ikke gå inn på meg Ja, men jeg lot det ikke gå inn på meg							
49	Hvis du har opplevd en dramatisk hendelse, stemmer r Lløpet av siste måneden har jeg:	noe av det følgende? (sett et eller flere kryss)						
	gjenopplevd hendelsen (eks. i drømmer, mareritt, intense en	indringer, «flashbacks»)						
	unngått å tenke eller snakke om hendelsen							
	hatt problemer med å huske hendelsen							
	følt meg fjern eller distansert							
	hatt problemer med å sove							
	hatt konsentrasjonsproblemer							
	vært skvetten							
	i betydelig grad vært forstyrret av hendelsen i mitt ar	beid og sosiale aktiviteter						
	Følgende spørsmål gjelder de siste 7 dagene							
50	Har du siste 7 dager kunnet le og se det komiske i en situasjon?	55 Har du siste 7 dager følt at det har blitt for mye for deg?						
	Like mye som vanlig	Ja, jeg har stort sett ikke fungert i det hele tatt						
	Ikke riktig så mye som jeg pleier	☐ Ja, i blant har jeg ikke klart å fungere som jeg pleier☐ Nei, for det meste har jeg klart meg bra						
	Klart mindre enn jeg pleier	Nei, jeg har klart meg like bra som vanlig						
	Ikke i det hele tatt	Liver, Jeg nar klart meg like bia som valmig						
51	Har du siste 7 dager gledet deg til ting som skulle skje?	56 Har du siste 7 dager vært så ulykkelig at du har hatt vanskeligheter med å sove?						
	Like mye som vanlig	Ja, for det meste						
	Noe mindre enn jeg pleier	Ja, i blant						
	Klart mindre enn jeg pleier	☐ Ikke særlig ofte						
	Nesten ikke i det hele tatt	Nei, ikke i det hele tatt						
52	Har du siste 7 dager bebreidet deg selv uten grunn	57 Har du siste 7 dager følt deg nedfor eller ulykkelig?						
	når noe gikk galt?	☐ Ja, det meste av tiden						
	☐ Ja, nesten hele tiden☐ Ja, av og til	☐ Ja, ganske ofte						
	Ikke særlig ofte	☐ Ikke særlig ofte						
	Nei aldri	☐ Nei, ikke i det hele tatt						
53	Har du siste 7 dager vært nervøs eller bekymret	58 Har du siste 7 dager vært så ulykkelig at du har grått?						
	uten grunn? Nei, slett ikke	☐ Ja, nesten hele tiden						
	Nesten aldri	☐ Ja, veldig ofte						
	Ja, iblant	Ja, det har skjedd iblant						
	Ja, veldig ofte	☐ Nei, aldri						
	Ja, veidig ofte							
54	Har du siste 7 dager vært redd eller fått panikk	59 Har tanken på å skade deg selv streifet deg, de siste						
	uten grunn?	7 dagene?						
	☐ Ja, svært ofte	☐ Ja, nokså ofte						
	Ja, noen ganger	☐ Ja, av og til						
	Sjelden	☐ Ja, såvidt						
	☐ Nei, aldri	Aldri						

60	Nedenfor er det en liste over problemer folk av og til har. Vurder hvor mye hvert problem var til plage eller ulempe for deg de siste 7 dagene. Redenfor er det en liste over problemer folk av og til har. Vurder hvor mye likke plaget plag
	Plutselig frykt uten grunn
	Stadig redd eller engstelig
	Matthet eller syimmelhet
	Nervøsitet, indre uro
	Hjertebank
	Skjelving
	Føler deg anspent eller oppjaget
	Hodepine
	Anfall av angst eller panikk
	Så rastløs at det er vanskelig å sitte stille
	Su tustips at det et varisherig a sitte stille
	CVVDOMMED MEDICINED LEVECETT
	SYKDOMMER, MEDISINER, LEVESETT
61	I tiden før du ble gravid:
	Hadde du langvarige eller stadig tilbakevendende smerter som hadde vart i 3 måneder eller mer?
	□ Nei □ Ja
62	Hvor sterke var disse smertene vanligvis?
	Ingen
	Sincia Composition de la composition della compo
63	Har du vært plaget av smerter de siste to ukene?
	□ Nei □ Ja
64	Hvor sterke er smertene vanligvis?
	Ingen 0 1 2 3 4 5 6 7 8 9 10 Den sterkeste smerten smerte du kan forestille deg
	Sillerice
65	Hvor mange dager har du hatt hodepine i løpet av det siste året?
	Ingen
	Mindre enn halvparten av dagene
	Mer enn halvparten av dagene
	1 2-6 7-14 Merenn
66	Omtrent antall dager med hodepine: Ingen dag dager dager 14 dager
	I løpet av den siste måneden
	I løpet av siste måneden før jeg ble gravid
67	Har du noensinne hatt migrene?
•	Nei, aldri
	Ja, men ikke i løpet av siste året
	☐ Ja, også i løpet av det siste året
	in ja, også i løpet av det siste året
68	Hvis du har hatt hodepine, hvor sterk har den vært?
	Ingen 0 1 2 3 4 5 6 7 8 9 10 Den sterkeste smerten
	smerte du kan forestille deg
69	Hvor mange dager (omtrent) har du tatt 1 2-9 10-14 Merenn
33	medisin mot hodepine: Ingen dag dager 10 III da tatt 1 2-9 10-14 Mer enn dager 14 dager
	I løpet av den siste måneden
	I løpet av siste måneden før jeg ble gravid

70	Kryss av for ditt forbruk av medisiner sis			Daglig	Antall dager
	4 måneder før du ble gravid: Nei	Ja	Navn på medisiner du brukte	(fast)	brukt
	Medisin mot hodepine] <u> </u>	
	Migrenemedisin				
	Smertestillende for annet enn hodepine				
	Sove- eller innsovningstabletter				
	_				
	Beroligende medisin	Ш] []	
	Medisin mot depresjon /angst				
	Annen nervemedisin				
	Naturmedisin				
71	Kryss av for ditt forbruk av medisiner			Daglig	Antall dager
	i svangerskapet frem til nå: Nei	Ja	Navn på medisiner du brukte	(fast)	brukt
	Medisin mot hodepine				
	Migrenemedisin				
	Smertestillende for annet enn hodepine				
	Sove- eller innsovningstabletter				
	Beroligende medisin	Ш			
	Medisin mot depresjon /angst				
	Annen nervemedisin				
	Naturmedisin				
	En alkoholenhe	+ – 1 fl	aske rusbrus/ cider <i>eller</i>		
	Endikonolenne	1 gl	lass (1/3 liter) øl eller		
		1 h	inglass rød eller hvitvin (1.2 dl) eller etvinsglass, sherry eller annen hetvin eller		
		1 d	rammeglass brennevin eller likør		
72	Hvor mange enheter (glass) alkohol kar vanligvis drikke før du begynner å mer		? antall enheter (glass)	rikker a	lldri alkohol
		ne act	antan enneter (glass)	JIKKEI U	ilari aikorioi
/3	Hvor ofte drakk/drikker du 5 enheter (glass) eller mer på en dag/kveld:	1	Flere ganger 1 gang 1-3 ganger Under 1 g i uken i uken /mnd /mnd	ang	Aldri
	i tiden før svangerskapet?				
	før du skjønte at du var gravid?				🔲
	etter at du skjønte at du var gravid?				
74			se med graviditeten, når skjedde endringen? at jeg var gravid		
	Da Jeg Sie Bravia Da Jeg Si	Jenic	ac jeg var gravia		

T T

	10 eller flere 7-9 5-6 3-4 1-2 0
77 Hva veier du nå? (antall kilo)	
78 Hvilke av følgende påstander passer best på deg? Vekt eller kroppsform: påvirker overhodet ikke hva jeg synes om meg selv betyr noe for hva jeg synes om meg selv betyr en del for hva jeg synes om meg selv	□ betyr mye for hva jeg synes om meg selv□ betyr alt for hva jeg synes om meg selv
79 I tiden før du ble gravid (siste 6 mnd), brukte du noen av følgende metoder for å kontrollere vekten? Fremkalle brekninger for å kaste opp	
Hvis du ikke har hatt anfall med overspising kan du gå d	lirekte til spørsmål om fysisk aktivitet, nr. 85
81 Hvis du overspiste i tiden før du ble gravid, følte du da at du ikke kunne kontrollere spisingen? Ikke i det hele tatt Litt Noe Mye Veldig mye	83 Hvor lenge hadde perioden med overspising vart? 1-2 måneder 3-5 måneder 6-12 måneder Lengre enn et år
82 Hvor mange ganger i måneden skjedde dette? (antall ganger i måneden)	84 Førte episodene med overspising til at du ble opprørt eller ulykkelig? Ikke i det hele tatt Litt Noe Mye Veldig mye

FYSISK AKTIVITET	
85 Hvor ofte, etter at du ble gravid, har du drevet mosjon?	
(f.eks. gått tur, gått på ski, syklet til og fra jobb eller drevet trening/idrett)	
Aldri	
Sjeldnere enn en gang i uken	
1 gang i uken	
2 ganger i uken	
3 ganger i uken	
Mer enn 3 ganger i uken	
86 Hvis du har drevet mosjon, hvor hardt mosjonerer du?	
☐ Blir ikke andpusten og svett	
Blir andpusten og svett	
☐ Tar meg nesten helt ut	
87 Hvis du driver mosjon, hvor lenge holder du vanligvis på?	
10 minutter	
11-20 minutter	
21 minutter-1 time	
Mer enn 1 time	
LITT MER OM DEG SELV	
ETT MEN OM DEG SELV	
88 Beskriv deg selv slik du generelt er: (kryss av for hver linje)	Svært Nokså Verken Nokså Svært uenig uenig eller enig enig
Liver opp i et selskap	
Har medfølelse med andre	
Får oppgaver unnagjort med en gang	
Har ofte humørsvingninger	
Har en livlig fantasi	
Snakker ikke mye	
Er ikke interessert i andres problemer	
Glemmer ofte å sette ting tilbake på plass	
Er avslappet mesteparten av tiden	
Er ikke interessert i abstrakte idéer	
Snakker med mange mennesker i selskaper	
Er oppmerksom på andres følelser	
Liker orden og ryddighet	
Blir lett opprørt	
Har problemer med å forstå abstrakte idéer	
Holder meg i bakgrunnen	
Er egentlig ikke interessert i andre mennesker	
Føler meg sjelden nedfor	
Har ikke god forestillingsevne	
000 101 000 101 000 101	
Tusen takk for inn	rsatsen!
. a.seri takk joi iiiii	

APPENDIX V

The Akershus Birth Cohort Study Questionnaire at pregnancy week 32





FAVN OM FØDSELEN

Skjemaet vil bli lest maskinelt, det er derfor viktig at du krysser av riktig: Riktig Galt Galt Om du krysser feil, retter du ved å fylle boksen slik Skriv tydelige tall 1 2 3 4 5 6 7 8 9 0 Riktig Riktig Galt Galt Bruk kun sort eller blå penn, bruk ikke blyant eller tusj

 T 2 T

1	Dato for utfylling (dag) (mnd) (år)
	HELSEPLAGER OG LEVESETT I SVANGERSKAPET
2	Er du plaget av noe av det følgende? Magesmerter
3	Er eller har du vært plaget av kvalme? (sett ett eller flere kryss) Nei Jeg var sykmeldt på grunn av kvalme Ja, litt plaget Jeg ble innlagt på sykehus på grunn av kvalme/vekttap Ja, mye plaget
4	Hvis ja, når i svangerskapet? (sett ett eller flere kryss) Første 3 mnd Nå, i løpet av siste måneden Midt i svangerskapet
5	Hva veier du nå? (antall kilo)
6.	Har fosteret/barnet vært undersøkt med ultralyd?
	Nei Ja (antall ganger) Har du vært sykmeldt i løpet av svangerskapet?
	Nei Ja (antall uker)
8	Hvis ja, når i svangerskapet? (sett ett eller flere kryss) Første 3 mnd Nå, i løpet av siste måneden Midt i svangerskapet
9	Hvis du har vært sykmeldt, hva var grunnen? Bekkenløsning Trett/ sliten /søvnproblemer Ryggproblemer/smerter Angst /depresjon Kvalme Komplikasjoner i svangerskapet (eks. blødning, høyt blodtrykk etc.)
10	Er du hoven i beina? (sett ett eller flere kryss) Nei Ja, om morgenen Ja, om kvelden
11	Hvor hoven er du når det er som verst? Får på meg skoene 0 1 2 3 4 5 6 7 8 9 10 Beina er som tømmerstokker
12	Har du vært plaget av langvarige eller stadig tilbakevendende smerter de siste to ukene? Nei Ja

13 Hvor sterke er disse smertene vanligvis? Ingen 0 1 2 3 4 5 6 7 8 9 10 Den sterkeste smerten du kan forestille deg	
14 Hvor mange dager har du hatt hodepine i løpet av den siste måneden: Ingen 7-14 dager 1 dag Mer enn 14 dager 2-6 dager	
15 Hvor mange dager har du hatt migrene siste måned? Ingen 7-14 dager 1 dag Mer enn 14 dager 2-6 dager	
16 Hvis du har hatt hodepine, hvor sterk har den vært? Ingen 0 1 2 3 4 5 6 7 8 9 10 Den sterkeste smerten du kan forestille deg	
17 Hvor mange dager har du tatt medisin mot hodepine den siste måneden? Ingen	
18 Kryss av for ditt forbruk av medisiner siden ultralydundersøkelsen i uke 17-20 og frem til nå: Nei Ja Navn på medisiner du brukte Daglig Antall dage (fast) brukt	r
Medisin mot hodepine	
Migrenemedisin	
Sove- eller innsovningstabletter	
Beroligende medisin	
Medisin mot depresjon/angst	
Annen nervemedisin	
Naturmedisin	
19 Hvor ofte har du hatt samleie i løpet av de siste fire ukene? Daglig 1-2 ganger hver 14. dag 5-6 ganger i uken Sjeldnere 3-4 ganger i uken Ingen ganger 1-2 ganger i uken	
RYGGSMERTER/ BEKKENLØSNING	
20 Har du vondt i korsryggen nå? Nei Ja	
21 Har du hatt vondt i korsryggen tidligere? Før første svangerskap	
22 Har du smerter i bekkenet (bekkenløsning) nå?	

Dersom du ikke har smerter i bekkenet (bekkenløsning), kan du gå direkte til s	pørsmål nr. 27
23 Dersom du har bekkenløsning nå, hvor er det vondt? (sett ett eller flere kryss) Foran i bekkenet (ved kjønnsbenet/symfysen) På venstre side bak i bekkenet. På høyre side bak i bekkenet	
24 Bruker du stokk eller krykker på grunn av bekkensmerter? Nei Ja	
25 Våkner du om natten på grunn av bekkensmerter? Nei, aldri Ja, ofte Ja, en sjelden gang	
26 Hvor sterke er bekkensmertene på det verste? Ingen 0 1 2 3 4 5 6 7 8 9 10 merte merte 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0) Den sterkeste smerten du kan forestille deg
27 Har du hatt bekkenløsning i tidligere svangerskap? Nei Ja	
28 Hvis ja, hvor mange måneder etter fødselen hadde du bekkenløsning?	(antall måneder)
FORVENTNINGER OM FØDSELEN	
29 Hvor redd er du for å føde?	
Overhodet ikke redd 0 1 2 3 4 5 6 7 8 9	10 Ekstremt redd
30 Hvor mye gleder du deg til å føde?	
Gleder meg	10 Gleder meg ekstremt mye
31 Hvor smertefull tror du at fødselen vil være for deg?	
0	Den sterkeste smerten du kan forestille deg
32 Hvor enig er du i disse beskrivelsene av dine tanker om forestående fødsel? (sett kun et kryss for hver linje) Jeg vil gjerne ha en så naturlig fødsel som mulig uten smertestillende og uten inngre Jeg gruer meg veldig til fødselen	
Nei □ Ja, med fastlege □ Ja, med jordmor/lege på sykehuset □ Ja, med psykolog /psykiater □ Ja, med kommunejordmor □ Ja, med venn/familie	
Annet	

T T

34	Hvis du har deltatt i EMBLA-samta Jordmor Lege	Bå	de lege	og jor			hvem har du vært hos?	
	Lege	Па	ii ikke t	ieitatt i	Slike Sa	IIIItalei		
35	Hvis du har hatt kontakt med helsepersonell p.g.a. angst for å føde, hvor langt var du kommet i svangerskapet? (antall uker)							
36	66 Hvis du har hatt kontakt med helsepersonell p.g.a. angst for å føde, hvor mange ganger? (antall ganger)							
	Noen av spørsmålene nedenfor er nesten like spørsmålene over. Likevel håper vi du vil svare, siden svarene dine vil bidra til å belyse sammenhengen mellom følelser og fødselen.							
37	Hvordan tror du at fødselen din k	omme	r til å b	li som	helhets	opplev	else?	
	Overhodet ikke fantastisk						Helt fantastisk	
	Overhodet ikke forferdelig						Helt forferdelig	
38	Hvordan tror du at du kommer til	å føle	deg un	ider fø	dselen?	4	5	
	Overhodet ikke ensom						Ekstremt ensom	
	Overhodet ikke sterk						Ekstremt sterk	
	Overhodet ikke sikker						Ekstremt sikker	
	Overhodet ikke redd						Ekstremt redd	
	Overhodet ikke forlatt						Ekstremt forlatt	
	Overhodet ikke svak						Ekstremt svak	
	Overhodet ikke trygg						Ekstremt trygg	
	Overhodet ikke selvstendig						Ekstremt selvstendig	
	Overhodet ikke oppgitt						Ekstremt oppgitt	
	Overhodet ikke anspent						Ekstremt anspent	
	Overhodet ikke glad						Ekstremt glad	
	Overhodet ikke stolt						Ekstremt stolt	
	Overhodet ikke sviktet						Ekstremt sviktet	
	Overhodet ikke fattet						Ekstremt fattet	
	Overhodet ikke avslappet						Ekstremt avslappet	
	Overhodet ikke lykkelig						Ekstremt lykkelig	
20	Hva tror du at du kommer til å føl	ام ما	u fa da	alam?				
39	Hva tror du at du kommer til a løl	e unae 0	er iøuse 1	2	3	4	5	
	Overhodet ingen panikk						Ekstrem panikk	
	Overhodet ingen håpløshet						Ekstrem håpløshet	
	Overhodet ingen lengsel	_						
	etter barnet		Ц			Ц	Ekstremt stor lengsel etter barnet	
	Overhodet ingen selvtillit						Ekstremt stor selvtillit	
	Overhodet ingen tillit						Ekstremt stor tillit	
	Overhodet ingen smerte						Ekstrem smerte	
40	Hva tror du kommer til å skje når	fødsel 0	en er p	å sitt n	nest int	ense?	5	
	Jeg kommer ikke til å oppføre						Jeg kommer til å oppføre meg	
	meg dårlig						ekstremt dårlig	
	Jeg kommer ikke til å våge overgi						Jeg kommer til å våge overgi meg	
	meg til det som skjer i kroppen						helt til det som skjer i kroppen	
	Jeg kommer ikke til å miste						Jeg kommer til å totalt miste	
	kontrollen over meg selv						kontrollen over meg selv	

41	Hvordan tror du at det kommer til å føles i det barnet kommer ut?					
	Overhodet ikke gledelig					
42	Har du i den siste måneden hatt fantasier som for eksempel at barnet dør under fødselen?					
	Aldri Svært ofte					
43	Har du i den siste måneden hatt fantasier om at barnet blir skadet under fødselen?					
	0 1 2 3 4 5 Aldri Svært ofte					
	PSYKISK HELSE GENERELT					
	De følgende spørsmålene har du svart på i tidligere skjema. Vi stiller disse på nytt for å kunne studere stabilitet og endringer i løpet av svangerskapet.					
44	Har du i løpet av siste måneden vært engstelig nesten daglig, uten at bekymringen har vært knyttet til bestemte situasjoner? Nei Ja					
45	Hvis ja, stemmer noe av det følgende? (sett et eller flere kryss)					
	Bekymringene er av og til overdrevne eller urimelige					
	Det er vanskelig å skyve disse bekymringene unna					
	Bekymringene skaper problemer slik at jeg ikke får konsentrert meg om det jeg holder på med					
46	6 Hvis du har vært bekymret eller engstelig, har du da hatt noen av følgende følelser? (sett ett eller flere kryss)					
	Rastløs, oppskrudd Utslitt, svak eller utmattet					
	Konsentrasjonsvansker					
	☐ Irritabel					
	Anspent, øm i musklene					
	Søvnvansker					
47	Føler du deg engstelig på steder eller i situasjoner hvor det å kunne trekke seg tilbake er vanskelig? (eks. i en stor menneskemengde, i en kø eller alene borte fra hjemmet)					
	Nei Ja					
48	Hvis ja, frykter du disse situasjonene så mye at du prøver å unngå dem, eller trenger en ledsager for å kunne utsette deg for dem?					
	□ Nei □ Ja					
49	Har du i løpet av den siste måneden hatt anfall hvor du plutselig følte frykt eller panikk? (sett ett eller flere kryss)					
	□ Nei □ Ja					
50	. Hvis ja, hadde du da noen av følgende symptomer? (sett ett eller flere kryss)					
	Hjertebank, hurtig puls eller brystsmerte					
	Svettetokter					
	Skjelving eller risting i kroppen					
	Åndenød eller pustevansker					
	Frykt for å miste kontrollen eller forstanden Kvalme, mageproblemer					
	Svimmelhet					
	Prikkinger, nummenhet					
	Hete- eller kuldetokter					
	Frykt for å dø					

Т 51 Hvis du har hatt slike anfall siste måneden: Utviklet anfallet seg til et toppnivå i løpet av 10 minutter?..... Kommer anfallene noen ganger uten forvarsel? (i situasjoner hvor du ikke forventer å være nervøs eller føle ubehag)...... Har du vært bekymret for å få nye anfall, eller for at det skulle være noe i veien med deg?..... 52 Utløser noen av følgende gjenstander eller situasjoner frykt eller panikk hos deg? (sett ett eller flere kryss) Flyreiser Småkryp (eks. insekter, edderkopper, mus) Høyder Underlivsundersøkelse Undersøkelse hos tannlege Værfenomener (eks. tordenvær) Skarpe gjenstander (sprøyter, kniver) Lukkede eller trange rom Sykdom eller død Blod eller skader Mørke Annet 53 Hvis ja, stemmer noe av det følgende? (sett ett eller flere kryss) Redselen er av og til overdreven eller urimelig Jeg prøver å unngå slike situasjoner Redselen kan forstyrre meg i arbeid eller sosiale aktiviteter 54 Har du i løpet av den siste måneden vært redd eller flau for å være jakttatt, i sentrum av oppmerksomheten eller redd for å bli ydmyket? (eks. å snakke overfor mange eller å være i sosiale situasjoner) Nei la 55 Hvis ja, stemmer noe av det følgende: Redselen er av og til overdreven eller urimelig Jeg prøver å unngå slike situasjoner Redselen kan forstyrre meg i arbeid eller sosiale aktiviteter Hvis du ikke har født tidligere kan du gå direkte til spørsmål nr. 57 56 For noen kan en fødsel oppleves som påkjenning i lang tid etterpå. Les hver påstand under og sett kryss i ruten som best beskriver dine følelser siste uke omkring din siste fødsel. Ikke i det hele tatt Sjelden Av og til Jeg har hatt vonde følelser om forrige fødsel..... Jeg har hatt vanskelig for å sove p.g.a. vonde tanker og bilder om fødselen Ting jeg har sett og hørt minnet meg om fødselen...... Jeg har ikke tillatt meg å bli følelsesmessig berørt når jeg tenker på fødselen...... Tanker om fødselen har trengt seg på også når jeg ikke har villet Jeg har opplevd det uvirkelig, som om fødselen ikke har hendt..... Jeg har holdt meg unna ting eller situasjoner som minner meg om fødselen Bilder fra fødselen har plutselig dukket opp i tankene mine Jeg har ikke tillatt meg selv å ha tanker om fødselen..... Jeg vet at mange uforløste følelser rundt fødselen er der, men har skjøvet dem bort Mine følelser rundt fødselen er nærmest lammet..... Jeg har hatt perioder med sterke følelser om fødselen Jeg har ønsket å bli kvitt minner fra fødselen...... Jeg har hatt vonde drømmer om fødselen..... Jeg har forsøkt å la være å snakke om fødselen......

Følgende spørsmål gjelder de siste 7 dagene.		
57 Har du siste 7 dager kunnet le og se det komiske i en situasjon? Like mye som vanlig Ikke riktig så mye som jeg pleier Klart mindre enn jeg pleier Ikke i det hele tatt	62 Har du siste 7 dager følt at det har blitt for mye for deg? Ja, jeg har stort sett ikke fungert i det hele tatt Ja, i blant har jeg ikke klart å fungere som jeg pleier Nei, for det meste har jeg klart meg bra Nei, jeg har klart meg like bra som vanlig	
58 Har du siste 7 dager gledet deg til ting som skulle skje? Like mye som vanlig Noe mindre enn jeg pleier Klart mindre enn jeg pleier Nesten ikke i det hele tatt	63 Har du siste 7 dager vært så ulykkelig at du har hatt vanskeligheter med å sove? ☐ Ja, for det meste ☐ Ja, i blant ☐ Ikke særlig ofte ☐ Nei, ikke i det hele tatt	
59 Har du siste 7 dager bebreidet deg selv uten grunn når noe gikk galt? Ja, nesten hele tiden Ja, av og til Ikke særlig ofte Nei aldri	64 Har du siste 7 dager følt deg nedfor eller ulykkelig? ☐ Ja, det meste av tiden ☐ Ja, ganske ofte ☐ Ikke særlig ofte ☐ Nei, ikke i det hele tatt	
60 Har du siste 7 dager vært nervøs eller bekymret uten grunn? Nei, slett ikke Nesten aldri Ja, iblant Ja, veldig ofte	65 Har du siste 7 dager vært så ulykkelig at du har grått? ☐ Ja, nesten hele tiden ☐ Ja, veldig ofte ☐ Ja, det har skjedd iblant ☐ Nei, aldri	
61 Har du siste 7 dager vært redd eller fått panikk uten grunn? ☐ Ja, svært ofte ☐ Ja, noen ganger ☐ Sjelden ☐ Nei, aldri	66 Har tanken på å skade deg selv streifet deg, de siste 7 dagene? Ja, nokså ofte Ja, såvidt Ja, av og til Aldri	
67 Nedenfor er det en liste over problemer folk av og til he hvert problem var til plage eller ulempe for deg de siste. Plutselig frykt uten grunn	Ikke Litt mye mye plaget pla	

T T

08	B Har du tidligere søkt hjelp for psykiske helseplager? (sett et eller flere kryss) Nei	
	Ja, jeg har mottatt hjelp tidligere	
	Ja, jeg får hjelp nå	
69	Hvis ja, av hvem? (sett et eller flere kryss)	
	Fastlege	
	Psykolog	
	Helsesøster	
	Psykiater	
	Annet	
70	Hvilke av følgende påstander passer best på deg?	
	Vekt eller kroppsform:	
	påvirker overhodet ikke hva jeg synes om meg selv	
	betyr noe for hva jeg synes om meg selv	
	betyr en del for hva jeg synes om meg selv	
	betyr mye for hva jeg synes om meg selv	
	betyr alt for hva jeg synes om meg selv	
71	Bruker du nå for tiden noen av følgende Noen Flere ganger	
	metoder for å kontrollere vekten? Aldri ganger i uken Dagli	g
	Fremkaller brekninger for å kaste opp	
	Tar avføringsmidler	
	Trener mer enn to timer per dag	
	Faster eller ikke spiser i 24 timer eller mer	
72	! Hender det nå for tiden at du har perioder med overspising? (dvs. anfall der du spiser store mengder i løpet av kort tid)	
	Nei Ja	
	Nei Ja	
	Nei Ja Hvis du ikke har hatt anfall med overspising kan du gå direkte til spørsmål om søvn, nr. 77	
	Hvis du ikke har hatt anfall med overspising kan du gå direkte til spørsmål om søvn, nr. 77	
	Hvis du ikke har hatt anfall med overspising kan du gå direkte til spørsmål om søvn, nr. 77 Hvis ja, føler du da at du ikke kan kontrollere spisingen?	
	Hvis du ikke har hatt anfall med overspising kan du gå direkte til spørsmål om søvn, nr. 77 B Hvis ja, føler du da at du ikke kan kontrollere spisingen?	
	Hvis du ikke har hatt anfall med overspising kan du gå direkte til spørsmål om søvn, nr. 77 B Hvis ja, føler du da at du ikke kan kontrollere spisingen? Ikke i det hele tatt Wye Litt Veldig mye	
	Hvis du ikke har hatt anfall med overspising kan du gå direkte til spørsmål om søvn, nr. 77 B Hvis ja, føler du da at du ikke kan kontrollere spisingen?	
73	Hvis du ikke har hatt anfall med overspising kan du gå direkte til spørsmål om søvn, nr. 77 B Hvis ja, føler du da at du ikke kan kontrollere spisingen? Ikke i det hele tatt Wye Litt Veldig mye	
73	Hvis du ikke har hatt anfall med overspising kan du gå direkte til spørsmål om søvn, nr. 77 B Hvis ja, føler du da at du ikke kan kontrollere spisingen? Ikke i det hele tatt	
73	Hvis du ikke har hatt anfall med overspising kan du gå direkte til spørsmål om søvn, nr. 77 Hvis ja, føler du da at du ikke kan kontrollere spisingen? kke i det hele tatt	
73	Hvis du ikke har hatt anfall med overspising kan du gå direkte til spørsmål om søvn, nr. 77 Hvis ja, føler du da at du ikke kan kontrollere spisingen? Ikke i det hele tatt	
73	Hvis du ikke har hatt anfall med overspising kan du gå direkte til spørsmål om søvn, nr. 77 Hvis ja, føler du da at du ikke kan kontrollere spisingen? kke i det hele tatt	
73 74 75	Hvis du ikke har hatt anfall med overspising kan du gå direkte til spørsmål om søvn, nr. 77 Hvis ja, føler du da at du ikke kan kontrollere spisingen? lkke i det hele tatt	
73 74 75	Hvis du ikke har hatt anfall med overspising kan du gå direkte til spørsmål om søvn, nr. 77 B Hvis ja, føler du da at du ikke kan kontrollere spisingen? Ikke i det hele tatt	
73 74 75	Hvis du ikke har hatt anfall med overspising kan du gå direkte til spørsmål om søvn, nr. 77 Hvis ja, føler du da at du ikke kan kontrollere spisingen? kke i det hele tatt	
73 74 75	Hvis du ikke har hatt anfall med overspising kan du gå direkte til spørsmål om søvn, nr. 77 Hvis ja, føler du da at du ikke kan kontrollere spisingen?	
73 74 75	Hvis du ikke har hatt anfall med overspising kan du gå direkte til spørsmål om søvn, nr. 77 Hvis ja, føler du da at du ikke kan kontrollere spisingen? Ikke i det hele tatt	
73 74 75	Hvis du ikke har hatt anfall med overspising kan du gå direkte til spørsmål om søvn, nr. 77 Hvis ja, føler du da at du ikke kan kontrollere spisingen? Ikke i det hele tatt	
73 74 75	Hvis du ikke har hatt anfall med overspising kan du gå direkte til spørsmål om søvn, nr. 77 Hvis ja, føler du da at du ikke kan kontrollere spisingen? Ikke i det hele tatt	
73 74 75	Hvis du ikke har hatt anfall med overspising kan du gå direkte til spørsmål om søvn, nr. 77 Hvis ja, føler du da at du ikke kan kontrollere spisingen? Ikke i det hele tatt	
73	Hvis du ikke har hatt anfall med overspising kan du gå direkte til spørsmål om søvn, nr. 77 Hvis ja, føler du da at du ikke kan kontrollere spisingen? Ikke i det hele tatt	

SØVN, ARBEIDSSITUASJON OG LIVSHENDELSER 77 Hvordan har ditt søvnmønster vært i løpet av den siste måneden? Vanlig leggetid: (klokkeslett - eks. 22:30) Vanlig tid å stå opp: (klokkeslett - eks. 07:30) Omtrent antall timer med søvn per natt (kan være forskjellig fra hvor mange timer du har oppholdt deg i sengen):..... (timer) (minutter) 78 I løpet av den siste måneden, hvor ofte (antall dager per uke) har du opplevd noe av det følgende? (sett ett kryss for hver linje) Ingen Hver Brukt mer enn 30 minutter for å sovne inn..... Vært våken mer enn 30 minutter innimellom søvnen Våknet mer enn 30 minutter tidligere enn du ønsket uten å få sove igjen...... Følt deg lite uthvilt etter å ha sovet Vært så søvnig at det har gått ut over skole/jobb eller privatlivet Vært misfornøyd med søvnen..... 79 Er arbeidsforholdene dine blitt tilpasset dine behov i graviditeten? Ja Er ikke i lønnet arbeid nå Nei 80 Hvis nei, hvorfor er ikke arbeidsforholdene blitt tilpasset dine behov? Det har ikke vært nødvendig fordi jeg har et ikke-belastende arbeid Det er umulig eller nesten umulig Det er vanskelig å spørre Jeg har bedt om tilpasninger, men ikke fått det Annet 81 Hvordan opplever du at din graviditet har blitt mottatt på arbeidsplassen? Svært 82 Har du i løpet av de siste 12 månedene opplevd noe av det følgende? Veldig I så fall, hvor vondt eller vanskelig var det for deg? Ikke Vondt/ vondt (hvis følgende ikke passer på deg setter du ikke noe kryss) så ille vanskelia Ble skilt, separert eller avbrøt samlivet..... Har vært alvorlig syk eller skadet En av dine nærmeste har vært alvorlig syk eller skadet....... Har vært utsatt for trafikkulykke, brann eller tyveri...... Mistet en nær pårørende Annet

FØDSELSFORBEREDELSE 83 Nedenfor følger en liste over forskjellige måter å forberede seg til fødselen på. Har du gjort noe av det følgende i løpet av dette svangerskapet? Hvis ja Hvis ja, hvordan har det påvirket deg? Har gjort Har ikke beroliget meg urolig meg Har vært på fødselsforberedende kurs Har fått informasjon via TV-program..... Har søkt informasjon via bøker Har søkt informasjon via internett Har deltatt i diskusjonsforum på internett Snakket med venner og familie om fødselsopplevelser... Annet... 84 Har du noen gang vært tilstede under en fødsel? (utenom når du selv har født) 85 Har du noen gang vært tilstede under en dyrefødsel? (eks. hund, katt eller hest) Nei 86 De følgende setningene beskriver tanker og følelser kvinner kan oppleve i svangerskapet. Les hver påstand under og sett kryss i ruten som best beskriver dine erfaringer den siste måneden. Noen ganger Jeg lurer på hvordan barnet ser ut nå Jeg tenker at barnet mitt allerede har en personlighet Jeg planlegger ting jeg skal gjøre sammen med barnet..... Jeg forestiller meg hvilken del av barnet jeg tar på...... Jeg vet når barnet sover..... Jeg kjøper ting og ordner i stand til barnet Jeg prøver å forestille meg hva barnet driver med der inne..... Jeg drømmer om barnet..... Jeg tar på magen min for å stryke barnet..... Tusen takk og lykke til!