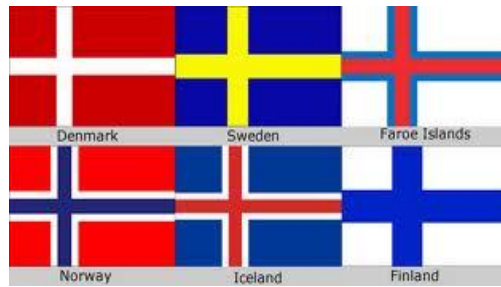




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# ABSTRACT BOOK

**Perinatal Mental Health: from Research to Practice**

**The 4th Nordic Marcé conference in Oslo, Norway  
28-29 of October 2021**

## Father support groups in Sweden

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**Background:** Fathers often feel secondary or invisible in traditional parent groups. Gender-specific parent groups, referred to as father groups, may be inclusive spaces for fathers to discuss their transition into parenthood.

**Purpose:** To quantitatively assess fathers' perceptions and satisfaction of father groups in Sweden during the prenatal and postnatal periods.

**Methods:** A cross-sectional quantitative study design was used to report fathers' satisfaction of father groups, including how the groups impacted their personal outcomes

**Results:** Most fathers had a university education, a good household economy and were married/cohabiting, while almost 60% were first-time fathers and almost 25% had depressive symptoms. Overall, fathers were generally satisfied with both the prenatal and postnatal father groups, although fathers attended prenatal father groups to a lesser extent. The participants rated the father groups as moderately impacting their equality in the family, self-confidence, feelings of loneliness, social network and being able to express their own opinions, as well as positively affected their relationship with their partner and child, respectively. While there were no differences based on fathers' parity, those who self-estimated depressive symptoms were less satisfied and rated the father groups less impactfully.

**Conclusion:** Father groups may help encourage fathers to meet policy goals, such as childrearing equality, and can be an important arena for screening fathers for depression.

## **Predicting peripartum depression using a research app, digital phenotyping and machine learning methods**

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**Background:** Peripartum depression (PPD) impacts around 12% of women globally and is a leading cause of maternal mortality. Prediction and early detection are key to minimizing its impact on mother and child, however, there are currently no accurate methods in use to identify women at high risk for depressive symptoms on an individual level. An initial study was done to assess the value of deep learning models to predict perinatal depression from women at six weeks postpartum. Clinical, demographic, and psychometric questionnaire data was obtained from the "Biology, Affect, Stress, Imaging and Cognition during Pregnancy and the Puerperium" (BASIC) cohort, collected from 2009-2018 in Uppsala, Sweden. An ensemble of artificial neural networks and decision trees-based classifiers with majority voting gave the best and balanced results, with nearly 75% accuracy. Predictive variables identified in this study were used to inform the development of the ongoing Swedish Mom2B study, which aims to use digital phenotyping data collected via the Mom2B mobile app to evaluate predictive models of the risk of perinatal depression.

**Methods:** The Mom2B app was launched in November 2019, and all Swedish-speaking women over 18 years who are pregnant or within three months postpartum are eligible to participate. Clinical, sociodemographic and psychometric information is collected through questionnaires, including the Edinburgh Postnatal Depression Scale (EPDS) used as a measure of risk of depression. Audio recordings are recurrently obtained upon prompts, and passive data from smartphone sensors and activity logs, reflecting socio-medial activity and mobility patterns, is continuously collected via the Mom2B app to develop the Mom2B cohort.

**Discussion:** Subsequently, we will implement and evaluate advanced machine learning and deep learning models predicting the risk of PPD in the third pregnancy trimester, as well as during the early and late postpartum period, and identify variables with the strongest predictive value.

## Perinatal mental health training in Norway

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**Background:** The paper "An international position paper on mother-infant (perinatal mental health), with guidelines for clinical practice" (Brockington et al, 2016) underlines the need for further development of the speciality of mother – infant psychiatry (perinatal mental health). According to this initiative, no nation has come near to meeting the needs of mothers and their infants. Among the measures proposed is better training of staff from several disciplines. Regional Centre for Child and Adolescent Mental Health, Eastern and Southern Norway has since 2011 offered a designated educational program in Perinatal Mental Health for clinicians. The education is module-based, consisting of three two-day gatherings per semester for 1.5 years, and aims to provide health personnel with a foundation to better meet vulnerable unborn and new-born children and their parents. We wanted to evaluate the participants' experiences with the first 9 years of the program.

**Methods:** Almost 170 health personnel have completed the program; doctors, psychologists, midwives, health nurses and family therapists. All participants received an e-mail-based survey in the autumn of 2021. The survey aimed to assess the participants overall satisfaction with the program, to what extent the clinician felt that going through the program benefited their patients, as well as self-evaluated effect on competence, job satisfaction, self-development and ability to self-compassion.

**Results:** The results will be ready in the autumn of 2021 and will be presented at the conference.

**Conclusion:** Conclusions will be drawn when the results are ready, hopefully giving guidance for further development of the program.

## **Inflammatory markers in different perinatal depression trajectories.**

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**Background:** Mechanisms driving temporal fluctuations of inflammatory markers during pregnancy, and how these might differ between distinct perinatal depressive trajectories are not well understood.

**Purpose:** The aim of this study was to investigate cytokines levels over the course of pregnancy, in women with different trajectories of depressive symptoms peripartum, and relate the levels to levels of non-pregnant controls.

**Methods:** Based on the Edinburgh Postnatal Depression Scale and/or selective serotonin reuptake inhibitors use, 131 women were categorized into: no (n= 65); antepartum (APD, n= 19), postpartum (PPD, n= 17) and persistent (PSD, n= 30) depressive symptoms. Plasma samples (n=386) were analyzed for levels of interleukin (IL)-6, IL-8, IL-18, Tumor necrosis factor- $\alpha$ , macrophage colony-stimulating factor (M-CSF), vascular endothelial growth factor A (VEGF-A) and fractalkine, at four different time-points (twice during pregnancy, during childbirth, and postpartum) using Bio-Plex Pro Human Cytokine Assays. Generalized linear mixed models were applied to analyze the associations between cytokine levels, time-point, perinatal depressive symptom trajectory group and their interaction.

**Results:** For all markers but VEGF-A, pregnancy was associated to higher cytokine levels compared to the non-pregnant controls, with delivery being the most prominent time-point. For IL-6, M-CSF, IL-18 and VEGF-A, levels were back to the non-pregnant status at postpartum week 8. An effect of perinatal depressive symptom trajectory groups on cytokine levels were found for VEGF-A. Women with PPD and women with APD had lower levels of VEGF-A throughout the study period compared to women with PSD and women with PPD had lower levels compared to non-depressed women.

**Discussion and conclusion:** The peripartum period is a time of tremendous immune system adaptations. Standardization of time-points for cytokine measurements in studies of perinatal depression are important in order to draw valid conclusions on the role of the immune system in perinatal depression. Lower levels of VEGF-A were noted among women in some trajectories of depressive symptoms peripartum.

## **Inequalities in Postpartum Mental health screening among Immigrant women in Denmark: a mixed methods study**

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**Background:** Early detection of signs of postpartum depression (PPD) is necessary to provide timely support. Despite in Scandinavian countries, PPD screening is recommended, there is limited knowledge about how maternal healthcare providers navigate screening when caring for immigrant mothers.

**Purpose:** We used a mixed-methods approach to examine differences in PPD screening among immigrant mothers in Denmark compared to Danish-born women and to explore health-visitors experiences assessing immigrant mothers' mental health.

**Methods:** Data from 77,694 infants and their mothers participating in the Danish home-visiting program (2015-2018) was used to examine the prevalence of participation in PPD screening using the EPDS and its association with migrant status and acculturation factors. We later interviewed 16 health visitors to examine qualitatively challenges and strategies used when assessing PPD among non-Danish speaking immigrant mothers.

**Results:** Immigrant women, particularly recently arrived migrants, were 80% more likely to lack screening (adj. RR 1.81-1.90). Qualitative data showed how cultural and linguistic differences and organizational constraints limit health visitors' ability to adequately assess immigrant women's mental health needs. Building strong and trustful relationship over time was mentioned as the main strategy to navigate these barriers.

**Conclusion:** This study shows inequities in PPD screening that may result in reduced use of mental health services among immigrant women. The experiences of health visitors point to areas to improve the identification of psychosocial and mental health risks among immigrant mothers.

## **Examining Maternal, Paternal, and Dual Parental Mental Health on Family Outcomes: The Canadian IMPACT Study**

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*Women's Health Research Chair, Li Ka Shing Knowledge Institute, St. Michael's Hospital;  
Fellow, Canadian Academy of Health Sciences.*

Parental depression and anxiety are widespread conditions that have become a major public health priority. Based on evidentiary studies, parental mental health can interfere with parenting quality and increase the risk of children developing cognitive, behavioural, and social problems – and these negative effects begin in the early infant environment. Research that focuses on both parents, rather than just mothers, to examine the onset, course, and consequences of parental mental health is urgently needed.

The IMPACT study is a longitudinal cohort investigation involving over 6400 mothers and their partners across Canada who were followed to 24 months postpartum in Phase I. The overall goal was to examine the impact of parental depression, anxiety and comorbid depression and anxiety in the first 2 years of a child's life with a focus on understanding the mechanisms by which single (maternal or paternal) versus dual (maternal and paternal) parental mental health affects infant outcomes.

Four risk models (no parental mental illness, maternal mental illness only, paternal mental illness only, dual parental mental illness) are currently being tested and compared with diverse outcomes and initial results will be presented. Information about the prevalence, course, and relationship between maternal and paternal depression, anxiety and comorbidity across the first 2 years postpartum will be described as will rates of dual parental mental illness.

The results from this study will produce urgently needed and innovative knowledge that will assist in the development of targeted effective interventions for parents based on whether the family has one or two parents with mental health concerns and whether the mentally unwell parent is the mother or the father/partner.

## **Barselvettreglene**

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**Bakgrunn:** Vi kan alle bli usikre og få dårlig samvittighet når vi møter utfordringer i barseltiden. Barseltiden er en utfordring for de fleste, og for noen oppleves den som svært vanskelig.

**Metode:** I boken Barselvettreglene får nybakte foreldre, nær familie og helsepersonell gode tips og råd som kan bidra til en best mulig barseltid for de nyslåtte foreldrene og deres nye baby. Boken er skrevet til de som nettopp er blitt foreldre, for å gi et best mulig utgangspunkt for å ta vare på seg selv og babyen.

**Resultat:** Boka består av 10 kapitler. Temaer som tas opp er parforholdet, fødselsopplevelsen, forholdet til storfamilien, spedbarnets behov, angst og bekymringer, søvn, fysisk aktivitet, og å finne balansen mellom fellesskap og alenetid. Boken er stort sett viet normale reaksjoner i barseltiden, mens det siste kapittelet omhandler psykiske vansker og behandling i denne perioden. Forfatteren har over 25 års erfaring fra forskning og klinisk arbeid som lege og psykiater.

**Diskusjon og Konklusjon:** Det ligger god forebygging i å senke kravene til seg selv og snakke mer åpent med sine nærmeste. Partner, besteforeldre, øvrig familie og venner kan ha god nytte av å lese boken for best mulig å kunne støtte de nybakte foreldrene. Også helsepersonell som møter kvinner i graviditet og barsel finner gode tips og råd her. Lena Engelsen, generalsekretær i Landsforeningen 1001 dager, sier: Dette er en bok alle kvinner som skal føde burde ha med seg i fødebagen, og den er også den beste barselgaven familie og venner kan gi til nybakte foreldre



## Physiological Predictors of Postpartum Depression and Anxiety

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**Background:** Postpartum depression and anxiety are estimated to occur in approximately 10 – 20% of pregnancies and can lead to long-term consequences for both mother and child. Effective treatments are available but mitigation of negative outcomes relies heavily on early detection of women who are at high risk for these disorders. Standard screening based on subjective measures alone has proven to be inadequate due, in part, to the risk that women may not be forthcoming with their symptoms. The addition of objective measures is, therefore, crucial to identifying women at risk for developing peripartum depression and anxiety.

**Purpose:** Heart rate variability (HRV), the measurement of beat-to-beat changes in heartrate, has been shown to predict affective disorders in non-pregnant samples. The current study aims to evaluate the predictive value of late pregnancy HRV measurements to poor mental health in the postpartum period.

**Methods:** 115 women in the BASIC study took part in a sub-study at pregnancy week 38 where HRV was measured before and after a mild stressor. Outcome measures included the Edinburgh Postnatal Depression Scale (EPDS) and the Beck Anxiety Inventory (BAI), both conducted at 6 weeks postpartum.

**Results:** Preliminary results show that HRV indices can be predictive of development of postpartum depression and anxiety. However, analyses are still ongoing and further models will be computed with adjustment for covariates.

**Conclusion:** Further analysis is required to finalize our model and to solidify the predictive value of HRV in the subsequent development of postpartum affective disorders.

**Perinatal Mental Health: uniting to improve the lives of mothers and their babies everywhere.**

*Dr Alain Gregoire, Honorary Senior lecturer*

*Chair, Maternal Mental Health Alliance and Global Alliance for Maternal Mental Health, UK.*

Research evidence leaves little doubt that improved maternal mental health, particularly in the perinatal period, would have dramatic short and long term benefits for women, families and the next generation. However, achieving better outcomes for all women with perinatal mental illnesses and their families is a global challenge that requires substantial changes in awareness, attitudes, policy, and practice. This scale of change will only be achieved through collective efforts of all players at international, national and local levels.

I will explore how national and international Maternal Mental Health Alliances can unite a wide range of organisations, creating a powerful force to drive change. Using examples from the UK, France, Africa and elsewhere, I will discuss how Alliances develop and grow, particularly when driven by a shared vision and goals, and the role of Alliances in campaigning for change and supporting developments in policy and services. I will reflect on some of the key lessons learned in establishing the UK Maternal Mental Health Alliance, in the extraordinary power of its collective voice, and the evidence of what factors lead to success in its collective activities. Some of this learning and our experiences have inspired and supported the establishment of other alliances internationally, now at various stages of development. There have also been considerable challenges, which are likely to be common to all such endeavours. These should not deter others from such initiatives, but it is useful to be aware of them and have strategies for turning these into benefits.

## **Postpartum bonding and its' association with depressive symptoms and prenatal attachment in women with fear of birth**

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**Background:** Co-morbidity is prevalent in women with fear of birth. Depressive symptoms and lack of prenatal attachment might influence the postpartum bonding between the mother and the newborn.

**Purpose:** to examine the underlying dimensions' of the Postpartum Bonding Questionnaire and to investigate associations between depressive symptoms, prenatal attachment and postpartum bonding in women with fear of birth.

**Methods:** A longitudinal study comprising 172 women with fear of birth. Data were collected by questionnaires in mid- and late pregnancy and two months after birth. The Edinburgh Postnatal Depressive Scale, Prenatal Attachment Inventory and Postpartum Bonding Questionnaire were investigated.

**Results:** Two factors of the Postpartum Bonding Questionnaire were identified: Factor 1 mirrored caring activities and the women's perceptions of motherhood, whereas Factor 2 reflected negative feelings towards the baby. The Postpartum Bonding Questionnaire was negatively correlated with the Prenatal Attachment Inventory and positively with The Edinburgh Postnatal Depressive Scale. Women with fear of birth and depressive symptoms both during pregnancy and postpartum showed the highest risk of impaired bonding after birth. Primiparity and being single were also associated with impaired bonding.

**Conclusion:** A focus on women's mental health during pregnancy is necessary in order to avoid the negative effects of impaired bonding on the infant. Depressive symptoms could be concurrent with fear of birth and, therefore, it is important to determine both fear of birth and depressive symptoms in screening procedures during pregnancy. Caregivers who meet women during pregnancy need to acknowledge prenatal attachment and thereby influence adaptation to motherhood.

## **Perinatal mental health during COVID-19 pandemic: A Nordic perspective**

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*Professor II, Department of Clinical Medicine, UiT-The Arctic University of Norway, Tromsø, Norway*

Perinatal mental health problems are relatively common affecting up to 20% of women during pregnancy or within one year of childbirth. They are a major cause of maternal mortality worldwide, including in affluent countries. During the COVID-19 pandemic, the variation in policies regarding infection control and mitigation measures among Nordic countries has been substantial, but the focus on maternal mental health has been limited. This is highlighted by the fact that a recent systematic review by Fan et al. (*Asian Journal of Psychiatry*, 2021) identified 24 eligible published studies on this topic of which 19 could be included for meta-analysis, but none among those were from the Nordic countries except one that had some participants from Norway. However, available evidence so far has consistently shown an uptrend in maternal anxiety and depressive symptoms. Pregnant women also seem to be more vulnerable than the general population in this regard.

In this lecture I will discuss a few recently published papers, present preliminary results from a couple of yet unpublished studies on the impact of COVID-19 pandemic on maternal perinatal mental health in the Nordic countries, and compare the findings. I will also discuss if personality traits can have an impact on women's perinatal mental health and whether a significant life-event, such as being pregnant and giving birth during a pandemic, can change women's personality. Finally, some recommendations will be provided on recognizing risk factors and protective factors of perinatal mental health disorders and how to manage the "fear" associated with the pandemic with an emphasis on self-efficacy, self-care and use of digital health services to improve one's mental wellbeing.

## **Pappors förlossningsrädsla - en prospektiv longitudinell intervjustudie**

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**Background:** Childbirth is a life-changing event where fathers desire being involved. As fathers take a more active role, fear of childbirth can arise.

**Purpose:** To explore fathers' experiences of childbirth fear during pregnancy and after the birth of their baby.

**Methods:** A qualitative longitudinal prospective study which included 14 interviews of seven fathers, one during the prenatal period and one follow-up interview after childbirth. Data were analysed using thematic analysis.

**Results:** The main theme Being vulnerability during the transition to fatherhood was based on the perception of childbirth as risky with threats toward the woman's and baby's health, not being able to give and receive enough support, not to handle the unknown process of birth and not to be a good father. Helpful strategies for coping with fear were to talk about fear, to learn more about childbirth and techniques on how to handle fear, or to avoid dealing with fear. Their fear of childbirth changed after the birth of their baby. The thoughts of another childbirth did not evoke the same strong feelings of fear. Issues important for the reduction of childbirth fear were receiving professional support, actively taking part in the childbirth process and their partner having an uncomplicated birth.

**Conclusion:** Fathers with childbirth fear regarded childbirth as risky, but they expressed helpful coping strategies. After the birth of their baby, they became less fearful.

## Risk of ADHD in children following prenatal exposure to antidepressants

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**Background:** The reproductive safety of antidepressants on attention-deficit/hyperactive disorder (ADHD) in offspring remains unresolved.

**Purpose:** This study sought to quantify the association between child ADHD and prenatal exposure to selective serotonin (SSRI) and serotonin-norepinephrine (SNRI) reuptake inhibitor antidepressants, by timing and duration, with quantification of bias due to exposure misclassification.

**Methods:** Data stem from the Norwegian Mother, Father and Child Cohort Study and national health registries. We included 6395 children born to women who reported depression/anxiety in pregnancy and were either medicated with SSRI/SNRI in pregnancy (n=818) or non-medicated (n=5228), or did not report depression/anxiety but used antidepressants six months before pregnancy (discontinuers, n=349). The main outcome measure was diagnosis of ADHD or filled prescription for ADHD medication in children, and mother-reported symptoms of ADHD by child age 5 years. We adjusted for confounding via inverse probability of treatment weights methods, and applied marginal structural models to adjust for time-varying severity of depressive/anxiety symptoms in pregnancy.

**Results:** When the hazard was averaged over the duration of the study follow-up, there was no difference in ADHD risk between ever in-utero SSRI/SNRI-exposed children and comparators (weighted Hazard Ratio (wHR): 1.07, 95% Confidence Interval (CI): 0.76-1.51, vs. non-medicated; wHR: 1.53, 95% CI: 0.77-3.07, vs. discontinuers). Underestimation of effects due to exposure misclassification was modest. In early childhood, the risk for ADHD was lower with prenatal SSRI/SNRI exposure compared with no exposure, and so were ADHD symptoms (weighted  $\beta$ : -0.23, 95% CI: -0.39, -0.08); this risk became elevated at child age 7-9 years (wHR: 1.93, 95% CI: 1.22-3.05). Maternal depression/anxiety prior to pregnancy was independently associated with child ADHD.

**Conclusion:** Prenatal SSRI/SNRI exposure is unlikely to considerably increase the risk of child ADHD beyond that posed by maternal depression/anxiety. The elevated risk at child age 7-9 years needs to be elucidated.

## Is genetic vulnerability to Posttraumatic Stress Disorder associated with postpartum depression?

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**Background:** Childbirth increases the risk of depression in mothers, and in some instances, the birth itself may be a traumatic experience acting as the trigger for postpartum depression (PPD). Therefore, it seems plausible that vulnerability to trauma and posttraumatic stress disorder (PTSD) could increase risk of PPD.

**Purpose:** We investigated (1) if genetic vulnerability to PTSD measured by polygenic risk score (PRS) increases the risk of PPD and (2) to which extent a predisposition to PTSD in PPD cases exceeds that of depression outside the postpartum period.

**Methods:** Of the iPSYCH2015 sample comprising 50,057 women born between 1981 and 1997, we identified 333 diagnosed PPD cases, 999 matched healthy females by calendar year at birth from the subcohort representing the background population (Aim 1) and 993 matched MDD non-postpartum cases (Aim 2). Genome-wide data and depressive episode information were retrieved from neonatal biobanks and national registers, and polygenic risk scores (PRSs) were calculated using both individual-level genetic data and meta-analysis summary statistics from Psychiatric Genomics Consortium. Conditional logistic regression was used to calculate odds ratios (ORs) adjusted for parental psychiatric history, parental country of origin, polygenic risk score for age at first birth, and the first 10 principal components.

**Results:** PTSD PRS was significantly associated with an increased risk of PPD (OR=1.42, 95% CI: 1.20–1.68 per standard deviation increase in PTSD PRS) compared to healthy female controls. PTSD PRS was not associated with PPD versus MDD outside the postpartum (OR=1.10, 95% CI: 0.94–1.30 per standard deviation increase).

**Conclusion:** Genetic vulnerability to PTSD increases the risk of PPD. If replicated, this supports a hypothesis that vulnerability to PPD is partly explained by genetic vulnerability to trauma.

**Mamma till Mamma: En svensk organisation som syftar att förebygga psykisk ohälsa i samband med graviditet eller småbarnsperiod.**

*Isabell Lindalen och Karin Lindholm  
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Mamma till Mamma är en partipolitiskt och religiöst obunden ideell organisation i Sverige. Vårt övergripande mål är att främja tillfrisknande bland föräldrar som drabbats av psykisk ohälsa under den perinatale perioden.

Mamma till Mammans kärnverksamhet är peer support. Organisationen erbjuder föräldrar en trygg plats att få prata med andra människor med liknande erfarenhet. Vi har ett tjugotal medlemmar som arbetar på volontärbasis med att besvara stödsökande via mail.

Vid sidan av detta arbetar organisationen med att lyfta frågan om perinatal psykisk ohälsa på nationell nivå. Bland annat genom att anordna seminarium, skriva debattartiklar och föreläsa. Detta för att främja en långsiktig förändring av brister som tillkännagivits av hundratals stödsökande genom dem år då organisationen funnits.

Mamma till Mamma har en tillsatt expertgrupp bestående av bland annat socionomer, psykiatriker och sjuksköterskor, vilka är med och utvecklar och kvalitetssäkrar Mamma till Mammans arbete.



**Maternal mental health matters for both generations: observational studies including pandemic stress and relevance for obstetrical care**

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<sup>3</sup>*Columbia University Medical Center*

This key note address applies the DOHaD model to maternal emotional distress, reviewing effects on the fetus and child and possible biological mechanisms for the transmission process. Preliminary data also is presented showing associations between the COVID-19 pandemic and compromised outcomes of children in utero during this period.

## **Postpartum depression: A developed and validated prognostic model predicting individual risk.**

*Munk-Olsen, Trine (Presenter)<sup>1</sup>, Liu, Xiaoqin; Madsen, Kathrine Bang; Kjeldsen, Mette-Marie Zacher; Frøkjær, Vibe; Pedersen, Carsten B., & Mæggebæk, Merete Lund*

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**Background:** In an ideal world postpartum depression (PPD) should and would be prevented, and for targeted interventions, any effort to successfully identify individual women at particular high risk of PPD is consequently preferable. Unfortunately, we currently do not have any such tools to directly and precisely assist this identification.

**Methods:** We developed a prediction model, estimating the probability of PPD (yes/no) within 6 months after birth, using a logistic regression model. Data sources included a range of Danish population registers and we selected a set of predictors relevant to the outcome (PPD), which had previously been shown to be associated with PPD, are easy to identify and available in clinical care. These included: Age, marital status, personal and family history of mental disorders, as well as pregnancy and delivery complications.

**Purpose:** We aimed to provide the first steps in developing and validating a prediction model for assessing an individual risk of PPD among new mothers.

**Results:** We identified 408,859 mothers who were included in the study, and participants was divided into a training and a validation dataset. Preliminary results indicate internal validation (calibration plot) showed a satisfying fit. The area under the receiver operating (ROC) curve showed a good discrimination, with a c-index of 0.819 (95%-CI: [0.813,0.824]) and reasonable sensitivity (0.743) and specificity (0.813).

**Conclusion:** There are several examples of risk prediction models outside the field of psychiatry, which are implemented in clinical practice for daily use. However, several steps are needed before PPD risk prediction tools can be implemented in clinical care. These among other things include extensive external validation and further model development, which invites for large scale collaborations across research groups and countries.

## **I don't love my baby!? A phenomenological case study.**

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**Background:** Many new mothers question the nature of their motherly love after birth. This affectionate relationship towards the infant is commonly called bonding in everyday speech, clinical practice, and research. Bonding may not sufficiently describe the mother's emotional response to the infant and does not capture the ambivalence and struggle to develop maternal affection of many women.

**Objective:** This study aims to explore the phenomenon of disturbed maternal affection through the clinical case of one mother who experienced severe and prolonged disturbances.

**Methods:** Two in-depth interviews led to descriptive phenomenological analysis. The mother developed depressive symptoms from not feeling enough for her child, not the opposite, as is often hypothesized.

**Results:** We describe and discuss crucial constituents of her experience, such as ambivalence, remoteness, boredom, guilt, the looming repetition of parenting patterns, and the solution resulting from therapy-enhanced reflection on motherhood vis-à-vis early life patterns, sociocultural expectations, and existential predicaments.

## **Preventive interventions can change maternal representations in a low-moderate risk community sample.**

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**Background:** Parents' representations of their child has been found to guide parental behavior. A few intervention programs targeting parental representations exist, but RCT-studies investigating their efficacy are scarce.

**Purpose:** The aim of the current study was to investigate whether preventive interventions change maternal representations of their child, as measured with the Working Model of the Child Interview (WMCI). We measured change in maternal representations by using the WMCI original categories (balanced, disengaged and distorted), the 15 WMCI clinical scales and three latent factors (balanced, resentful and apprehensive) extracted in this sample in an earlier report. More specifically, we aimed to find out whether change in maternal representations were different for mothers receiving video-feedback infant-parent interaction intervention (VIPI) than for mothers receiving community care as usual.

**Methods:** We used data from a multisite, naturalistic RCT-study of the effect of video-feedback mother-infant interaction intervention (VIPI). The sample consisted of 152 mothers (mean age 29.7 years) with infants (mean age 7.3 months, SD=5.1 months), who self-recruited or were invited to participate by professionals from community services. The sample was low-moderate risk, with very few high-risk families. We used data from baseline (inclusion) and at 6 months after intervention (VIPI vs TAU).

**Preliminary Results:** For the whole sample, the mothers' representations were less apprehensive and the mothers saw the child as less difficult to relate to six months after the intervention. In addition, the mothers' representations were slightly, but significantly, less sensitive six months after intervention, most likely explained by the child's age. There were no differences between the mothers receiving a video feedback interaction intervention and mothers receiving care as usual.

**Conclusion:** Both a video-feedback interaction intervention and care as usual can change maternal representations of their infant.

## **Anxiety, body and motherhood. Eating disorders in pregnancy and postpartum.**

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**Background:** There are well-known health risks both for mothers and the babies. The incidence of eating disorders among pregnant women is significantly higher than previously known and increases during the first year after birth. Eating disorders are often linked to the cognitive and emotional preoccupation of control. Pregnancy and birth do in many respects represent a loss of control. Eating disorder often go undetected by first-line health services. Identification of this particular group of women can be difficult. The ego syntonic nature of the disorder with the feeling of shame experienced by women with eating disorders, can lead to reluctance to disclose their disorder. Moreover, lack of training and knowledge about ED among healthcare professionals can lead to underestimate the prevalence of ED symptoms.

**Purpose:** In this workshop we will pay attention to the importance of eating problems during pregnancy and postpartum. We will discuss how pregnancy and the postpartum period can complicate an eating disorder.

**Methods:** We will present preliminary results from an ongoing study on how the eating problems through pregnancy and childbirth are experienced by 24 women. Using a triangulation of quantitative measures and qualitative interviews, the women were interviewed twice, firstly in pregnancy and again in postpartum.

**Results:** In this presentation we will present coherent and systematic descriptions of the complexity of the women's narratives about how the pregnancy and postpartum can complicate and worsening the eating disorder symptoms. We document a risk of relapse for women with a history of eating disorder.

**Conclusions:** This knowledge will form the basis for development of adapted help and support. We will discuss how pregnancy can both be a period of risk and an important window to change. We will give some concrete examples on what these mothers themselves experienced as useful help or what could have helped them and their babies best through these periods. The understanding on how women experiences pregnancy is important for us to be able to support and prevent ED relapses or the onset of eating disorder – hence “two for the price of one”.

## **Assessing Fathers Embodied Mentalizing of their infants.**

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**Background:** In therapeutic work with infants, the father-infant relationship is increasingly acknowledged as an important resource, supporting infant development and wellbeing. Parental Embodied Mentalizing Assessment (PEMA) is an interactional measure, assessing qualities and frequencies of protective and risk factors in the subtle dynamics of parent-child interaction. Together this gives a profile of the parental capacity for embodied mentalizing, which can be described as the caregiver's nonverbal appreciation of the infant's mind as reflected in the bodily movements of caregiver and infant (Shai & Belsky, 2017). Currently, validation of PEMA have only been conducted using the original long version of the measure, and only on mother-infant interactions. This research demonstrated the utility of parental embodied mentalizing during infancy (Shai & Belsky, 2017; Shai & Meins, 2018), but no research on PEMA have been conducted on fathers (Shai & Belsky, 2017; Shai, Dollberg & Szepsenwol, 2017).

**Purpose:** The purpose of this study is to evaluate the psychometric properties of PEMA conducted on father-infant interactions at 12 months of age. We aim to provide preliminary data on the psychometric properties of PEMA from 200 coded videos of father-infant interaction.

**Methods:** The study is based on the Little in Norway study (Moe et al., 2019), a prospective population-based study from pregnancy to 3 years (N = 1036). At 12 months of age, 200 father-infant interaction tapes were randomly drawn and coded using PEMA by a trained coder, blind to any other information about the families. To assess inter-rater reliability 20% (n= 40) of the data was double coded by another trained reliable PEMA coder, also blinded.

**Results:** Preliminary findings on psychometric properties of PEMA will be presented.

**Conclusion:** Implications and clinical perspectives will be discussed in line with the results.

# **Antidepressant fill trajectories in pregnant women with depression and/or anxiety in Norway: results from a registry linkage study**

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**Background:** Antidepressant exposure patterns in pregnant women are more complex than simplistic classification as continuation or discontinuation.

**Purpose:** to define the expected duration of antidepressant treatment in pregnancy based on antidepressant prescription fill data using PRE2DUP method and to model antidepressant fill trajectories.

**Methods:** We conducted a nationwide study using data from various Norwegian registries to extract antidepressant prescription fill data of pregnancies with pregnancy outcome between 2008 and 2018 having depression/anxiety and antidepressant fills prior to pregnancy. We employed PRE2DUP method to generate expected duration of treatment and antidepressant use periods (ADUPs) for each pregnancy. Information from ADUPs (timing and dosage) were used for longitudinal k-means trajectory modelling on weekly antidepressant exposure, number of days covered by antidepressant treatment per week, weekly dose and cumulative dose by week in the six months before + during pregnancy and during pregnancy + one year after windows.

**Results:** A total of 8,460 pregnancies were included in study. Regardless of exposure variables, we revealed two distinct antidepressant discontinuing patterns: discontinuing around the start of pregnancy and mid-pregnancy beside those continued their treatment in the before-during window. Using weekly dose and cumulative dose, we found that the trajectories are dose-dependent: early discontinuers-low dose, late discontinuers-medium dose, and continuers-high dose. In the during-after window, we identified the following trajectories: continuers, discontinuers, and interrupters (i.e., substantially decreasing antidepressant use during pregnancy and resumed after delivery). These trajectories are also dependent on dosage at the beginning of pregnancy: continuers-high dose, discontinuers-low dose, and interrupters-medium dose.

**Conclusions:** Expected duration of treatment and ADUPs generated from PRE2DUP is useful for longitudinal trajectory modelling which, in turn, revealed different antidepressant fill trajectories in pregnant women.

# **Mental health care utilization in pregnant women with depression and/or anxiety according to different antidepressant fill trajectories: an interrupted time-series analysis**

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**Background:** Little is known about mental healthcare utilization in pregnant women. We aimed to assess mental health care utilization patterns in pregnant women with depression and/or anxiety in Norway.

**Method:** We conducted a cohort study of pregnancies within women having outpatient visit for depression and/or anxiety and antidepressant fills in the six months prior to pregnancy identified from the Medical Birth Registry of Norway (2009-2018) linked other national registries. Mental health care utilization patterns were investigated using interrupted time-series analyses by modelling consultation rates for depression/anxiety with psychiatric specialists of outpatient clinics, contract psychologists and contract psychiatrists. We identified antidepressant fill trajectories in the two windows: six month before – during pregnancy and during pregnancy – one year after delivery using longitudinal k-means trajectory modelling on antidepressant exposure by week.

**Results:** The cohort included 8 460 pregnancies within 8 062 women with depression/anxiety. Consultations for depression/anxiety with contract psychiatric specialists accounted for one third of total care with psychiatric specialists. We observed reduced mental health utilization when pregnant women entered the course of pregnancy. The declines were observed for all antidepressant fill trajectories (i.e., continuers and two groups of discontinuers). In the during-after window, we found increases in the consultation rates for depression/anxiety with psychologists in the postpartum year among those discontinued their antidepressant treatment during pregnancy.

**Conclusions:** Pregnancy was associated with reduced mental health care utilization regardless of whether antidepressant treatment was maintained during pregnancy or not. Increased in mental health care utilization in the postpartum year was observed among those discontinued their antidepressant treatment during pregnancy.



**New Families - Innovation and Development of the Child Health Services in Oslo.  
Focus on perinatal mental health parents**

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**Background:** The Child Health Services (CHS) in Norway is part of the Primary Health Care (PHC) for families and children 0-5 years. It is utilized by 98% of the eligible population and established by law as part of the PHC at a municipal level. The New families (NF) is an early universal intervention program based on home visits by Public Health Nurses (PHN) during pregnancy and the first two years after birth. NF is developed by the City of Oslo and is an offer in addition to the traditional CHS program. NF is based on a salutogenic perspective, with focus on resource mobilization and parental support.

**Purpose:** The New Family research project will seek to answer the following research questions: Does NF impact maternal parental self-efficacy, reduce the risk of; postpartum depression and parental stress among first-time mothers and fathers, increase social support, improve; maternal attachment, improve parents' quality of life, improve; partner relationship and child development, compared with usual CHS care? What is parents' experience with the PHN intervention? What is PHNs experience with the program and program implementation?

**Method:** The primary research question regarding the effect of the PHNs intervention (NF) compared to usual care are evaluated through a prospective non-randomized controlled study with parallel group design. Whereby first-time parents in three districts received the intervention, and first-time parents in two districts received usual care. Participants (parents) were recruited in week 28 during pregnancy and are followed for one year. Quantitative data was collected via self-report questionnaires five times during the period.

The secondary objectives, covering parent's experience with the PHN intervention and PHNs experience with the program, are explored by qualitative methods - in depth interviews and focus group interviews, observation and reflection notes from PHNs.

**Conclusion:** No conclusions can be presented at this stage.