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Advancing Women's Mental Health Research Across Disciplines

WOMHER International Graduate Conference 2024
Oral presentations

Oral presentation theme 2: Women's Mental Health Research in Clinical Settings

The role of pre-pulse inhibition in predicting new-onset postpartum depression

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Predictive measures for postpartum depression (PPD), which affects around 12% of childbearing women, would enable early, targeted support. Here, we explore pre-pulse inhibition (PPI), a measure of sensorimotor processing, as a

biological tool for prediction of women at risk for PPD. Using data from the longitudinal BASIC study in Uppsala, Sweden, we used PPI measures from late pregnancy and reports on depressive symptoms assessed 6 weeks postpartum with the Edinburgh Postpartum Depression Scale (EPDS) to determine the association between pregnancy PPI and PPD. Lower PPI was associated with PPD onset in women who were not depressed during pregnancy. Further studies are encouraged to validate these promising results suggesting PPI as a predictive marker of new-onset PPD.

Keywords: Pre-pulse inhibition, depression, postpartum, prediction

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Expectations and experiences of support and treatment for fear of childbirth in Swedish nulliparous women during pregnancy

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Background: Fear of childbirth (FOC) can be debilitating and impact women's lives during pregnancy, postpartum and years ahead. Research has investigated various types of support for FOC during the perinatal period, but few studies have engaged in the experiences of nulliparous women who took part of the support, which would be informative for clinical practice guidance and the development of future support for women with FOC.

Objectives: To describe nulliparous women's expectations and experiences of support and treatment for fear of childbirth during pregnancy.

Methods: To address the expectations and experiences of support and treatment of nulliparous women with FOC, we conducted 22 qualitative interviews. Participants were recruited after they completed an anonymous quantitative online survey, where in the end of the survey, they were asked about participation in an in-depth interview about FOC. After giving consent to be part of the interview and met the inclusion criteria of: (1) 18 years of age or older; (2) self-identified as a nulliparous woman (i.e. a woman who has not given birth to a child); (3) living in Sweden; (4) able to read and understand Swedish or English enough to complete an online survey and participate in an interview; and (5) having self-experienced fear of childbirth, semi-structured telephone interviews were conducted between March 2022 and September 2022 with women who reported self-described FOC. The interviews were analysed with Reflexive thematic analysis.

Results: Results will be presented at the conference.

Keywords: Experiences; fear of childbirth; nulliparous; support; treatment; women

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Neural prediction of everyday stress after changes in oral contraceptive use

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Oral contraceptives (OC) have been used by women for 60 years. Some (4-10%) experience mood-related side effects like depression or anxiety, leading to discontinuation of OC. These mood disturbances may involve changes in brain activity related to stress reactivity. OC usage may also lead to alterations in brain structure and the regulation of the hypothalamic-pituitary-adrenal axis, a system involved in regulating stress responses. Understanding short- and long-term effects of OCs is crucial given their widespread usage.

To close this gap, we investigated the influence of OC initiation, cessation, and long-term use on stress reactivity and mood by measuring brain activity during controlled stress induction and subjective stress ratings during ecological momentary assessment over three months (EMA). So far, 17 healthy women participated in our ongoing study ($M_{age} = 23.16$, $SD_{age} = 2.84$). During functional magnetic resonance imaging (fMRI), they underwent a standardized psychosocial stress induction task (i.e., Montreal Imaging Stress Task).

Subsequently, participants reported their everyday stress level ($M = 14 \pm 9$ measurements per participant). To investigate the impact of experimental stress induction on brain responses and their link to everyday stress regulation, we processed the data with fmriprep and SPM. Preliminary results indicate that experimentally induced stress responses were not correlated with everyday stress levels outside of the laboratory setting. Experimental stress exposure induced the expected deactivation of limbic brain regions. Crucially, the magnitude of stress-induced deactivations within a putative stress network, specifically the hippocampus and the striatum, showed associations with the everyday stress level as well as with fluctuations in stress over time.

This study provides valuable insights into the impact of OCs on the body and brain, contributing to a better understanding of their effects. These findings may help raise awareness and address concerns regarding OC intake while supporting personalized stress management and contraceptive counseling approaches.

Keywords: Stress reactivity, Mood homeostasis, fMRI, Oral Contraceptive, Ecological Momentary Assessment

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Do we need alternatives to EPDS when measuring antenatal depression?

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Background: Treatment of antenatal depression is an area in need of more research. Patients' self-assessments are commonly used to measure and evaluate symptoms and treatment effects. For pregnant women with depression, it has been argued that the common somatic symptoms related to pregnancy may affect the outcome of such instruments which has been used to justify the use of instruments specifically developed for pregnancy. Edinburgh Postnatal Depression Scale (EPDS) has been validated as a diagnostic screening instrument for depression in pregnant individuals, but has been criticized for missing classic depression symptoms, capturing anxiety to the same extent as depression, and providing a large number of false positives. Montgomery-Åsberg Depression Rating Scale- Self report (MADRS-S) is a self-report measure for depression. It is sensitive to changes in mood and has good psychometric properties, though it has not been validated for pregnant women. In this study we aim to conduct a psychometric evaluation of the MADRS-S as an outcome measure in comparison with the EPDS in pregnant women diagnosed with antenatal

depression undergoing internet cognitive behavior treatment (ICBT).

Methods: Pregnant women from all Sweden perform online screening with MADRS-S and EPDS and those with 15-35 on MADRS-S are assessed with a diagnostic interview (n= 600). Women with major antenatal depression are treated with therapist-guided internet CBT adapted for the population, Measurements at pre- and post treatment include MADRS-S, EPDS and a diagnostic interview with SCID(n=225).

Results: Preliminary results from a prior unpublished study (n=120) indicate that the MADRS-S is a functional measure of antenatal depression. It appears to have a clearer factor structure than the EPDS.

Conclusions: If the MADRS-S, compared to the EPDS, performs as good or better the results of this project can have impact on clinical care and research concerning perinatal depression which affects about 10-15% of pregnant women.

Keywords: Psychometric evaluation, MADRS-S, perinatal depression, EPDS