

Title: Pharmacology in Pregnancy Course

Maria Muzik, MD, MSc (Course director)

Professor of Psychiatry and Obstetrics & Gynecology
Board Certified in Addiction Medicine
Department of Psychiatry, Zero To Thrive
University of Michigan - Michigan Medicine

Florence Thibaut, MD

University Paris Cité, Paris France
INSERM U1266, Institute of Psychiatry and Neurosciences
Dept of Psychiatry and Addictive Disorders, University Hospital Cochin

Gihan ELNahas MD, PhD

Professor of Psychiatry
Senior Advisor-Women Mental Health Program
Neuropsychiatry Dept-Ain Shams Medical School

Introduction: Pharmacologic management of mental health disorders in perinatal individuals—during pregnancy and throughout the first postpartum year, including periods of breast/chestfeeding—is clinically complex and requires specialized expertise in medication efficacy and safety. This workshop will highlight the substantial prevalence of common perinatal psychiatric conditions, including major depressive disorder, bipolar disorder, anxiety disorders, obsessive-compulsive disorder, post-traumatic stress disorder, attention-deficit/hyperactivity disorder, and substance use disorders. We will briefly review first-line nonpharmacologic interventions for mild to moderate presentations and then examine the role of psychotropic medications in the treatment of moderate to severe illness during this period. Guidance will be provided on medication selection with attention to maternal tolerability and side effects, as well as potential risks related to pregnancy outcomes, fetal exposure, delivery, and long-term child development. Emphasis will be placed on individualized risk–benefit assessment that integrates a broad range of clinical considerations, including comparison of the harms associated with untreated psychiatric illness against the potential adverse effects of psychotropic therapy for the parent and child. Participants will gain foundational knowledge to support patients and families in this nuanced decision-making process. We will also review pregnancy- and lactation-related physiologic changes that affect pharmacokinetics and dosing and consider the implications of medical comorbidities and dual diagnosis. Ultimately, the workshop aims to provide comprehensive, accessible, and current evidence-informed guidance on medication management in perinatal mental health care.

Learning Objectives:

- Discuss physiological changes relevant to pregnancy and lactation that impact pharmacokinetics and dosing and consider the role of medical co-morbidities
- Discuss prevalence of the most common mental health disorders, including the ramifications of dual diagnosis during the perinatal period
- Discuss balancing the risk of untreated illness with risks of psychopharmacotherapy in pregnancy and during lactation
- Review the first line non-pharmacological treatments for mild to moderate illness
- Discuss pharmacotherapy for depression, anxiety, sleep problems and ADHD
- Discuss pharmacotherapy for bipolar disorder and psychosis
- Discuss pharmacotherapy for substance use disorders
- To understand how to counsel perinatal persons with mental health disorders before, during and after pregnancy about risks and benefits of pharmacotherapy

Methods: Interactive talk, case vignettes in slide set, if time allows case discussions in small group and with all participants

References:

1. Fabiano N, Wong S, Gupta A, Tran J, Bhambra N, Min KK, Dragioti E, Barbui C, Fiedorowicz JG, Gosling CJ, Cortese S, Gandhi J, Saraf G, Shorr R, Vigod SN, Frey BN, Delorme R, Solmi M. Safety of psychotropic medications in pregnancy: an umbrella review. *Mol Psychiatry*. 2025 Jan;30(1):327-335. doi: 10.1038/s41380-024-02697-0. Epub 2024 Sep 12. PMID: 39266712; PMCID: PMC11649568.
2. Vigod SN, Frey BN, Clark CT, Grigoriadis S, Barker LC, Brown HK, Charlebois J, Dennis CL, Fairbrother N, Green SM, Letourneau NL, Oberlander TF, Sharma V, Singla DR, Stewart DE, Tomasi P, Ellington BD, Fleury C, Tarasoff LA, Tomfohr-Madsen LM, Da Costa D, Beaulieu S, Brietzke E, Kennedy SH, Lam RW, Milev RV, Parikh SV, Ravindran AV, Samaan Z, Schaffer A, Taylor VH, Tourjman SV, Ameringen MV, Yatham LN, Van Lieshout RJ. Canadian Network for Mood and Anxiety Treatments 2024 Clinical Practice Guideline for the Management of Perinatal Mood, Anxiety, and Related Disorders: Guide de pratique 2024 du Canadian Network for Mood and Anxiety Treatments pour le traitement des troubles de l'humeur, des troubles anxieux et des troubles connexes périnataux. *Can J Psychiatry*. 2025 Jun;70(6):429-489. doi: 10.1177/07067437241303031. Epub 2025 Feb 12. PMID: 39936923; PMCID: PMC11985483.
3. Lebin LG, Novick AM. Selective Serotonin Reuptake Inhibitors (SSRIs) in Pregnancy: An Updated Review on Risks to Mother, Fetus, and Child. *Curr Psychiatry Rep*. 2022 Nov;24(11):687-695. doi: 10.1007/s11920-022-01372-x. Epub 2022 Oct 1. PMID: 36181572; PMCID: PMC10590209.
4. Muzik M, Shaw S, Grigoriadis S, Deligiannidis KM, Wieck A, Chandra PS, Murugesan M, Poland C & Renn-Bugai N: Pharmacologic Management of Reproductive Psychopathology. *Tasman's Psychiatry, 5th Edition*, Eds: Tasman, Riba, Schulze, Ng, Alfonso, Alarcon, Tosevski, Kanba, Ndeti Springer, 2022.
5. ELNahas, G., & Thibaut, F. (2023). Perinatal Psychoactive Substances Use: A Rising Perinatal Mental Health Concern. *Journal of clinical medicine*, 12(6), 2175. <https://doi.org/10.3390/jcm12062175>
6. Clark CT, Newmark RL, Wisner KL, Stika C, Avram MJ. Lithium Pharmacokinetics in the Perinatal Patient With Bipolar Disorder. *J Clin Pharmacol*. 2022 Nov;62(11):1385-1392. doi:10.1002/jcph.2089. Epub 2022 Jul 13. PMID: 35620848; PMCID: PMC9796861.
7. Betcher HK, Montiel C, Clark CT. Use of Antipsychotic Drugs During Pregnancy. *Curr Treat Options Psychiatry*. 2019 Mar;6(1):17-31. doi: 10.1007/s40501-019-0165-5. Epub 2019 Jan 30. PMID: 32775146; PMCID: PMC7410162.
8. Erickson N, Julian M, Muzik M: Perinatal depression, PTSD, and trauma: Impact on mother-infant attachment and interventions to mitigate the transmission of risk *International Review of Psychiatry*(Abingdon, England) 31(3): 245-263, 2019. PMID: 30810410.

Keywords: perinatal, pregnancy, postpartum, psychotropics, treatment guidelines, risk-benefit analysis, safety profiles, breastfeeding, counseling