MASSACHUSETTS GENERAL HOSPITAL
PSYCHIATRY ACADEMY

Perinatal Psychiatry for Patients with Substance Use Disorder

2021

Edwin R. Raffi, MD, MPH

Instructor in Psychiatry | Harvard Medical School
Center for Women's Mental Health | Massachusetts General Hospital
& The HOPE Clinic

Disclosures

I do not have any relevant financial relationship with a commercial interest to disclose.

Objectives

1) Discuss barriers to care
2) Discuss assessment and diagnostic work-up
3) Describe best treatment strategies
   - General Guidelines for Psychopharmacology for SUD and Other Comorbid Mental Health Disorders
   - OUD, AUD, Cocaine UD, Nicotine UD, Marijuana UD
   - Stimulants, Benzos
4) Integrated and Collaborative Care

Case

- 23 year old female with history of **Hepatitis C** and **Borderline Personality Disorder**, chief complaint: Fatigue, anxiety and insomnia.
- 8 weeks pregnant, found week 4 (G4P111)
- Discontinued all psych medications 4 weeks ago
- Smokes some marijuana at night to sleep
- 'No illicit drugs'
- **Marijuana** is 'prescribed'.
- Utox positive for **Buprenorphine and Fentanyl**? Yes.
- Qualitative measures: **negative for norbuprenorphine, extremely high levels of naloxone, positive for fentanyl, cocaine, THC**
- **Medication list:** clonazepam 0.5 mg BID, quetiapine 100 mg qhs, escitalopram 10 mg qd, gabapentin 600 mg TID, lamotrigine 20 mg qd, clonidine 0.2 TID, buprenorphine/naloxone 8mg/2mg TID.

Objectives

1) Discuss barriers to care
2) Discuss assessment and diagnostic work-up
3) Describe best treatment strategies
   - General Guidelines for Psychopharmacology for SUD and Other Comorbid Mental Health Disorders
   - OUD, AUD, Cocaine UD, Nicotine UD, Marijuana UD
   - Stimulants, Benzos
4) Integrated and Collaborative Care

Low Barrier Perinatal Psychiatric Care

INTERNATIONAL REVIEW OF PSYCHIATRY
2021, AHEAD-OF-PRINT, 1-10
https://doi-org.treadwell.idm.oclc.org/10.1080/09540261.2021.1898351

Taylor & Francis
Taylor & Francis Group

Low barrier perinatal psychiatric care for patients with substance use disorder: meeting patients across the perinatal continuum where they are

Edwin R. Raffi[a], Jessica Gray[a,b], Nkechi Conteh[a], Martha Kane[a], Lee S. Cohen[a], and Davida M. Schiff[b]

[a] Massachusetts General Hospital, Harvard Medical School, Boston, MA, USA [b] MassGeneral Hospital for Children, Harvard Medical School, Boston, MA, USA

ABSTRACT

Pregnant and postpartum patients with substance use disorders (SUD) often have other co-occurring mental health disorders. Complications of substance use and mental health conditions, such as overdose and suicide, are a significant contributor to maternal morbidity and mortality. For individuals dually diagnosed with SUD and other mental health disorders, the perinatal period can be both a motivating and a vulnerable period for care. Barriers to optimal care include, but are not limited to, lack of screening, lack of referrals for care, a limited number of psychiatric providers available to care for pregnant patients, and stigma around mental health and addiction care in pregnancy. In this review, we discuss approaches to low-barrier perinatal psychiatric care for women with SUD to promote engagement in care. We review (1) appropriate psychiatric assessment and diagnostic work-up; (2) treatment planning incorporating shared-decision making, non-punitive and culturally sensitive patient-centred care, and principles of harm reduction with a focus on psychopharmacology, and (3) the benefits of an integrated and collaborative multidisciplinary care model for this subpopulation of vulnerable patients.

ARTICLE HISTORY

Received 18 January 2021
Accepted 1 March 2021

Barriers to Care

- several factors associated with risk of substance use do. (during pregnancy) include
  - younger age (less than 25 years)
  - a current or past personal and/or family history of SUD
  - childhood history of sexual abuse / hx of trauma
  - co-morbid psychiatric disorders

(Kahan et al. 2006 and Chansoff et al. 2001)

Barriers to Care

- Common mental health comorbidities
  - trauma and trauma related disorders
  - mood disorders
  - anxiety related disorders
  - attention deficit disorder

Barriers to Care

- **Dual Diagnosis** in Perinatal Period:
  - Complications of substance use and mental health conditions, **including overdose and suicide**, are a significant contributor to the rising maternal morbidity and mortality rate in the United States
  - **Poor outcomes** for the mother and fetus/infant
    - (Faherty et al 2020, Mangla et al. 2019, Gemmill et al 2019)

Barriers to Care

- **Lack of Access** at **Time of Most Need**

(Patrick, et al 2020)

  - **Need for Multitude of Specialties** (e.g. obstetrics and gynecology, substance use disorders care, pediatrics, primary care, psychology or therapy, case management, recovery coaching and psychiatry)
  - E.g. Discontinuation of medications

Barriers to Care

Original Investigation | Public Health

August 14, 2020

Association of Pregnancy and Insurance Status With Treatment Access for Opioid Use Disorder

Stephen W. Patrick, MD, MPH, MS[1,2,3]; Michael R. Richards, MD, PhD[4]; William D. Dupont, PhD[5]; Elizabeth McNeer, MS[5]; Melinda B. Buntin, PhD[3]; Peter R. Martin, MD, MSc[6,7]; Matthew M. Davis, MD, MAPP[8]; Corey S. Davis, JD, MSPH[9]; Katherine E. Hartmann, MD, PhD[10]; Ashley A. Leech, PhD[1,3]; Kim S. Lovell, MPH, MBA[1,3]; Bradley D. Stein, MD, PhD[11,12]; William O. Cooper, MD, MPH[1,2,3]

» Author Affiliations | Article Information

JAMA Netw Open. 2020;3(8):e2013456. doi:10.1001/jamanetworkopen.2020.13456

Barriers to Care

- "pregnant women were less likely than callers representing nonpregnant women to be granted an appointment with an opioid use disorder treatment clinician"

- "pregnant and nonpregnant women face substantial barriers in obtaining appointments with an opioid use disorder treatment clinician"

- Excluded other comorbid mental health conditions

(Patrick, et al 2020)

Barriers to Care

- 2/3 of women with mood do who d/c meds during pregnancy = relapse of symptoms

  (Cohen et al. 2006)

- Worsening symptoms <=> Relapse SUD

  ⇒Poor Perinatal Care (Kelly et al. 1999. Kim et al. 2006)

  ⇒Poor Neonatal Outcomes (Wu et al. 2020, Chung et al. 2001)

Barriers to Care

- Dual Diagnosis ~~ delayed perinatal care
- ^^^antepartum hospitalizations

(Dworkin et al. 2017)

Other Barriers to Care

- **Stigma:** SUD and Other Mental Health
- **Lack of sufficient or appropriate screening, assessment and planning >>> attrition, increased no-shows**
  - Over, under and misdiagnosis
  - Lack of:
    - Trauma informed care
    - Employing Harm Reduction
    - Patient centered care
    - Culturally sensitive care
    - Addressing disparities (racial, financial, sex & gender identity etc.)
    - Evidence based care
- **Lack of resources to further access other needed care, integrated care, collaborative care.**

Barriers to Care

- Vulnerable Time
  - pregnancy, peripartum, postpartum
- Motivating Time
  - Motivation for change = basis of recovery

Barriers to Care: Solutions

- Policy, Screening, Referral
- Appropriate & timely screening, assessment and diagnostic work-up
- Treatment planning through:
    - Negotiated care / shared decision making
    - Harm reduction
    - Non punitive approach
    - Culturally, ethnically, racially sensitive, also sensitive to issues related to sex & gender identity
    - Sensitive to any other disparities
    - Patient centered care

Barriers to Care: Solutions

- Technology:
  - Telehealth: decrease no shows
  - e-prescribing: ease of access, change in pharmacies …
  - Prescription Monitoring Program
  - increased communication with patients and providers
- Integrated and/or collaborative multidisciplinary care to the extent possible to remove barriers to care

Objectives

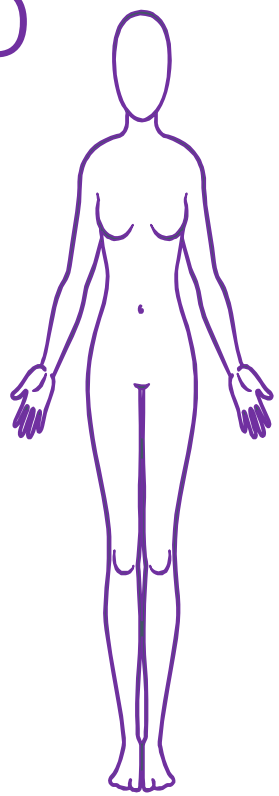
1) Discuss barriers to care
2) Discuss assessment and diagnostic work-up
3) Describe best treatment strategies
   - General Guidelines for Psychopharmacology for SUD and Other Comorbid Mental Health Disorders
   - OUD, AUD, Cocaine UD, Nicotine UD, Marijuana UD
   - Stimulants, Benzos
4) Integrated and Collaborative Care

Assessment & Diagnosis

- Create a therapeutic relationship
  - trauma-informed, culturally sensitive, patient-centered care to cultivate trust

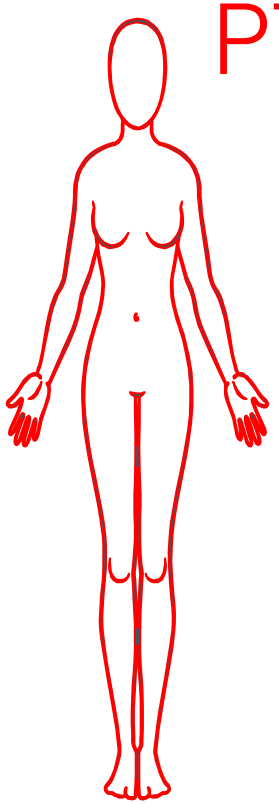
Assessment & Diagnosis

SUD

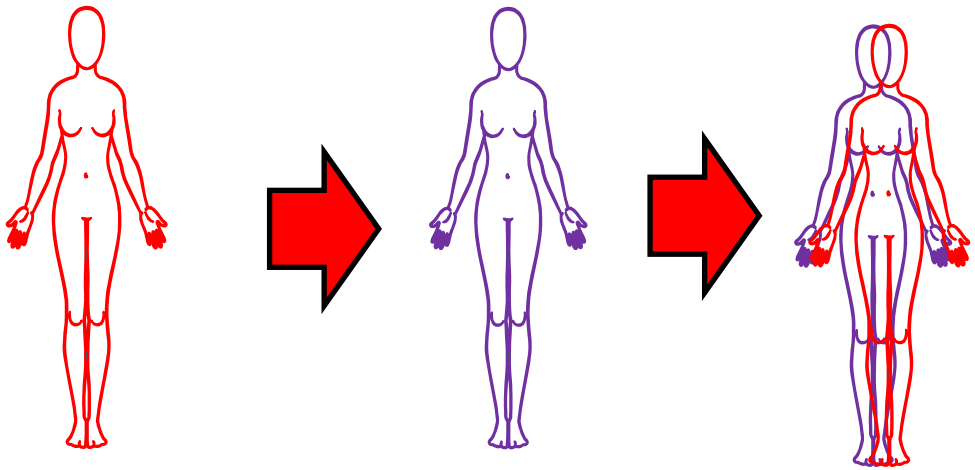


- ~50% seeking SUD treatment meet criteria for current PTSD (Berenz, Coffey 2013)
- 30-80% of women in SUD Tx experience physical/sexual abuse (Cohen et l 2006; Greenfield et al 2007, Marcellus 2014))
- co-occurring PTSD-SUD = poorer treatment outcomes (Berenz, Coffey 2013)

PTSD

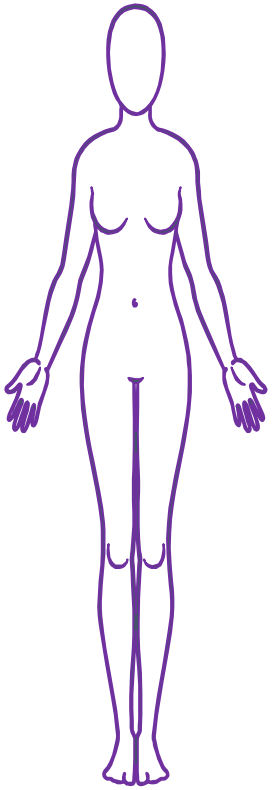


Assessment & Diagnosis



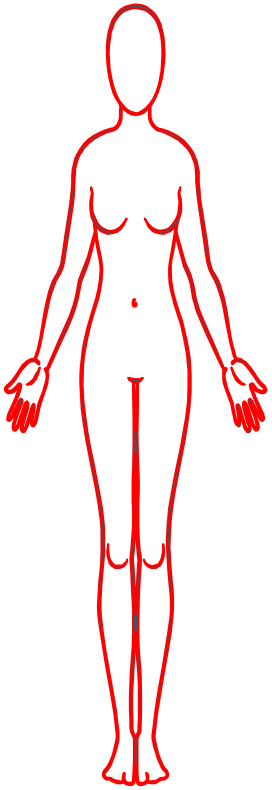
(Berenz, Coffey 2013,)

Assessment & Diagnosis



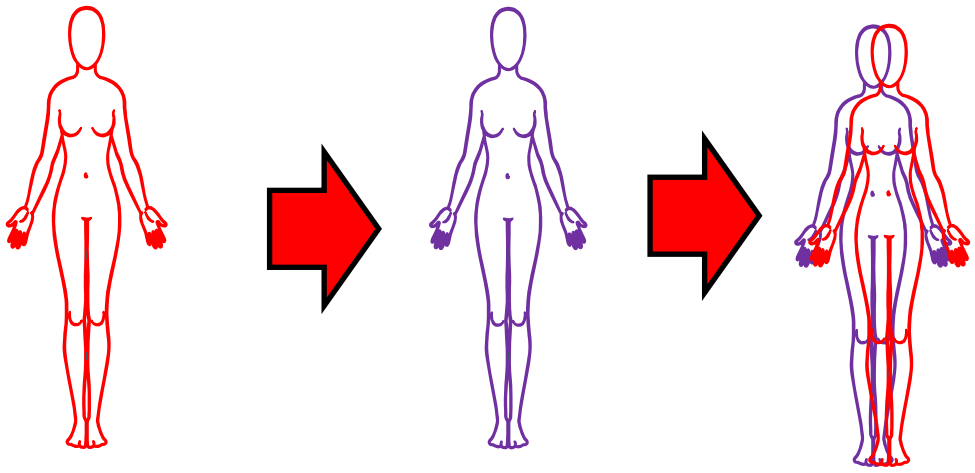
Sympathetic nervous system.
(Stress) vs.

Parasympathetic nervous system (Relaxation)



(Benson Henry Institute @ MGH)

Assessment & Diagnosis



(Berenz, Coffey 2013,)

Assessment & Diagnosis

- Hx of Trauma = Projection of mistrust
- Lack of trust = loss to follow up
- Core components of trauma-informed care:
  - Need for a safe space
  - The opportunity for choice
  - Fostering resiliency
- Racial and ethnic disparities
  - Implicit biases
  - Interpersonal racism
  - Structural racism

Assessment & Diagnosis

- Developing an accurate list of differential diagnoses
  - Screen for the 'Overdiagnosed and Overtreated'
    - Chronic SUD and other mental health conditions
    - Multiple providers
    - Polypharmacy: need for medication reconciliation
      - Discussion around shaving off medications
      - Especially important in perinatal patients

Assessment & Diagnosis

- Developing an accurate list of differential diagnoses:
  - Screen for the ‘misdiagnosed’
    - Be humble & keep an open mind and a list of provisional diagnosis:
      - Medication trials and tapers
      - Collateral information
      - Progression through sobriety
      - Progression through perinatal period

Assessment & Diagnosis

- Developing an accurate list of differential diagnoses:
  - Screen for the ‘underdiagnosed’
    - SUD < > Other mental health conditions
    - ? Self medication and missed diagnosis
    - Screen for:
      - Mood disorders
      - Anxiety disorders
      - Personality disorders
      - Attention Deficit Disorder
      - Trauma and trauma related do.

Assessment & Diagnosis

- Trauma & Related Disorders specific to patients with a uterus
  - Screen for:
    - Miscarriages
    - Abortions
    - Traumatic Births
    - Intimate partner violence: Partner's hx of use
    - Loss of parental Custody

Assessment & Diagnosis

- **Share diagnostic work-up with patient : inquire opinion**
  - Start of framework for trust building, treatment planning, shared decision making

    - Transparent plan for treatment
    - Medication options and consent
    - Plans to prevent unwanted concerns (e.g. involvement of DCF)
    - Collaboration with other stake holders (discuss other treatment providers, inpatient team, DCF, residential treatment programs)

Objectives

1) Discuss barriers to care
2) Discuss assessment and diagnostic work-up
3) Describe best treatment strategies
   - General Guidelines for Psychopharmacology for SUD and Other Comorbid Mental Health Disorders
   - OUD, AUD, Cocaine UD, Nicotine UD, Marijuana UD
   - Stimulants, Benzos
4) Integrated and Collaborative Care

Treatment Strategies

- Structured, yet flexible & negotiated care planning

- ‘meeting patients where they are’ :
  - Flexibility beyond boundaries expected in traditional psychiatry
  - Gradually organize patient as they advance in recovery, introduce and expect structure

Treatment Strategies

- Consider clinician-patient power dynamics
- Adjust for perceived 'control disadvantage' in negotiating care
    - Be empathetic & genuine
    - Provide insight and education
    - Utilize concepts for shared decision making
    - Language of motivational interviewing
    - Provide choices and options

Treatment Strategies

- Biological (family history, medications, genetics, other physical ailments, etc.)
- Psychological (cogn. & behav. routines, coping mech., etc.)
- Social-Environmental (spouse, children, dog, car, finances, etc.)

Treatment Strategies

- **~45% of all pregnancies in the US are unplanned**
- Pick meds with well-studied reproductive safety profile
- If possible, make changes prior to pregnancy
  (important for newly postpartum patients too)
- Limit number of Rxs. to decrease exposure of infant
  (maximize one med prior to adding a second)
- **>80% of pregnancies in SUD (OUD) are unplanned**
- **Discuss contraception & pregnancy planning**
  (including for the newly postpartum)

(Finer et al 2016, Terplan et al 2015)

“New” Rule

The FDA published the ”Content and Format of Labeling for Human Prescription Drug and Biological Products; Requirements for Pregnancy and Lactation Labeling, referred to as the:

“Pregnancy and Lactation Labeling Rule” (PLLR)

(i.e. No more letter categories – A, B, C, D and X)

(FDA.gov ,2014)

Treatment Strategies

Medication assisted treatment (MAT) for substance use disorders (SUD)

- patient's history of use and treatment
- patient's preference for treatment
- history of relapse
- need for closer monitoring.

Treatment Strategies

- Options for Tx of Opioid Use Disorder
  - Methadone
  - Buprenorphine products
  - Naltrexone (PO and IM)
  - Abstinence

Treatment Strategies

The Maternal Opioid Treatment: Human Experimental Research (MOTHER) project

eight-site, randomized, double-blind, double-dummy, flexible-dosing, parallel-group clinical trial **compared** treatment with **methadone** to that of **buprenorphine**.

(Jones et al 2010)

Treatment Strategies

MOTHER project:

neonates exposed to buprenorphine required…

- shorter hospital stays,
- lower morphine requirements
- average of 4.1 days of tx for NAS vs. 9.9 days for methadone ($p<0.01$).

(Jones et al 2010)

Treatment Strategies

MOTHER project:

33% of women on buprenorphine therapy stopped treatment as vs. 18% of the methadone group (p=0.02).

(Full agonists >>>less cravings)

However, in this study, women in both groups had to present to a clinic daily (vs. buprenorphine prescribed weekly+)

(Jones et al 2010)

Treatment Strategies

Medication assisted treatment (MAT) for substance use disorders (SUD)

- patient's history of use and treatment
- patient's preference for treatment
- history of relapse
- need for closer monitoring.

Treatment Strategies

- **Buprenorphine vs. Buprenorphine/Naloxone**
- **Can use either**
  - **Buprenorphine alone: higher potential for abuse or diversion**
  - **Buprenorphine/Naloxone: minimal risk of fetal exposure**

(Debelak et al 2013, Wiegand SL 2015)

Treatment Strategies

- **Methadone vs. buprenorphine products**
  - **Deciding on inpatient vs. outpatient for initiation, induction or titration**
  - **Consider risk of withdrawals / overdose**

(Debelak et al. 2013, Wiegand et al 2015)

- **Naltrexone (PO or IM)**
- **Not enough reproductive safety data**
  - **Consider risk of no treatment**
  - **E.g. consider risk of relapse or overdose if you stop the medication, withdrawals if you start the medication**

Treatment Strategies

- **Naltrexone for AUD**
- **Disulfiram for AUD**
- **Acamprosate for AUD**
- **Gabapentin?**

(Anton et al 2020)

- other medications used for MAT for Alcohol Use Disorder
- should likely be discontinued during pregnancy

Treatment Strategies

- **bupropion, varenicline, NRT for smoking cessation.**
- no information regarding the reproductive safety of varenicline; generally not used in pregnancy.
- ACOG recommends caution on NRT as unclear about safety of nicotine during pregnancy
- data reassuring for use of bupropion in pregnancy (especially for multiple comorbidities E.g. depression, or off label use for ADHD)

Treatment Strategies

- **cocaine/stimulant use disorder /meth**

- medications aimed at curbing cravings (e.g. topiramate, naltrexone, baclofen should likely be avoided during pregnancy)

Treatment Strategies

- **naltrexone**
- opioid antagonist for treatment of OUD and Alcohol Use Disorder (AUD).
- short term PO and long term IM (naltrexone)
- not first line tx during pregnancy, especially for initiation of care.

Treatment Strategies

- **naloxone**

limited to cases of maternal overdose only in order to save the mother's life.

Treatment Strategies

- **marijuana and pregnancy:**
  - ‘Prevalence of past-month cannabis use, daily/near daily cannabis use, and number of days of cannabis use, all increased among pregnant and nonpregnant women aged 12 to 44 years”
    - (Volkow 2019) National Survey of Drug Use and Health 2002-2014
  - Associated with increased risk of preterm births
    - (Daniel et al 2019)
  - Drop in IQ in adolescents
  - Animal studies show disruption in brain development
    - (Campolongo et al 2011)
  - prenatal marijuana exposure is associated with decreased attention span and behavioral problems
    - An independent predictor of marijuana use by age 14 years
      - (Fried PA et al. 2001, Day NL et al. 2006, Goldschmidt L et al 2000)

Treatment Strategies

- **Marijuana and Pregnancy:**
  - Discuss conflict with diagnostic work-up and treatment planning
    - Mood disorders, attention deficit disorder, anxiety disorder, etc.
  - Discuss lack of data to want to prescribe: dosing, types of MJ (indica, sativa, etc.) routes of taking it, medication-medication interactions.
  - Possibility of slowing down of fast dividing cells such as a fetus.
  - Inquire benefits from use (anxiety, insomnia, trauma related issues, appetite, nausea) : offer alternative evidence based treatments

(CiteBarbosa-Leiker, et al 2020)

Treatment Strategies

- **stimulants, benzodiazepines & other controlled prescribed medications**
  - Anxiety and attention related issues = comorbid or exist as a measure of symptoms of use or remission

- meet with patients regularly to discuss titrations and/or tapers as needed
- when prescribing controlled substances to unstable patients:
  - shorter prescriptions
  - increase touch points with patients
  - prevent medication loss /diversion.

- educate patients about the non-punitive nature of such an approach:
  - providing them more structure and touch-points with the provider
  - Offer them a way to manage their visits and their medications.
  - non punitive urine toxicology testing
  - medication contracts / agreements as way of providing education

Treatment Strategies

- **stimulants, benzodiazepines & other controlled prescribed medications**

- If thinking of starting patients on these medications

  - discussion around alternative non-habit-forming medications, including reproductive safety data

  - providing the patient a chance to treat these disorders with non-habit-forming medications
    - E.g. 2nd generation antipsychotics for off label treatment of anxiety
    - E.g. atomoxetine for ADD (not in pregnancy), or bupropion for attention deficit disorder and/or comorbid smoking cessation and depression

  - During trial period with non habit forming medications patient-provider duo get to set treatment expectation and visit routines prior to starting other controlled substances, should it become necessary in the future
    - Get to set expectations
    - Monitor severity of illness

Treatment Strategies

- **Stimulants, benzodiazepines & other controlled prescribed medications**

- Controlled substances can be utilized depending on the patient's pathology and the provider-patient relationship and agreement, after a discussion of risks, benefits, alternatives and risk of no treatment to the mother and the fetus, safe dosing strategies, etc.

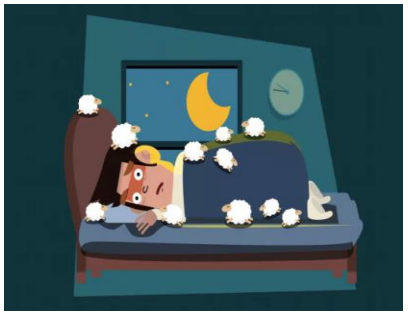
- Outpatient tapering of controlled substances, when appropriate, should happen gradually and over time

Treatment Strategies

SUD /Trauma/Anxiety/Mood disorder:

Where can you start?

Sleep



Treatment Strategies

- Diphenhydramine or doxylamine
- Very low dose TCAs (Raffi et al. 2019)
- Quetiapine, olanzapine
- Weigh risks, benefits, alternatives, including risk of no treatment with medications
  - e.g. prazosin vs. quetiapine and connection to possible relapse.
  - Consider patient's history
  - Negotiate care and patient preferences
- Discontinue melatonin, trazodone.
- ?Benzodiazepines?

Treatment Strategies

Psychological Treatment Protocols for SUD and comorbid PTSD

- Seeking Safety (non-exposure-based)
- Dialectical Behavioral Therapy (none-exposure based)
- Cognitive Behavioral Therapy (none-exposure based)
- Motivational Interviewing (none-exposure based)

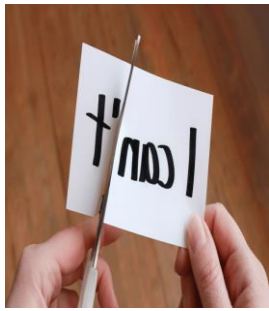
- Prolonged Exposure Therapy (exposure-based)
- Cognitive Processing Therapy (exposure-based)
- Eye Movement Desens. & Reprocessing (exposure-based)

Treatment Strategies

Addressing Social/Environmental Factors

- Finances
- Housing
- Food
- Transportation
- Ongoing/ past trauma
- Access to pharmacy
- Access to phone
- Legal Issues

- Education
- Ability to maneuver the healthcare system
- Health Insurance
- Child and Family Services
- Relationship/Partner
- Partner's SUD
- Military Connection



Objectives

1) Discuss barriers to care
2) Discuss assessment and diagnostic work-up
3) Describe best treatment strategies
   - General Guidelines for Psychopharmacology for SUD and Other Comorbid Mental Health Disorders
   - OUD, AUD, Cocaine UD, Nicotine UD, Marijuana UD
   - Stimulants, Benzos
4) Integrated and Collaborative Care

Integrated & Collaborative Care

Integrated, collaborative, and patient centered care

….due to multiple needs for providers and many barriers to care in this patient population

- increase patient participation and retention in prenatal care
- improve pregnancy outcomes

Integrated & Collaborative Care

- **Integration or colocation** of substance use treatment and behavioral health care into prenatal settings has been shown to be **cost effective and improve obstetrical and substance use do. outcomes.** (Goler et al. 2018)

Integrated & Collaborative Care

- Allows for communication and negotiation of care **between patients and providers and providers and providers**
- Example: New mother with bipolar do and SUD caring for new infant with NAS:
  - coached by pediatrician to utilize the "Eat, Sleep, Console (ESC)" method to treat NAS (Grisham et al 2019)

  Vs.

  - coached by psychiatrist to avoid lack of sleep at all costs (Raffi et al. 2019)

Integrated & Collaborative Care

- A multidisciplinary team **provides expertise in the various domains**
- Provides opportunity to **meet the varied patient and family needs** and **reduce burnout for any single practitioner**.
- **Increased collateral information** than any one provider could obtain in one visit
  - Attention to the **sensitive nature of psychiatric information shared by team members** is critical
  - mental health providers are expected to **maintain discretion in respecting the information shared** with them during their sessions

Integrated & Collaborative Care

- Despite a multidisciplinary team, patients require **assistance from outside collaborators.**
  - E.g. ongoing longitudinal medical or behavioral supports, **inpatient treatment** teams for stabilization and/or delivery, and **community-based residential and day-treatment** programs.
- Not all collaborators will share the same understanding of psychopathology or treatment recommendations.
- **Building relationships to help support and advocate for patients who need access to external care**

Integrated & Collaborative Care

- Potential need to work with Child Protection Services
  - Can challenge the patient-provider relationship, thus approach with an abundance of care and caution.
  - Balance provider role vs. mandated reporter for cases of abuse and neglect.

- Streamlining communication with outside providers (within the limits of release of information)

Integrated & Collaborative Care

- Building direct relationships with inpatient/outpatient psychiatry consultation and liaison team and Ob. Gyn., Pediatricians, PCP, social work, other therapists, recovery coaches, etc.
  - allows for warm hand-offs and ongoing continuity of support especially for those patients who are most vulnerable (e.g. history of previous traumatic births, worries of postpartum ailment, or complex medication management for multiple comorbidities).
  - allows for safer discharge planning.
- making the outpatient behavioral health team available for ongoing support of the patient and inpatient team during the delivery hospitalization
  - provides reassurance to the team
  - provides comfort for patients during a very high-stress time (e.g. when custody issues and other stressors can trigger significant trauma responses.)

Integrated & Collaborative Care

- The scope of consent with outside providers should be evaluated continuously
  - the content of conversations should be discussed with the patient before and after such communication in order to provide transparency to the extent possible.
- Complex decisions should not rest on the shoulders of one provider or the patient
  - critical multidisciplinary conversations to ensure thoughtfulness in the approach.
- There can be real harm to families who are impacted by substance use and other mental illness and real harm to families who are separated, and real benefit for those who seek and receive appropriate care and stay unified in health.
- Women's mental health issues are not issues for women to resolve !
  - Involve partner, family, friends, support system
  - It takes a village to raise a kid postpartum !!

Case

- 23 year old female with history of **Hepatitis C** and **Borderline Personality Disorder**, chief complaint: Fatigue, anxiety and insomnia.
- 8 weeks pregnant, found week 4 (G4P111)
- Discontinued all psych medications 4 weeks ago
- Smokes some marijuana at night to sleep
- 'No illicit drugs'
- **Marijuana** is 'prescribed'.
- Utox positive for **Buprenorphine and Fentanyl**? Yes.
- Qualitative measures: **negative for norbuprenorphine, extremely high levels of naloxone, positive for fentanyl, cocaine, THC**
- **Medication list:** clonazepam 0.5 mg BID, quetiapine 100 mg qhs, escitalopram 10 mg qd, Gabapentin 600 mg TID, lamotrigine 20 mg qd, clonidine 0.2 TID, buprenorphine/naloxone 8mg/2mg TID.

Objectives

1) Discuss barriers to care
2) Discuss assessment and diagnostic work-up
3) Describe best treatment strategies
   - General Guidelines for Psychopharmacology for SUD and Other Comorbid Mental Health Disorders
   - OUD, AUD, Cocaine UD, Nicotine UD, Marijuana UD
   - Stimulants, Benzos
4) Integrated and Collaborative Care

References

- **Anton, R. F., Latham, P., Voronin, K., Book, S., Hoffman, M., Prisciandaro, J., & Bristol, E. (2020). Efficacy of gabapentin for the treatment of alcohol use disorder in patients with alcohol withdrawal symptoms: a randomized clinical trial. *JAMA internal medicine*, *180*(5), 728-736.**
- Ayers, S., Wright, D. B., & Thornton, A. (2018). Development of a Measure of Postpartum PTSD: The City Birth Trauma Scale. *Front Psychiatry, 9*, 409.
- Beck, C. T. (1996). A meta-analysis of predictors of postpartum depression. *Nurs Res, 45*(5), 297-303.
- **Berenz, E. C., & Coffey, S. F. (2012). Treatment of co-occurring posttraumatic stress disorder and substance use disorders. *Curr Psychiatry Rep, 14*(5), 469-477.**
- Bizzarri, J. V., Rucci, P., Sbrana, A., Gonnelli, C., Massei, G. J., Ravani, L., . . . Cassano, G. B. (2007). Reasons for substance use and vulnerability factors in patients with substance use disorder and anxiety or mood disorders. *Addict Behav, 32*(2), 384-391.
- Burger, M., Hoosain, M., Einspieler, C., Unger, M., & Niehaus, D. (2020). Maternal perinatal mental health and infant and toddler neurodevelopment - Evidence from low and middle-income countries. A systematic review. *J Affect Disord, 268*, 158-172.
- **Campolongo P, Trezza V, Ratano P, Palmery M, Cuomo V. Developmental consequences of perinatal cannabis exposure: behavioral and neuroendocrine effects in adult rodents. Psychopharmacology (Berl) 2011;214:5–15**
- **Chasnoff IJ, Neuman K, Thornton C, Callaghan MA. Screening for substance use in pregnancy:**
- **a practical approach for the primary care physician. Am J Obstet Gynecol.**
- **2001;184(4):752–8**
- Chaudron, L. H., & Pies, R. W. (2003). The relationship between postpartum psychosis and bipolar disorder: a review. *J Clin Psychiatry, 64*(11), 1284-1292.
- Chemtob, C. M., Griffing, S., Tullberg, E., Roberts, E., & Ellis, P. (2011). Screening for trauma exposure, and posttraumatic stress disorder and depression symptoms among mothers receiving child welfare preventive services. *Child Welfare, 90*(6), 109-127.
- **CiteBarbosa-Leiker, Celestina PhD; Burduli, Ekaterina PhD; Smith, Crystal Lederhos PhD; Brooks, Olivia MS; Orr, Michael BS, BA; Gartstein, Maria PhD Daily Cannabis Use During Pregnancy and Postpartum in a State With Legalized Recreational Cannabis, Journal of Addiction Medicine: December 2020 - Volume 14 - Issue 6 - p 467-474**
- **Coffey, S. F., Dansky, B. S., Falsetti, S. A., Saladin, M. E., & Brady, K. T. (1998). Screening for PTSD in a substance abuse sample: psychometric properties of a modified version of the PTSD Symptom Scale Self-Report. Posttraumatic stress disorder. *J Trauma Stress, 11*(2), 393-399.**
- **Cohen, L. R., & Hien, D. A. (2006). Treatment outcomes for women with substance abuse and PTSD who have experienced complex trauma. *Psychiatr Serv, 57*(1), 100-106.**
- **Cohen, L. S., Altshuler, L. L., Harlow, B. L., Nonacs, R., Newport, D. J., Viguera, A. C., . . . Stowe, Z. N. (2006). Relapse of major depression during pregnancy in women who maintain or discontinue antidepressant treatment. *Jama, 295*(5), 499-507.**
- Committee Opinion No. 711 Summary: Opioid Use and Opioid Use Disorder in Pregnancy. (2017). *Obstet Gynecol, 130*(2), 488-489.
- **Day NL, Goldschmidt L, Thomas CA. Prenatal marijuana exposure contributes to the prediction of marijuana use at age 14. Addiction 2006;101:1313–22.**
- **Debelak K, Morrone WR, O'Grady KE, Jones HE. Buprenorphine + naloxone in the treatment of opioid dependence during pregnancy-initial patient care and outcome data. Am J Addict 2013;22:252–4.**
- Dobie, D. J., Kivlahan, D. R., Maynard, C., Bush, K. R., McFall, M., Epler, A. J., & Bradley, K. A. (2002). Screening for post-traumatic stress disorder in female Veteran's Affairs patients: validation of the PTSD checklist. *Gen Hosp Psychiatry, 24*(6), 367-374.
- **Dworkin, E. R., Zambrano-Vazquez, L., Cunningham, S. R., Pittenger, S. L., Schumacher, J. A., Stasiewicz, P. R., & Coffey, S. F. (2017). Treating PTSD in Pregnant and Postpartum Rural Women with Substance Use Disorders. *Rural Ment Health, 41*(2), 136-151.**
- **Faherty, L. J., Kranz, A. M., Russell-Fritch, J., Ruder, T., Patrick, S. W., & Stein, B. D. (2020). Antenatal Admissions Among Women with Opioid-Affected and Non-Opioid-Affected Deliveries. *Matern Child Health J, 24*(9), 1179-1188.**
- **Faherty, L. J., Matone, M., Passarella, M., & Lorch, S. (2018). Mental Health of Mothers of Infants with Neonatal Abstinence Syndrome and Prenatal Opioid Exposure. *Matern Child Health J, 22*(6), 841-848.**
- **FDA.gov/drugs/labeling-information-drug-products/pregnancy-and-lactation-labeling-drugs-final-rule**
- **Finer, LB. Ph.D., and Zolna, M. M.P.H. Declines in Unintended Pregnancy in the United States, 2008–2011 March 3, 2016 N Engl J Med 2016; 374:843-852**
- **Flanagan, J. C., Korte, K. J., Killeen, T. K., & Back, S. E. (2016). Concurrent Treatment of Substance Use and PTSD. *Curr Psychiatry Rep, 18*(8), 70.**
- **Fried PA, Watkinson B. Differential effects on facets of attention in adolescents prenatally exposed to cigarettes and marihuana. Neurotoxicol Teratol 2001;23:421–30.**
- Gannon, M., Short, V., LaNoue, M., & Abatemarco, D. (2020). Prevalence of Adverse Childhood Experiences of Parenting Women in Drug Treatment for Opioid Use Disorder. *Community Ment Health J*.
- **Gemmill, A., Kiang, M. V., & Alexander, M. J. (2019). Trends in pregnancy-associated mortality involving opioids in the United States, 2007-2016. *Am J Obstet Gynecol, 220*(1), 115-116.**
- Goldberg, J. F., Garno, J. L., Callahan, A. M., Kearns, D. L., Kerner, B., & Ackerman, S. H. (2008). Overdiagnosis of bipolar disorder among substance use disorder inpatients with mood instability. *J Clin Psychiatry, 69*(11), 1751-1757.
- **Goldschmidt L, Day NL, Richardson GA. Effects of prenatal marijuana exposure on child behavior problems at age 10. Neurotoxicol Teratol 2000;22:325–36. Goler, N. C., Armstrong, M.**

References

- Guille, C., Jones, H. E., Abuhamad, A., & Brady, K. T. (2019). Shared Decision-Making Tool for Treatment of Perinatal Opioid Use Disorder. *Psychiatric Research and Clinical Practice, 1*(1), 27-31.
- Guttmacher Institute. (2019). Unintended Pregnancy in the United States. Retrieved from https://www.guttmacher.org/fact-sheet/unintended-pregnancy-united-states
- Hallberg, P., & Sjöblom, V. (2005). The use of selective serotonin reuptake inhibitors during pregnancy and breast-feeding: a review and clinical aspects. *J Clin Psychopharmacol, 25*(1), 59-73.
- Hawk, M., Coulter, R. W. S., Egan, J. E., Fisk, S., Reuel Friedman, M., Tula, M., & Kinsky, S. (2017). Harm reduction principles for healthcare settings. *Harm Reduct J, 14*(1), 70.
- Higgins, A., Downes, C., Monahan, M., Gill, A., Lamb, S. A., & Carroll, M. (2018). Barriers to midwives and nurses addressing mental health issues with women during the perinatal period: The Mind Mothers study. *J Clin Nurs, 27*(9-10), 1872-1883.
- **Jones, H. E., Fischer, G., Heil, S. H., Kaltenbach, K., Martin, P. R., Coyle, M. G., ... & Arria, A. M. (2012). M aternal O pioid T reatment: H uman E xperimental R esearch (MOTHER)—approach, issues and lessons learned. *Addiction*, *107*, 28-35.**
- **Kahan M, Srivastava A, Wilson L, Gourlay D, Midmer D. Misuse of and dependence of opioids:**
- **study of chronic pain patients. Can Fam Physician. 2006;52:1081–7.**
- **Kelly, R. H., Danielsen, B. H., Golding, J. M., Anders, T. F., Gilbert, W. M., & Zatzick, D. F. (1999). Adequacy of prenatal care among women with psychiatric diagnoses giving birth in California in 1994 and 1995. *Psychiatr Serv, 50*(12), 1584-1590.**
- **Kelly, R. H., Danielsen, B. H., Zatzick, D. F., Haan, M. N., Anders, T. F., Gilbert, W. M., & Burt, V. K. (1999). Chart-recorded psychiatric diagnoses in women giving birth in California in 1992. *Am J Psychiatry, 156*(6), 955-957.**
- Kim, H. G., Mandell, M., Crandall, C., Kuskowski, M. A., Dieperink, B., & Buchberger, R. L. (2006). Antenatal psychiatric illness and adequacy of prenatal care in an ethnically diverse inner-city obstetric population. *Arch Womens Ment Health, 9*(2), 103-107.
- Kozhimannil, K. B., Trinacty, C. M., Busch, A. B., Huskamp, H. A., & Adams, A. S. (2011). Racial and ethnic disparities in postpartum depression care among low-income women. *Psychiatr Serv, 62*(6), 619-625.
- Krans, E. E., Bobby, S., England, M., Gedekoh, R. H., Chang, J. C., Maguire, B., . . . English, D. H. (2018). The Pregnancy Recovery Center: A women-centered treatment program for pregnant and postpartum women with opioid use disorder. *Addict Behav, 86*, 124-129.
- Lewis, K. S., Gordon-Smith, K., Forty, L., Di Florio, A., Craddock, N., Jones, L., & Jones, I. (2017). Sleep loss as a trigger of mood episodes in bipolar disorder: individual differences based on diagnostic subtype and gender. *Br J Psychiatry, 211*(3), 169-174.
- Leech, A. A., Cooper, W. O., McNeer, E., Scott, T. A., & Patrick, S. W. (2020). Neonatal Abstinence Syndrome In The United States, 2004-16. *Health Aff (Millwood), 39*(5), 764-767.
- **Mangla, K., Hoffman, M. C., Trumpff, C., O'Grady, S., & Monk, C. (2019). Maternal self-harm deaths: an unrecognized and preventable outcome. *Am J Obstet Gynecol, 221*(4), 295-303.**
- **Marcellus, L. (2014). Supporting women with substance use issues: trauma-informed care as a foundation for practice in the NICU. *Neonatal Netw, 33*(6), 307-314.**
- Maternal Health Task Force. Perinatal Mental Health. Retrieved from https://www.mhtf.org/topics/perinatal-mental-health/
- **MGH Health Decision Sciences Center. (2017). What is Shared Decision Making? Retrieved from https://mghdecisionsciences.org/about-us/shared-decision-making/**
- Munk-Olsen, T., Laursen, T. M., Pedersen, C. B., Mors, O., & Mortensen, P. B. (2006). New parents and mental disorders: a population-based register study. *Jama, 296*(21), 2582-2589.
- Nakić Radoš, S., Matijaš, M., Kuhar, L., Anđelinović, M., & Ayers, S. (2020). Measuring and conceptualizing PTSD following childbirth: Validation of the City Birth Trauma Scale. *Psychol Trauma, 12*(2), 147-155.
- O'Hara, M. W., Schlechte, J. A., Lewis, D. A., & Varner, M. W. (1991). Controlled prospective study of postpartum mood disorders: psychological, environmental, and hormonal variables. *J Abnorm Psychol, 100*(1), 63-73.
- **Patrick, S. W., Richards, M. R., Dupont, W. D., McNeer, E., Buntin, M. B., Martin, P. R., . . . Cooper, W. O. (2020). Association of Pregnancy and Insurance Status With Treatment Access for Opioid Use Disorder. *JAMA Netw Open, 3*(8), e2013456.**
- Peeler, M., Gupta, M., Melvin, P., Bryant, A. S., Diop, H., Iverson, R., . . . Schiff, D. M. (2020). Racial and Ethnic Disparities in Maternal and Infant Outcomes Among Opioid-Exposed Mother-Infant Dyads in Massachusetts (2017-2019). *Am J Public Health*, e1-e9.
- **Raffi, E. R., Nonacs, R., & Cohen, L. S. (2019). Safety of Psychotropic Medications During Pregnancy. *Clin Perinatol, 46*(2), 215-234.**
- **Raffi, E. R., Traeger, L. N., & Stern, T. A. (2018). Engaging the Resistant Patient in the Implementation of Interventions. *Prim Care Companion CNS Disord, 20*(3).**
- Rothera, I., & Oates, M. (2011). Managing perinatal mental health: A survey of practitioners' views. *British Journal of Midwifery, 19*(5), 304-313.
- Sallaup, T. V., Vaaler, A. E., Iversen, V. C., & Guzey, I. C. (2016). Challenges in detecting and diagnosing substance use in women in the acute psychiatric department: a naturalistic cohort study. *BMC Psychiatry, 16*(1), 406.
- Schiff, D. M., Nielsen, T., Hoeppner, B. B., Terplan, M., Hansen, H., Bernson, D., . . . Taveras, E. M. (2020). Assessment of Racial and Ethnic Disparities in the Use of Medication to Treat Opioid Use Disorder Among Pregnant Women in Massachusetts. *JAMA Netw Open, 3*(5), e205734.
- Stewart, C., & El-Mallakh, R. S. (2007). Is bipolar disorder overdiagnosed among patients with substance abuse? *Bipolar Disord, 9*(6), 646-648.

References

- **Volkow ND, Han B, Compton WM, McCance-Katz EF. Self-reported Medical and Nonmedical Cannabis Use Among Pregnant Women in the United States. JAMA. 2019 Jul 9;322(2):167-169. doi: 10.1001/jama.2019.7982. PMID: 31211824; PMCID: PMC6582258.**
- Wachman, E. M., Saia, K., Miller, M., Valle, E., Shrestha, H., Carter, G., . . . Jones, H. (2019). Naltrexone Treatment for Pregnant Women With Opioid Use Disorder Compared With Matched Buprenorphine Control Subjects. *Clin Ther, 41*(9), 1681-1689.
- Wachman, E. M., Schiff, D. M., & Silverstein, M. (2018). Neonatal Abstinence Syndrome: Advances in Diagnosis and Treatment. *Jama, 319*(13), 1362-1374.
- Walley, A. Y., Xuan, Z., Hackman, H. H., Quinn, E., Doe-Simkins, M., Sorensen-Alawad, A., . . . Ozonoff, A. (2013). Opioid overdose rates and implementation of overdose education and nasal naloxone distribution in Massachusetts: interrupted time series analysis. *Bmj, 346*, f174.
- Wesseloo, R., Kamperman, A. M., Munk-Olsen, T., Pop, V. J., Kushner, S. A., & Bergink, V. (2016). Risk of Postpartum Relapse in Bipolar Disorder and Postpartum Psychosis: A Systematic Review and Meta-Analysis. *Am J Psychiatry, 173*(2), 117-127.
- **Wiegand SL, Stringer EM, Stuebe AM, Jones H, Seashore C, Thorp J. Buprenorphine and naloxone compared with methadone treatment in pregnancy. Obstet Gynecol 2015; 125:363–8 .**
- **Wu, Y., PhD, Lu, YC, Jacobs M. et al. (2020)Association of Prenatal Maternal Psychological Distress With Fetal Brain Growth, Metabolism, and Cortical Maturation. *JAMA Netw Open.* 2020;3(1)**
- Yeaton-Massey, A., & Herrero, T. (2019). Recognizing maternal mental health disorders: beyond postpartum depression. *Curr Opin Obstet Gynecol, 31*(2), 116-119.
- Yonkers, K. A., Wisner, K. L., Stowe, Z., Leibenluft, E., Cohen, L., Miller, L., . . . Altshuler, L. (2004). Management of bipolar disorder during pregnancy and the postpartum period. *Am J Psychiatry, 161*(4), 608-620.

The End

Thank You!