UW PACC

Psychiatry and Addictions Case Conference

UW Medicine | Psychiatry and Behavioral Sciences

PERINATAL DEPRESSION

DEB COWLEY MD

UNIVERSITY OF WASHINGTON

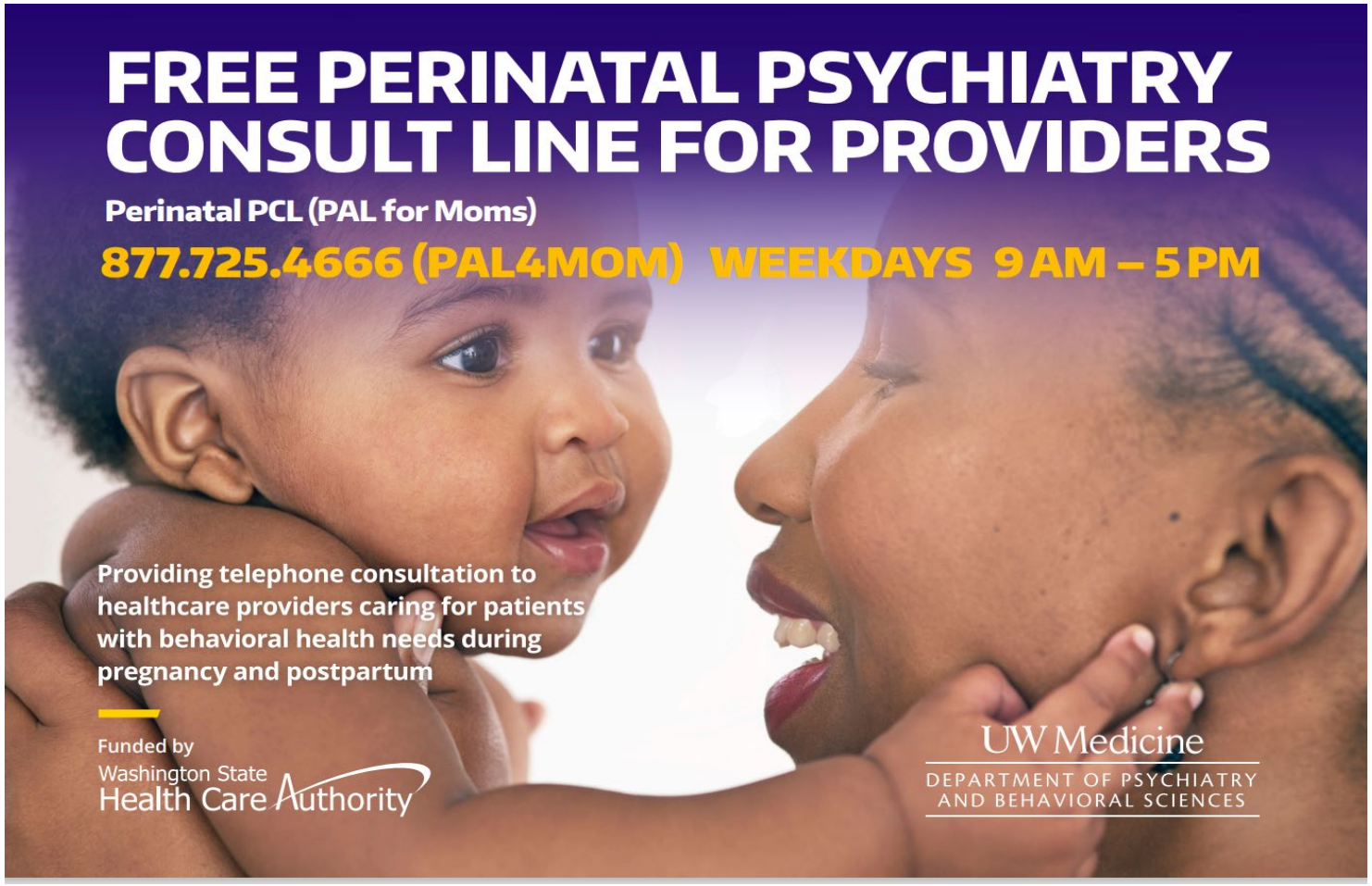
UW Medicine
UW SCHOOL OF MEDICINE

Integrated Care Training Program
UW Psychiatry & Behavioral Sciences

project ECHO

SPEAKER DISCLOSURES

Medical Director
Perinatal PCL



UW PACC

PLANNER DISCLOSURES

The following series planners have no relevant conflicts of interest to disclose; other disclosures have been mitigated.

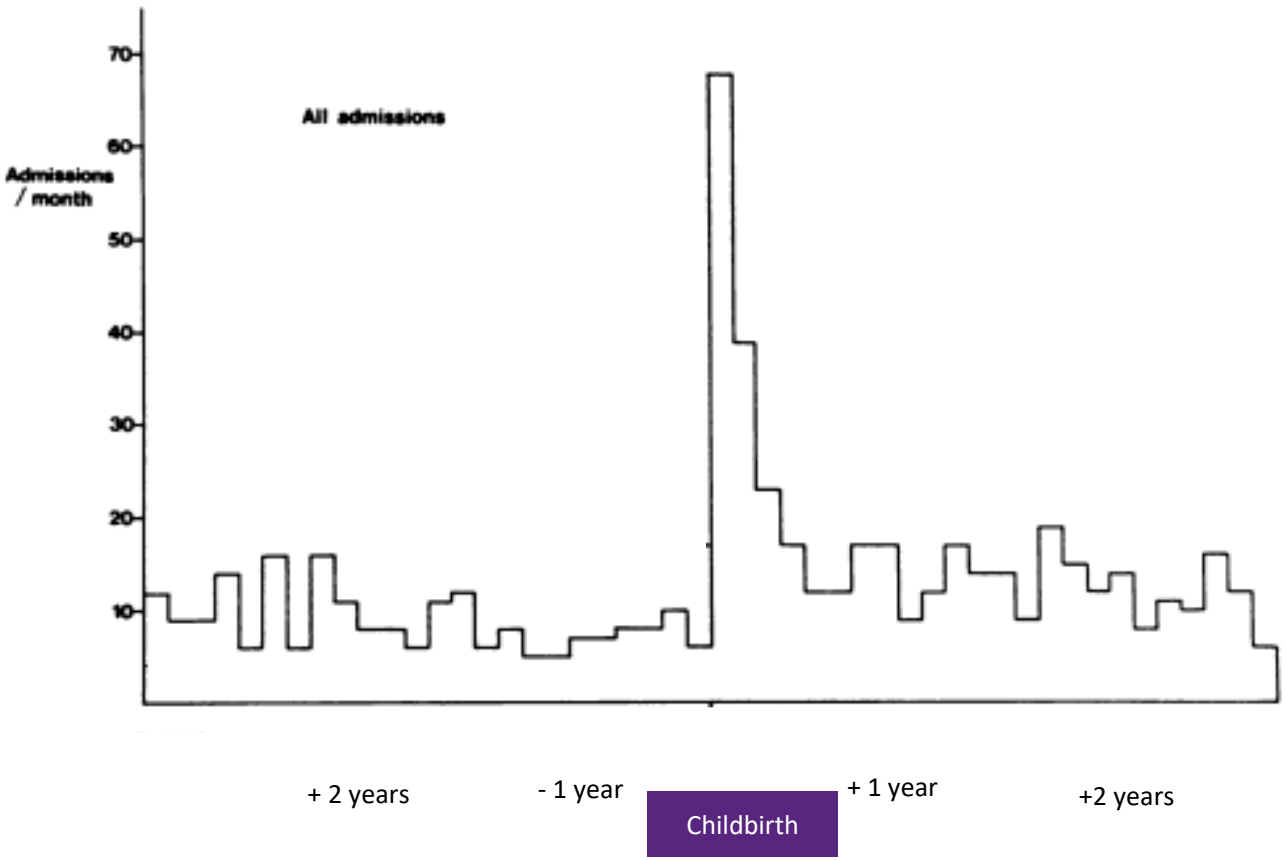
Mark Duncan MD
Rick Ries MD
Kari Stephens PhD
Barb McCann PhD
Trudy Mossop MS
Anna Ratzliff MD PhD
Betsy Payn MA PMP
Esther Solano
Cara Towle MSN RN

UW PACC

OBJECTIVES

1. Describe screening, assessment, diagnosis, and differential diagnosis of depression during the perinatal period
2. Compare the risks of untreated depression with the risks of psychotropic medication during pregnancy and lactation
3. Discuss non-medication treatments for perinatal depression

UW PACC



Temporal Relation Between Psychiatric Hospitalization and Childbirth

Kendell, 1987; Connor et al, 2019

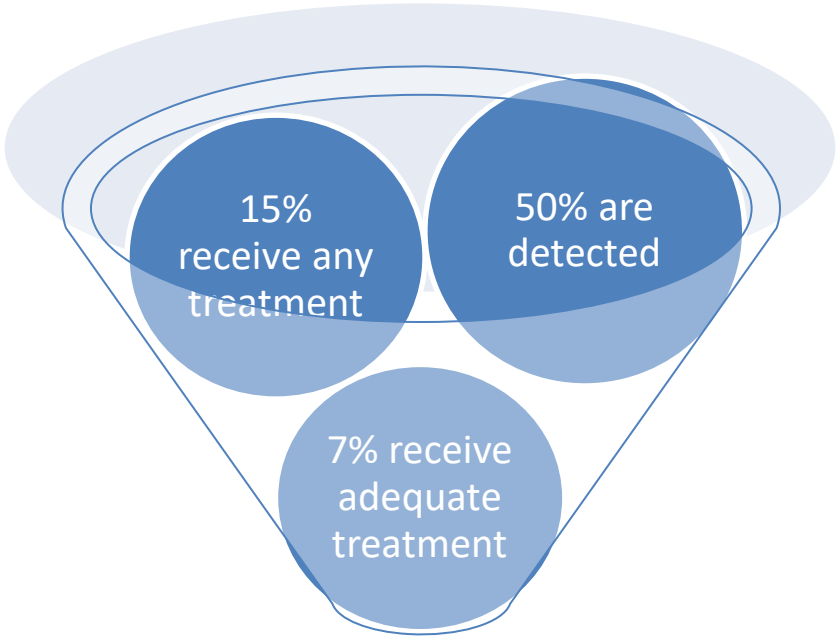
CASE

Jasmine is at 16 weeks in her first pregnancy. She tells you that she has been feeling “down” and anxious for the past 2 months. She is having trouble sleeping and her appetite is poor. She is struggling to feel bonded to this pregnancy and she has withdrawn from her friends. She is having trouble dragging herself out of bed in the morning to go to work.

PERINATAL DEPRESSION

Depression during pregnancy and the 12 months afterwards

Prevalence 10-20%



4% are treated to remission

Mental health and substance use combined are the leading cause of maternal mortality (suicide, overdose: CDC, September 2022)

Cox et al., 2016

HOW IS PERINATAL DEPRESSION DIFFERENT FROM DEPRESSION AT OTHER TIMES?

SAME DSM-5 DIAGNOSTIC CRITERIA FOR DEPRESSIVE DISORDERS

SIMILAR TREATMENTS

- Stigma, guilt, fears of CPS involvement
- DSM-5 peripartum onset specifier
  - Pregnancy or in 4 weeks after pregnancy
- Bipolar disorder (1 in 5)
- Risk-risk discussion re medications
- Brexanolone and zuranolone indicated for postpartum depression
- Psychotherapy adapted for perinatal period

UW PACC

RISK FACTORS

- History of depression, bipolar disorder, anxiety disorders
- Family history of depression or perinatal mental health disorders
- Discontinuation of antidepressant medications (60-70% relapse rate)
- Antenatal depression -> 4x risk for postpartum depression
- Unplanned/unwanted pregnancy
- Difficult/traumatic birth, medical problems in infant
- Intimate partner violence
- Adolescent
- Financial problems
- Poor sleep

HEALTH INEQUITIES

- Perinatal individuals who are Black, Indigenous and People of Color (BIPOC) are less likely to be screened and treated for mental health and substance use disorders
- Non-Latina Black birthing parents have higher rates of depressive symptoms during pregnancy
- Black birthing parents are less likely to initiate perinatal depression treatment (counseling or medications), to receive follow up treatment, and to refill antidepressant prescriptions
  - Declercq E et al. Birth 2022; Edge D. Gen Hospital Psychiatry 2010

ACOG GUIDELINES FOR SCREENING

- Screening for depression and anxiety at:
  - Initial prenatal visit
  - Later in pregnancy
  - At postpartum visits
- Anyone answering a self-harm or suicidal ideation question affirmatively should receive immediate risk assessment
- Screening for bipolar disorder before starting medication for depression or anxiety
    - ACOG Clinical Practice Guideline No. 4, Obstet Gynecol June 2023

SCREENING: PHQ-9

0-4 = no depression
5-9 = mild
10-14 = moderate
≥ 15 = severe

The Patient Health Questionnaire (PHQ-9)

Patient Name _____ Date of Visit _____

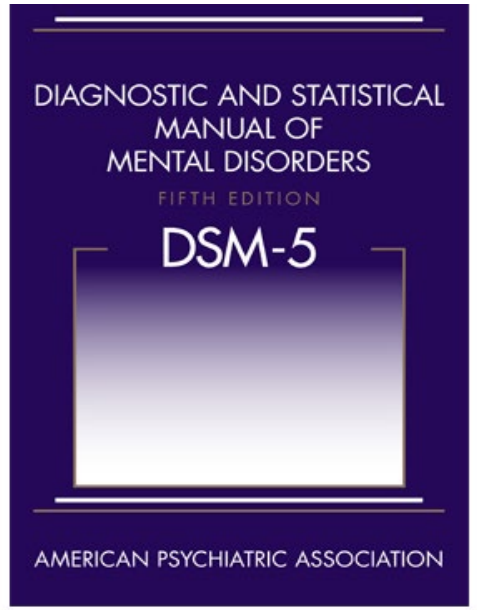
Over the past 2 weeks, how often have you been bothered by any of the following problems?	Not At all	Several Days	More Than Half the Days	Nearly Every Day
1. Little interest or pleasure in doing things	0	1	2	3
2. Feeling down, depressed or hopeless	0	1	2	3
3. Trouble falling asleep, staying asleep, or sleeping too much	0	1	2	3
4. Feeling tired or having little energy	0	1	2	3
5. Poor appetite or overeating	0	1	2	3
6. Feeling bad about yourself - or that you're a failure or have let yourself or your family down	0	1	2	3
7. Trouble concentrating on things, such as reading the newspaper or watching television	0	1	2	3
8. Moving or speaking so slowly that other people could have noticed. Or, the opposite - being so fidgety or restless that you have been moving around a lot more than usual	0	1	2	3
9. Thoughts that you would be better off dead or of hurting yourself in some way	0	1	2	3

Column Totals _____ + _____ + _____

Add Totals Together _____

10. If you checked off any problems, how difficult have those problems made it for you to Do your work, take care of things at home, or get along with other people?

☐ Not difficult at all ☐ Somewhat difficult ☐ Very difficult ☐ Extremely difficult



UW PACC

SCREENING: EPDS

I have been able to laugh and see the funny side of things.
___ As much as I always could
___ Not quite so much now
___ Definitely not so much now
___ Not at all

I have looked forward with enjoyment to things.
___ As much as I ever did
___ Rather less than I used to
___ Definitely less than I used to
___ Hardly at all

I have blamed myself unnecessarily when things went wrong.
___ Yes, most of the time
___ Yes, some of the time
___ Not very often
___ No, never

I have been anxious or worried for no good reason.
___ No, not at all
___ Hardly ever
___ Yes, sometimes
___ Yes, very often

I have felt scared or panicky for not very good reason.
___ Yes, quite a lot
___ Yes, sometimes
___ No, not much
___ No, not at all

Things have been getting on top of me.
___ Yes, most of the time I haven't been able to cope at all
___ Yes, sometimes I haven't been coping as well as usual
___ No, most of the time I have coped quite well
___ No, I have been coping as well as ever

I have been so unhappy that I have had difficulty sleeping.
___ Yes, most of the time
___ Yes, sometimes
___ Not very often
___ No, not at all

I have felt sad or miserable.
___ Yes, most of the time
___ Yes, quite often
___ Not very often
___ No, not at all

I have been so unhappy that I have been crying.
___ Yes, most of the time
___ Yes, quite often
___ Only occasionally
___ No, never

The thought of harming myself has occurred to me.
___ Yes, quite often
___ Sometimes
___ Hardly ever
___ Never

0-3 points per question. Add all points (total score 0-30)
Items 1, 2, and 4 are reverse-scored

Conventions for determining severity:
0 – 6 = none or minimal depression
7 – 13 = mild depression
14 – 19 = moderate depression
20 – 30 = severe depression

UW PACC

DIFFERENTIAL DIAGNOSIS

- A positive screen warrants further assessment

- Depressive disorders – e.g., major depression, persistent depressive disorder
- Situational factors/adjustment disorder/postpartum or baby blues
- Other psychiatric disorders
  - Bipolar disorder, psychotic depression, PTSD, personality disorder, anxiety disorder
- Medical conditions, substance use/withdrawal, medications

UW PACC

FOLLOWING UP ON A POSITIVE SCREEN

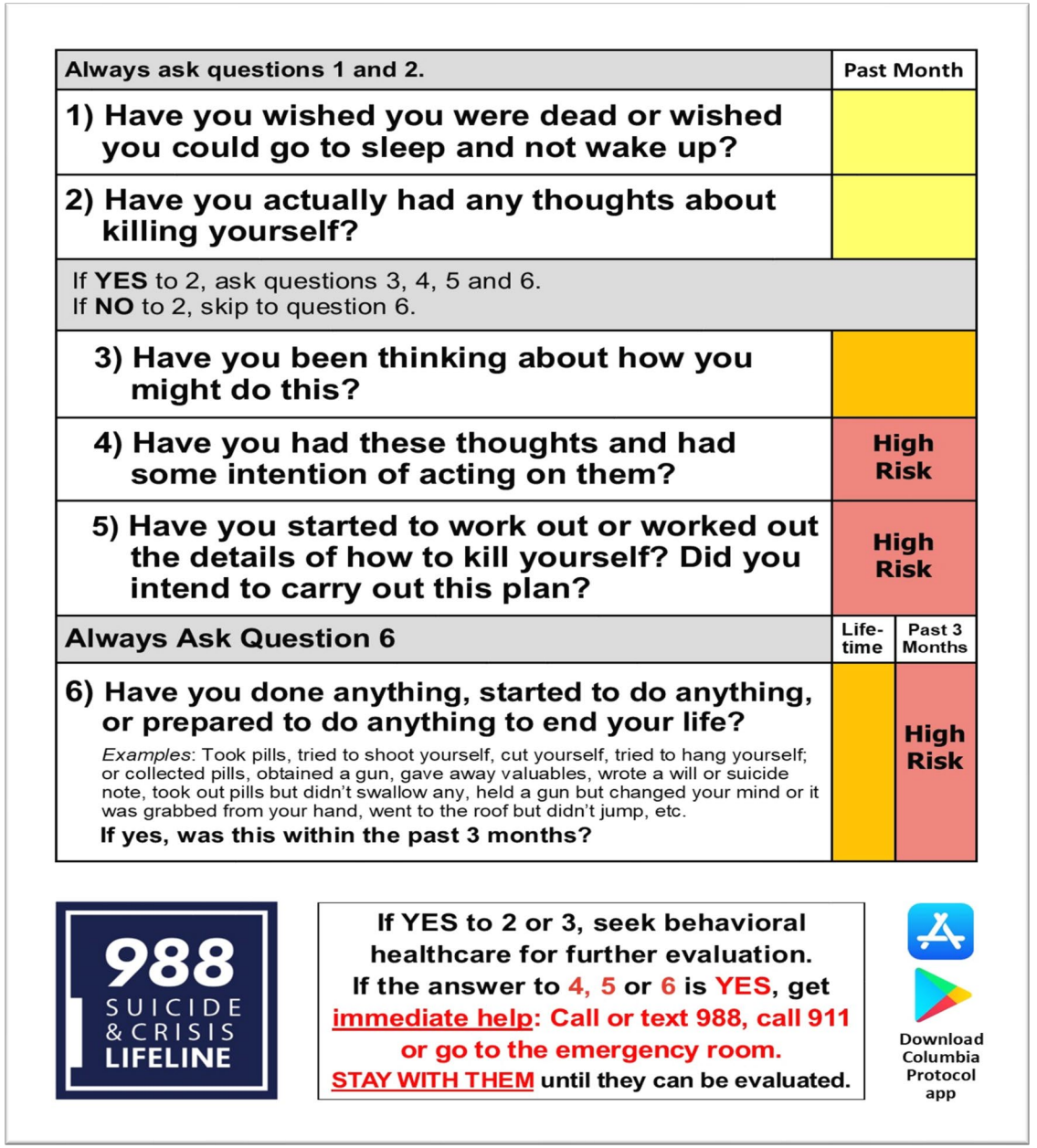
- Follow up on any report of suicidal thoughts
  - Columbia Suicide Severity Rating Scale, ASQ
- Reassurance
- Education
- Referrals
- Treatment
- Follow up on referrals 11-37%
  - Increase with education, engaging social supports, facilitated referrals

https://www.nimh.nih.gov/health/publications/perinatal-depression

UW PACC

COLUMBIA SUICIDE SEVERITY RATING SCALE (C-SSRS)

- 6 INTERVIEW questions as a broad-based screener.
- Ask 1st two questions and if “no” answers just go to final question
- Any positive answer said to recommend a mental health referral
- …more urgent help with “high risk” response



Always ask questions 1 and 2.	Past Month
1) Have you wished you were dead or wished you could go to sleep and not wake up?	
2) Have you actually had any thoughts about killing yourself?	
If **YES** to 2, ask questions 3, 4, 5 and 6. If **NO** to 2, skip to question 6.	
3) Have you been thinking about how you might do this?	
4) Have you had these thoughts and had some intention of acting on them?	High Risk
5) Have you started to work out or worked out the details of how to kill yourself? Did you intend to carry out this plan?	High Risk

Always Ask Question 6	Life-time	Past 3 Months
6) Have you done anything, started to do anything, or prepared to do anything to end your life? *Examples*: Took pills, tried to shoot yourself, cut yourself, tried to hang yourself; or collected pills, obtained a gun, gave away valuables, wrote a will or suicide note, took out pills but didn't swallow any, held a gun but changed your mind or it was grabbed from your hand, went to the roof but didn't jump, etc. **If yes, was this within the past 3 months?**		High Risk

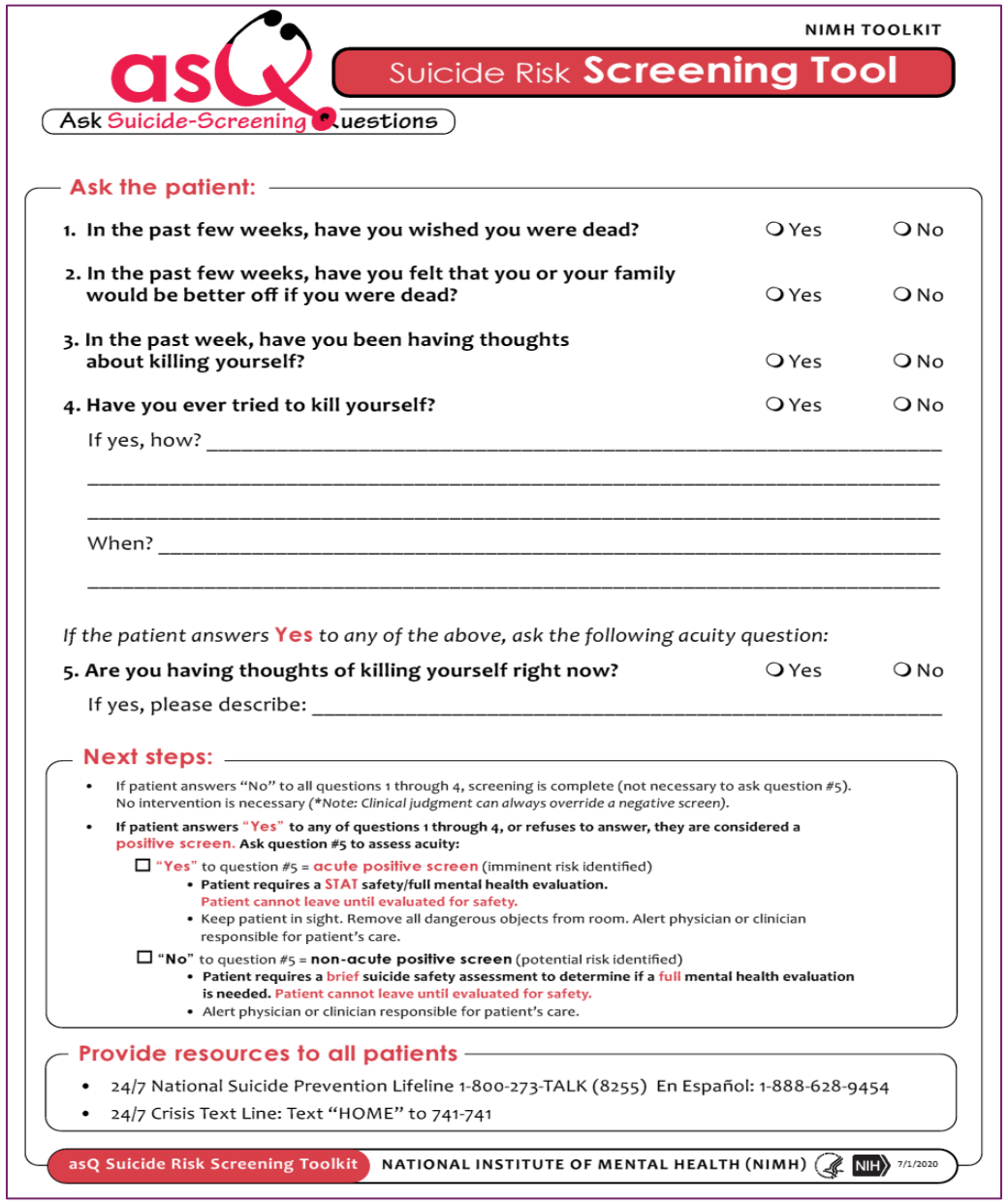
If YES to 2 or 3, seek behavioral healthcare for further evaluation.
If the answer to 4, 5 or 6 is YES, get immediate help: Call or text 988, call 911 or go to the emergency room.
STAY WITH THEM until they can be evaluated.

Download Columbia Protocol app

UW PACC

ASQ

- "Yes" to any = recommend therapy referrals
- "Yes" to item 5 = need to assess for safety now
- The ASQ is free, available from NIMH
- Other language translations available
- https://www.nimh.nih.gov/research/research-conducted-at-nimh/asq-toolkit-materials



NIMH TOOLKIT

asQ Suicide Risk Screening Tool

Ask Suicide-Screening Questions

Ask the patient:

1. **In the past few weeks, have you wished you were dead?** ❍ Yes ❍ No
2. **In the past few weeks, have you felt that you or your family would be better off if you were dead?** ❍ Yes ❍ No
3. **In the past week, have you been having thoughts about killing yourself?** ❍ Yes ❍ No
4. **Have you ever tried to kill yourself?** ❍ Yes ❍ No

If yes, how? _____

_____

_____

When? _____

_____

If the patient answers Yes to any of the above, ask the following acuity question:

5. **Are you having thoughts of killing yourself right now?** ❍ Yes ❍ No

If yes, please describe: _____

Next steps:

- If patient answers "No" to all questions 1 through 4, screening is complete (not necessary to ask question #5). No intervention is necessary (**Note: Clinical judgment can always override a negative screen).*
- **If patient answers "Yes" to any of questions 1 through 4, or refuses to answer, they are considered a positive screen. Ask question #5 to assess acuity:**
  - ☐ "Yes" to question #5 = **acute positive screen** (imminent risk identified)
    - **Patient requires a STAT safety/full mental health evaluation. Patient cannot leave until evaluated for safety.**
    - Keep patient in sight. Remove all dangerous objects from room. Alert physician or clinician responsible for patient's care.
  - ☐ "No" to question #5 = **non-acute positive screen** (potential risk identified)
    - **Patient requires a brief suicide safety assessment to determine if a full mental health evaluation is needed. Patient cannot leave until evaluated for safety.**
    - Alert physician or clinician responsible for patient's care.

Provide resources to all patients

- 24/7 National Suicide Prevention Lifeline 1-800-273-TALK (8255) En Español: 1-888-628-9454
- 24/7 Crisis Text Line: Text "HOME" to 741-741

asQ Suicide Risk Screening Toolkit NATIONAL INSTITUTE OF MENTAL HEALTH (NIMH) NIH 7/1/2020

UW PACC

OTHER SUICIDE RISK ASSESSMENT RESOURCES

- Patient Safety Screener (PSS)
- 3-item screening questionnaire + secondary screener + suicide care management plans + videos
- https://sprc.org/micro-learning/the-patient-safety-screener-a-brief-tool-to-detect-suicide-risk/

- Stanley-Brown Safety Planning document
- https://suicidesafetyplan.com/forms/
- Lethal means counseling

- Zero Suicide: https://zerosuicide.edc.org/

- Suicide prevention resources | Washington State Health Care Authority

UW PACC

MDQ (MOOD DISORDERS QUESTIONNAIRE)

- Brief (<5 mins)
- Self-report
- Sensitivity 73%, specificity 90% in psychiatric patients

Positive screen:

- YES to 7/13 symptoms
- YES to question 2
- Moderate/serious problem on question 3

1. Has there ever been a period of time when you were not your usual self and...	YES	NO
...you felt so good or so hyper that other people thought you were not your normal self or you were so hyper that you got into trouble?	☐	☐
...you were so irritable that you shouted at people or started fights or arguments?	☐	☐
...you felt much more self-confident than usual?	☐	☐
...you got much less sleep than usual and found that you didn't really miss it?	☐	☐
...you were more talkative or spoke much faster than usual?	☐	☐
...thoughts raced through your head or you couldn't slow your mind down?	☐	☐
...you were so easily distracted by things around you that you had trouble concentrating or staying on track?	☐	☐
...you had more energy than usual?	☐	☐
...you were much more active or did many more things than usual?	☐	☐
...you were much more social or outgoing than usual, for example, you telephoned friends in the middle of the night?	☐	☐
...you were much more interested in sex than usual?	☐	☐
...you did things that were unusual for you or that other people might have thought were excessive, foolish, or risky?	☐	☐
...spending money got you or your family in trouble?	☐	☐
2. If you checked YES to more than one of the above, have several of these ever happened during the same period of time?	☐	☐

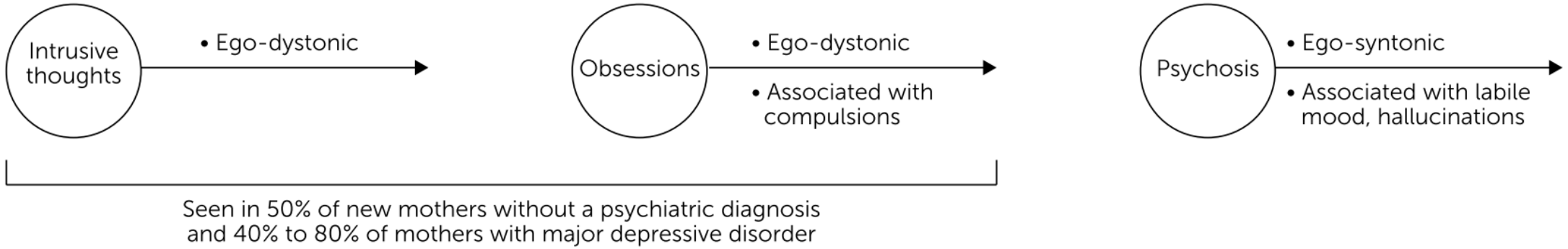
3. How much of a problem did any of these cause you - like being unable to work; having family, money or legal troubles; getting into arguments or fights?

☐ No problems ☐ Minor problem ☐ Moderate problem ☐ Serious problem

UW PACC

THOUGHTS OF HARMING THE BABY

FIGURE 1. Thoughts of harming the infant



- It's common to have thoughts of harm coming to the baby and of harming the baby, either accidentally or on purpose
- Have you had thoughts like this?

Toor et al 2024

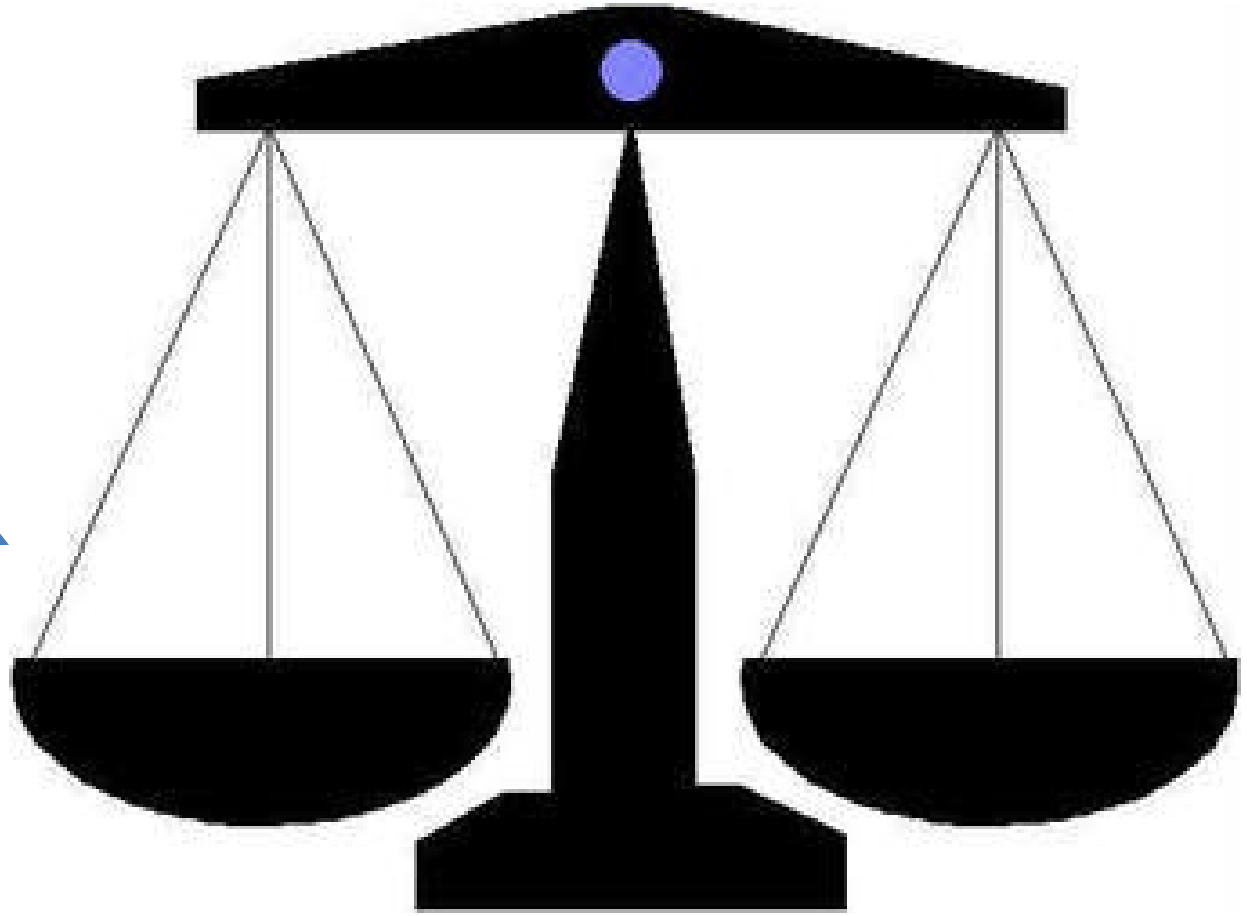
CASE (CONTINUED)

- Jasmine has a PHQ-9 score of 17 and you diagnose her with major depression. She has had some hopeless thoughts but denies thoughts of self-harm. How would you approach her treatment?

- Severe depression
- Generally, medication and therapy

RISK-RISK ASSESSMENT

Risks of untreated psychiatric disorder



Risks of medication

Alternative treatments

UW PACC

RISKS OF PERINATAL DEPRESSION

- Distress, functional impairment, hospitalization, suicide
- Poor prenatal and self-care, higher rates of perinatal substance use
- Antenatal depression is major risk factor for postpartum depression
- Impaired bonding
- In child, higher rates of failure to thrive, developmental delay, hospitalization and mortality in first year of life
- Higher rates of internalizing and externalizing disorders
- Increased depression risk through adolescence

    - Jacques et al., 2019; Field et al., 2014

UW PACC

SSRIS IN PREGNANCY

- Citalopram (Celexa), escitalopram (Lexapro), fluoxetine (Prozac), fluvoxamine (Luvox), paroxetine (Paxil), sertraline (Zoloft)
- No consistent evidence for increase in malformations
  - ?paroxetine
- Limited information available for fluvoxamine
- Persistent pulmonary hypertension of the newborn (PPHN)
- Neonatal adaptation syndrome
- Sertraline preferred

PERSISTENT PULMONARY HYPERTENSION OF THE NEWBORN (PPHN)

- Meta-analysis, 11 studies, 156,978 exposed women

- 1.8/1000 baseline risk
- 2.9/1000 with SSRI exposure
- NNH = 1000

- Lowest risk with sertraline
  - Masarwa et al., 2018

SSRI	Placental Passage	P Score
Sertraline	30%	0.83
Escitalopram	50%	0.69
Paroxetine	-	0.49
Citalopram	70%	0.21
Fluoxetine	65%	0.16

UW PACC

NEONATAL ADAPTATION SYNDROME

- 30% of SSRI-exposed babies
- High-pitched cry, sleep disturbance, tremor, hypertonicity/myoclonus, tachypnea, gastrointestinal symptoms, seizures
- Peaks within 2 days after birth, resolves in about 4 days
- Worse with SSRI + benzodiazepine
- Reducing dose in 3rd trimester does not prevent NAS
- May be related to prematurity, hypoglycemia
  - Moses-Kolko 2005; Warburton 2010

UW PACC

ANTIDEPRESSANTS AND LACTATION

- **Relative infant doses** generally 10% of maternal dose or lower
  - Lowest for:
    - bupropion, mirtazapine, duloxetine, fluvoxamine, paroxetine, sertraline

- **Safety index** (adverse events/exposures) lowest (most favorable) for **sertraline**, **paroxetine**

Berle and Spigset 2011

UW PACC

SSRIS AND CHILD OUTCOMES

- **Physical outcomes (5 studies – asthma, cancer, BMI, epilepsy): conflicting associations for BMI.**
- **Neurodevelopmental outcomes (18 studies – cognition, behavior, IQ, motor development, speech, language, and scholastic outcomes): no consistent associations**
- **Psychiatric outcomes (11 studies: ASD, ADHD, affective disorders): associations with affective disorder**
  - **Rommel et al., 2018**

ALTERNATIVE/NON-MEDICATION TREATMENTS

- Psychotherapy
- Sleep
  - 4-5 hours uninterrupted sleep at night postpartum
- Bright light therapy
  - 10,000 lux, morning, 30 min
- Exercise
- Yoga
- Omega-3-fatty acids

UW PACC

EVIDENCE-BASED PSYCHOTHERAPIES

- Cognitive-behavioral therapy (CBT)
  - Emotional distress and maladaptive behaviors are caused/exacerbated by dysfunctional patterns of thought
  - Effective for perinatal depression and in prevention of postpartum depression
    - Sockol LE. J Affect Dis 2015.
- Interpersonal therapy (IPT)
  - Emphasizes role of interpersonal relationships in psychological distress
  - Areas of focus: role transition, role dispute, grief
  - Effective for treatment and prevention of perinatal depression
    - Sockol LE. J Affect Dis 2018.

ANOTHER CASE…

- Maria and her partner are planning pregnancy. Maria has a history of recurrent episodes of depression and 2 psychiatric hospitalizations following suicide attempts. She has tried several antidepressants, including sertraline, fluoxetine, citalopram, and bupropion, without success. For the past year, she has had a stable mood without depression on duloxetine 60 mg daily. She wants to know whether she can take this medicine during pregnancy.

- 50% of pregnancies are unplanned
- Risk-risk discussion for anyone of childbearing potential

UW PACC

DULOXETINE (SNRI)

- Limited information
- No overall increase in malformations
- Possible small increase in heart defects (RR=1.3)
- Increased risk of postpartum hemorrhage (RR=1.5)
- ? Gestational hypertension
- Neonatal adaptation syndrome (like SSRIs)
- Low transmission in breast milk; considered compatible with breast/chest feeding

  – Lassen, 2016; Huybrechts et al., 2020

UW PACC

BUPROPION

- Less studied than SSRIs
- No increased rate of malformations (?LVOT)
- Possible elevated risk of attention deficit disorder in child
- Can exacerbate anxiety disorders
- 2 case reports of neonatal seizures during lactation
- Avoid in people with bulimia, seizure disorders

UW PACC

OTHER ANTIDEPRESSANTS

- Venlafaxine (Effexor; SNRI)
  - No increase in malformations
  - PPHN, NAS as with SSRIs
  - Increased rate of gestational hypertension
  - RID 3-12%; rare reports of adverse effects in infants
- Mirtazapine (Remeron)
  - No increase in malformations
  - Neonatal adaptation syndrome
  - RID<2%; limited data but no adverse effects reported in infants
- Vortioxetine (Trintellix), vilazodone (Viibryd)
  - Very limited data

ECT AND TMS

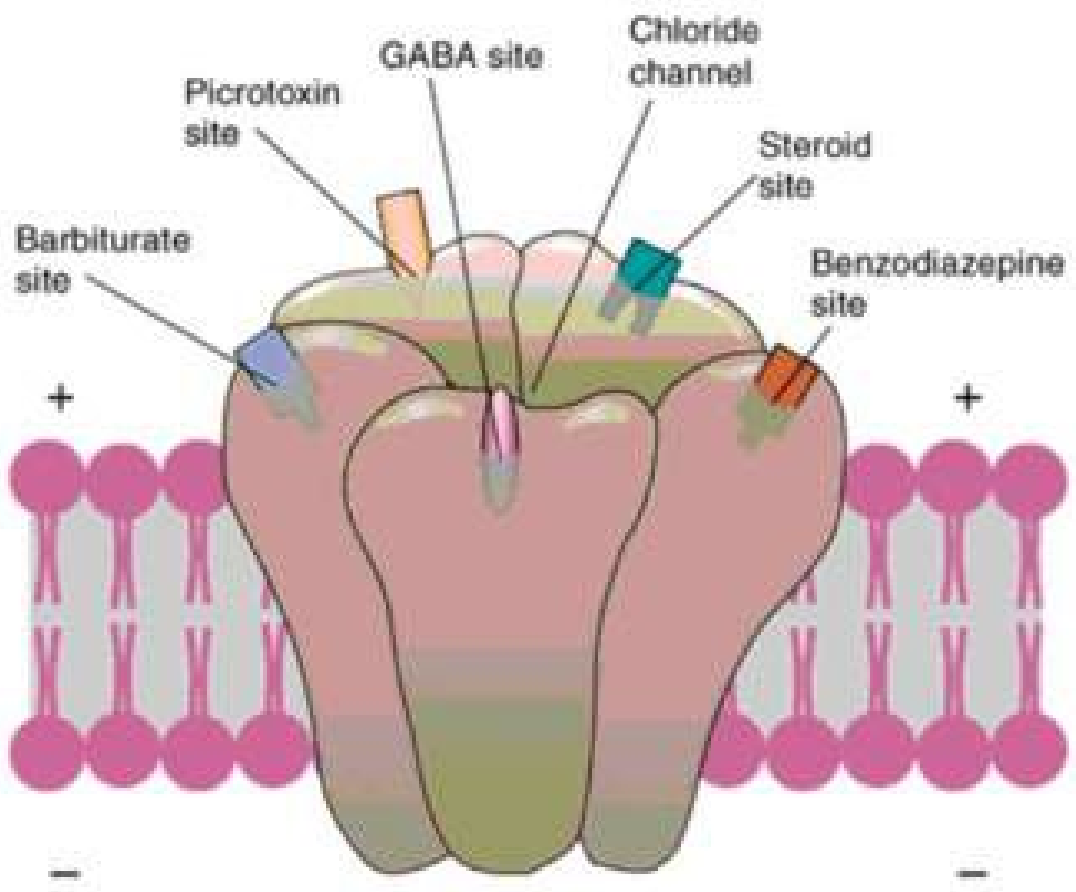
- **Electroconvulsive therapy (ECT)**
  - Rapid, effective, for severe depression/suicide risk
  - APA, ACOG, systematic reviews suggest ECT relatively safe during pregnancy, including first trimester
  - Reported adverse events include fetal arrhythmia, premature birth, miscarriage, uterine contractions, vaginal bleeding, placental abruption
    - Coshal 2019

- **Transcranial Magnetic Stimulation (TMS)**
  - RCT; 22 women with MDD in 2nd/3rd trimester (11 TMS, 11 sham), 20 sessions, stimulation of right dorsolateral PFC
  - Response in 81.8% vs. 45.4%; remission 27.3% vs. 18.3%
  - Preterm birth (35-36 wks) in 3 women receiving active TMS
    - Kim 2019

UW PACC

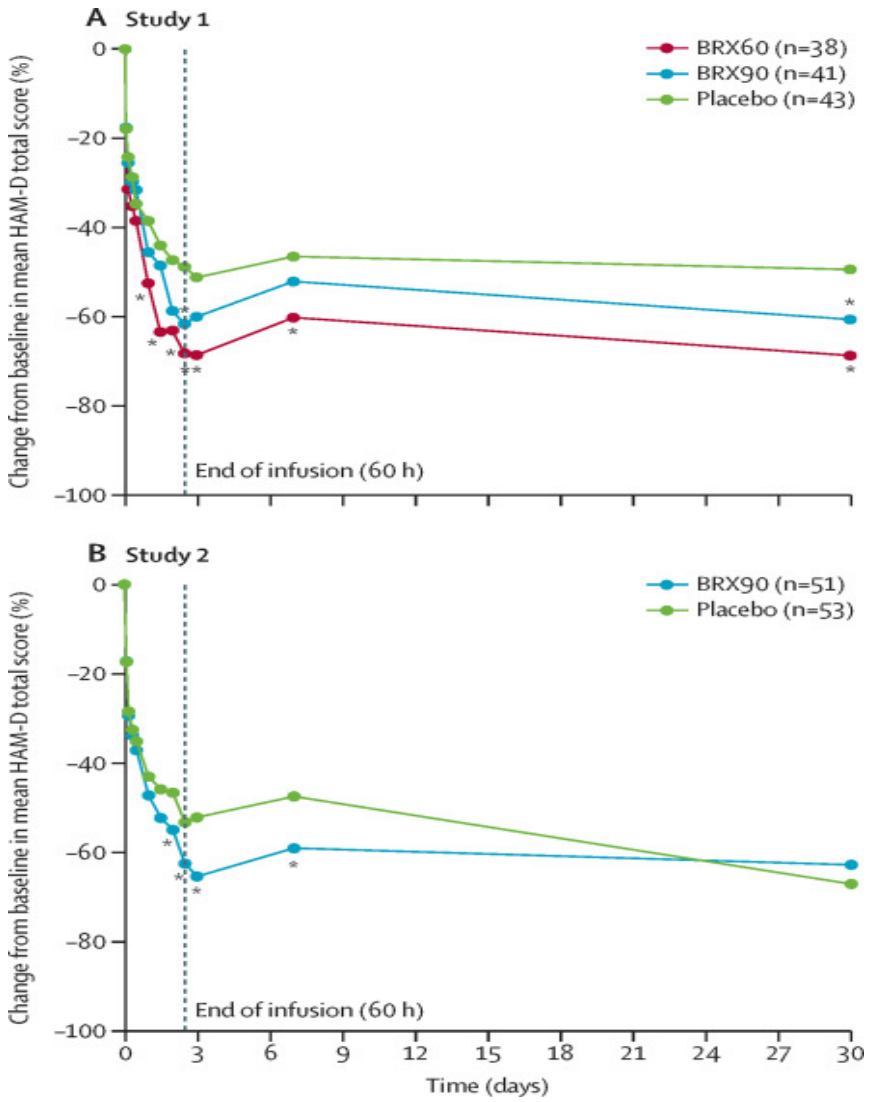
BREXANOLONE

- FDA indication for PPD in March 2019
- Novel mechanism of action
- Formulation of allopregnanolone
- What is allopregnanolone?
  - Metabolite of progesterone
  - Positive allosteric modulator of GABA-A receptors
  - Antidepressant, anxiolytic, anticonvulsant effects
  - Levels increase in pregnancy, decrease postpartum
  - Lower levels during pregnancy associated with PPD



UW PACC

BREXANOLONE



- **Brexanolone Phase 3 trials (60-hour infusion)**
- Much improved or very much improved:
- Study 1
  - 82% vs. 84% vs. 56% at 60 hours (NNT = 4)
- Study 2
  - 80% vs. 56% at 60 hours (NNT = 4)
  - Difference from placebo at 7 but not 30 days
- Side effects: headache, dizziness, sedation, loss of consciousness
- FDA warning; REMS
  - Meltzer-Brody et al., 2018

UW PACC

ZURANOLONE (ZURZUVAE)

- FDA approved 8/4/23
- **Oral** synthetic form of allopregnanolone
- Half-life 16-23 hours
- Severe MDD beginning in third trimester or first 4 weeks postpartum
- 50 mg x 14 days, in the evening with fatty meal
- Significant separation from placebo starting at day 3, effects sustained at 45 days
- Side effects: somnolence, dizziness, diarrhea
- No loss of consciousness
- No data re safety during lactation, may cause fetal harm
  - Deligiannidis et al., JAMA Psychiatry 2021 and Am J Psychiatry, July 2023

UW PACC

ZURANOLONE (ZURZUVAE)

- Needs to be taken with food -- 400 to 1000 calories, 25-50% from fat
- Box warning: patients should not drive for 12 hours after taking the medication
- Standard antidepressant warning about suicide risk in patients under 24, did not see particular concerns in clinical trials
- Somnolence is #1 side effect (36%) -- reduce dose to 40 mg/day.
- As with any sedating medication, there should be another adult present in the home to respond to the baby as needed and the parent should not co-sleep/bed-share
- Can be taken with another antidepressant
- Dispensed through national specialty pharmacies: contact company at www.sagerx.com

TAKE HOME POINTS

- Untreated depression is associated with risks for the birthing parent and baby
- The PHQ-9 and EPDS are similarly effective as screening tools
- Evaluate for bipolar disorder, thoughts of suicide/self-harm, substance use
- Consider non-medication treatments
- For moderate to severe depression, medications are usually indicated as well
- Prescribing medication requires a risk-risk discussion

UW PACC

RESOURCES

For clinicians:

Reprotox: www.reprotox.org

LactMed: https://www.ncbi.nlm.nih.gov/books/NBK501922/

Infant Risk Center https://www.infantrisk.com

Natural Medicines: https://naturalmedicines.therapeuticresearch.com/

MGH: www.womensmentalhealth.org

UW Perinatal PCL (1-877-PAL4MOM/1-877-725-4666)

Perinatal Mental Health Care Guide https://www.mcmh.uw.edu/care-guide

Perinatal Mental Health ECHO (MAP ECHO): https://perc.psychiatry.uw.edu/map-echo-perinatal-psychiatry-case-conference-series/

Swedish Day Treatment Program for Postpartum Depression: 1-206-320-7288

For patients and families:

Perinatal Support Washington: http://perinatalsupport.org/

MothertoBaby fact sheets https://mothertobaby.org/fact-sheets-parent/

NIMH Perinatal Depression brochure: https://www.nimh.nih.gov/health/publications/perinatal-depression

National Maternal Mental Health Hotline

- 1-833-852-6262 (1-833-TLC-MAMA)
- 24/7 support, English and Spanish (interpreters for other languages available)
- https://mchb.hrsa.gov/national-maternal-mental-health-hotline/faq

UW PACC

REFERENCES

- Deligiannidis KM, Meltzer-Brody S, Gunduz-Bruce H, et al. Effect of zuranolone vs placebo in postpartum depression: a randomized control trial. JAMA Psychiatry 2021; doi: 10.1001/jamapsychiatry.2021.1559.
- Deligiannidis KM, Meltzer-Brody S, Maximos B, et al. Zuranolone for the treatment of postpartum depression. Am J Psychiatry 2023, 180:668-675.
- Lassen D, Ennis ZN, Damkier P. (2016). First-trimester pregnancy exposure to venlafaxine or duloxetine and risk of major congenital malformations: a systematic review. *Basic & clinical pharmacology & toxicology*, *118*(1), 32-36.
- Meltzer-Brody S, Colquhoun H, Riesenberg R, et al. (2018). Brexanolone injection in post-partum depression: two multicentre, double-blind, randomised, placebo-controlled, phase 3 trials. *The Lancet*, *392*(10152), 1058-1070.
- Moses-Kolko EL, Bogen D, Perel J, et al. (2005). Neonatal signs after late in utero exposure to serotonin reuptake inhibitors: literature review and implications for clinical applications. *Jama*, *293*(19), 2372-2383.
- Oystein Berle J, Spigset O. (2011). Antidepressant use during breastfeeding. *Current women's health reviews*, *7*(1), 28-34.
- Rommel AS, Bergink V, Liu X, Munk-Olsen T, Molenaar NM. (2020). Long-Term Effects of Intrauterine Exposure to Antidepressants on Physical, Neurodevelopmental, and Psychiatric Outcomes: A Systematic Review. The Journal of Clinical Psychiatry, 81(3).
- Sockol LE. A systematic review of the efficacy of cognitive behavioral therapy for treating and preventing perinatal depression. J Affect Dis 2015; 177:7-21.
- Sockol LE. A systematic review and meta-analysis of interpersonal therapy for perinatal women. J Affect Dis 2018; 232:316-328.
- **Stewart AL, Payne JL. Perinatal depression: a review and an update. Psychiatr Clin N Am 2023; 46:447-461.**
- Warburton W, Hertzman C, Oberlander TF. (2010). A register study of the impact of stopping third trimester selective serotonin reuptake inhibitor exposure on neonatal health. *Acta Psychiatrica Scandinavica*, *121*(6), 471-479.

UW PACC

QUESTIONS

- dcowley@uw.edu

UW PACC