Objectives

- Definition and epidemiology of perinatal depression
- Adverse outcomes of depression
- Diagnostic criteria and screening strategies for perinatal depression
- Benefits and risks of treatment options
Perinatal Depression

- Depression that occurs during pregnancy or in the first 12 months postpartum
- 10-23% of pregnant women meet criteria
- Up to 70% of pregnant women report symptoms

Postpartum Depression

- Affects 1 in 7 women
- Only 20% of women report symptoms to providers.

Risk Factors for Depression During Pregnancy

- History of depression
- Anxiety
- Unplanned pregnancy
- Unmarried
- Lack of social support
- Domestic violence
- Low socioeconomic status
- Lower education
- Smoking
Risk Factors for Postpartum Depression

- Depression/anxiety during pregnancy
- Life stressors
- Traumatic birth experience
- Preterm birth
- NICU admission
- Lack of social support
- Breastfeeding difficulties

Outcomes of Untreated Depression

Maternal:
- Suicide
- Alcohol, drug, tobacco abuse
- Social isolation
- Poor compliance with care

Pregnancy:
- Miscarriage
- Premature birth
- Growth restriction
- Low birth weight
Outcomes of Untreated Depression

- Infant/Childhood:
  - Infanticide
  - Irritability
  - Conduct disorders
  - Other psychiatric illnesses
  - Suicide

Diagnostic Criteria

- Depressed mood and/or anhedonia X 2 wks
- ≥ 5 symptoms nearly every day:
  - Depressed mood
  - Anhedonia
  - Change in weight/appetite
  - Change in sleep
  - Fatigue
  - Guilt/worthlessness
  - Concentration
  - Suicidality

Screening Tools

<table>
<thead>
<tr>
<th>Screening Tool</th>
<th>Number of Items</th>
<th>Time to Complete (Minutes)</th>
<th>Sensitivity and Specificity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Edinburgh Postnatal Depression Scale</td>
<td>10</td>
<td>Less than 5</td>
<td>Sensitivity 99–100%, Specificity 59–100%</td>
</tr>
<tr>
<td>Postpartum Depression Screening Scale</td>
<td>35</td>
<td>5–10</td>
<td>Sensitivity 91–94%, Specificity 72–88%</td>
</tr>
<tr>
<td>Patient Health Questionnaire 9</td>
<td>9</td>
<td>Less than 5</td>
<td>Sensitivity 75%, Specificity 90%</td>
</tr>
<tr>
<td>Beck Depression Inventory</td>
<td>21</td>
<td>5–10</td>
<td>Sensitivity 47–83%, Specificity 85–88%</td>
</tr>
<tr>
<td>Beck Depression Inventory-II</td>
<td>21</td>
<td>5–10</td>
<td>Sensitivity 96–57%, Specificity 97–100%</td>
</tr>
<tr>
<td>Center for Epidemiologic Studies Depression Scale</td>
<td>20</td>
<td>5–10</td>
<td>Sensitivity 60%, Specificity 92%</td>
</tr>
<tr>
<td>Zung Self-rating Depression Scale</td>
<td>20</td>
<td>5–10</td>
<td>Sensitivity 45–89%, Specificity 77–88%</td>
</tr>
</tbody>
</table>
Edinburgh Postnatal Depression Scale

- Includes anxiety symptoms
- Excludes some constitutional symptoms, such as changes in sleep

In the past 7 days:

1. I have been able to laugh and see the funny side of things
   - As much as I usually do
   - As much as I can
   - Only at times
   - Not at all

2. I have looked forward with enjoyment to things
   - As much as I used to
   - Rather less than I used to
   - Even less than I used to
   - hardly at all

3. I have been able to manage everyday activities
   - Very well
   - Better than usual
   - About as well as usual
   - Not at all

4. I have been anxious about something or worried for no good reason
   - Not at all
   - Not very often
   - Sometimes
   - Very much

5. I have felt scared or panicky for no very good reason
   - Not at all
   - Not very often
   - Sometime
   - Very much

6. Things have been getting on top of me
   - Not at all
   - Not very often
   - Sometimes
   - Very much

7. I have been so unhappy that I have had difficulty sleeping
   - Not at all
   - Not very often
   - Sometimes
   - Very much

8. I have felt sad or inferior
   - Not at all
   - Not very often
   - Sometimes
   - Very much

9. I have been so unhappy that I have been crying
   - Not at all
   - Not very often
   - Sometimes
   - Very much

10. The thought of harming myself has occurred to me
    - Not at all
    - Not very often
    - Sometimes
    - Very much

**SCORING**

QUESTIONS 1, 2, 4 (without an *)
- Are scored 0, 1, 2 or 3 with top box scored as 0 and the bottom box scored as 3.

QUESTIONS 3, 6-10 (marked with an *)
- Are reverse scored, with the top box scored as 3 and the bottom box scored as 0.

Maximum score: 30
Possible Depression: 10 or greater
Always look at Item 10 (suicidal thoughts)

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Beck Depression Inventory

<table>
<thead>
<tr>
<th>Score</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>I am not particularly discouraged about the future.</td>
</tr>
<tr>
<td>1</td>
<td>I feel discouraged about the future.</td>
</tr>
<tr>
<td>2</td>
<td>I feel I have nothing to look forward to.</td>
</tr>
<tr>
<td>3</td>
<td>I feel the future is hopeless and that things cannot improve.</td>
</tr>
</tbody>
</table>

1-10  These ups and downs are considered normal
11-16  Mild mood disturbance
17-20  Borderline clinical depression
21-30  Moderate depression
31-40  Severe depression
over 40 Extreme depression

Treatment

- Women on antidepressants prior to conception:
  - If treatment discontinued, 68% relapsed
  - If treatment continued, 25% relapsed

Treatment Options

- Behavioral and psychotherapy
- Electroconvulsive therapy
- Pharmacologic therapy
Behavioral and Psychotherapy
- Cognitive behavioral therapy is effective in pregnant women
  - Focuses on changing dysfunctional thought patterns
- Less evidence regarding the effectiveness of psychodynamic psychotherapy
  - Focuses on deeper, unconscious motivations.

Electroconvulsive Therapy
- Indicated for severe depression
  - Life-threatening
  - Fails to respond to medical therapy
- Safe and effective
- Requires close monitoring

Pharmacologic Therapy
- Tricyclic antidepressants
  - Neonatal withdrawal, rarely seizures
- Serotonin norepinephrine reuptake inhibitors (SNRIs)
  - Neonatal withdrawal, rarely seizures
- Selective serotonin reuptake inhibitors (SSRIs)
SSRIs and Birth Defects

- No consistent evidence linking most SSRIs with congenital anomalies
  - One exception: paroxetine (Paxil®)
    - Major cardiac anomalies: OR 1.28 (1.11-1.47)
    - Septal defects and right outflow tract anomalies

SSRIs and PPHN

- Persistent pulmonary hypertension of the newborn
  - R-to-L shunting and profound hypoxia
  - Mortality of 10-20%
  - FDA warning in 2006 following study showing 6-fold increase in risk associated with SSRIs

- FDA revised the warning in 2011 after conflicting evidence emerged
  - Most recent study showed an OR of 1.28 (1.01-1.64).
    - Untreated: 25 per 10,000
    - SSRI: 34 per 10,000

Huybrechts et al. 2015 JAMA
SSRIs and Neonatal Adaptation Syndrome

- Transient (< 2 weeks)
- Respiratory abnormalities
- Hypoglycemia
- Jitteriness
- Low Apgar scores
- OR 4.08 (1.2-19.93)
- Comparison groups = unaffected women
- Many women also taking benzodiazepines

Lattimore et al. 2005 Am J Perinatology

SSRIs and Autism

Maternal exposure to anti-depressant SSRIs linked to autism in children

A New Study Raises Old Questions About Antidepressants And Autism

Reports Linking SSRIs With Autism Are Greatly Exaggerated

SSRIs and Autism

Antidepressant Use During Pregnancy and the Risk of Autism Spectrum Disorder in Children

Takoukis Evangelos, MSc; Della Shemy, MSc; Laurent Masse, MD; PhD; Anik Bred, PhD

Published online December 14, 2015.
Autism Study Details

- 145K patients in Canadian registry
- Risk of autism:
  - Any antidepressant: HR 1.87 (1.15-3.04)
  - SSRI: HR 2.17 (1.20-3.93)

Limitations

- Use in 1st trimester or before pregnancy was not associated with autism
- Only continued use in 2nd/3rd trimester was associated with autism
- Are these fundamentally different patient populations?

Limitations

- Autism was defined by diagnosis code
- When autism was confirmed by psychiatrist/neurologist, there was no significant association
- Several other studies have found no significant association
Use of SSRIs in Pregnancy

- Avoid paroxetine
- Discuss treatment benefits and potential risks
- Discuss risks of untreated maternal depression

SSRIs and Lactation

- Significant data indicate SSRIs are compatible with lactation
- Levels in milk are typically <3% of the maternal dose
- Most data support use of sertraline (Zoloft®), the preferred agent

The FDA Pregnancy Categories

- A, B, C, D, X
- Not a continuum of risk
- Removed from labeling as of 2015
- Alternatives?
InfantRisk

- Texas Tech University Healthsciences Center
- App for phone
- Hotline: 1-800-352-2519
- Website: http://www.infantrisk.com
Other Resources

- Reprotox: www.reprotox.org
- LactMed

Summary

- Perinatal depression is a common and devastating condition, if left untreated
- The benefits of treatment typically outweigh the potential risks
- There are multiple resources available to evaluate the safety of medications during pregnancy and lactation