Baby, I’ve got the Blues: Management of Postpartum Depression

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I do not have a vested interest in or affiliation with any corporate organization offering financial support or grant money for this continuing education program, or any affiliation with an organization whose philosophy could potentially bias my presentation.
Objectives

By the end of this presentation, Pharmacists should be able to:

- Discuss prevalence and symptoms of Postpartum Depression (PPD) in women
- Explain pharmacological and non-pharmacological treatments for PPD
- Recall adverse effects, important drug interactions, and patient counseling pearls for patients treated for PPD
- Discuss the role of the Pharmacist in treating patients with PPD
Overview

- Statistics
- Pathophysiology
- Risk Factors
- Presentation
- Complications
- Diagnosis
- Treatment
- Upcoming Research
Patient Case #1

- SM is a 28-year old Caucasian female who gave birth to her first child 5 weeks ago. She presents to the clinic with a 4-week history of “unusual feelings”. She says she was not excited about having a baby. SM says her constant “bad mood” is starting to affect her relationship with her husband.
- SM has had one previous episode of depression in her early 20s, treated with antidepressant and supportive therapy.
Depression occurs in about 15-25% of the general population
Postpartum blues occurs in up to 80% of new mothers
Postpartum depression (PPD) occurs in approximately 10-20% of new mothers
Up to 1 in 7 women may experience PPD
For half of women, this is their first episode of depression
Risk of recurrence with subsequent pregnancies is 25-50%
Half of men will develop depression when their partners have postpartum depression

Types of Depression

- **Major Depressive Disorder (MDD)**
  - Most commonly diagnosed form of depression

- **Persistent depressive disorder (dysthymia)**
  - Low, dark or sad mood that is persistently present for most of the day and on most days, for at least 2 years

- **Premenstrual dysphoric disorder**
  - Symptoms usually begin 7 to 10 days before the start of a menstrual period and continue for the first few days of the period

- **MDD with seasonal pattern**
  - Symptoms of MDD only during a specific time of year, usually winter

- **MDD with psychotic features**
  - Depression plus some form of psychosis
## Postpartum Depression vs Postpartum Blues

<table>
<thead>
<tr>
<th>Feature</th>
<th>Postpartum Depression</th>
<th>Postpartum Blues</th>
</tr>
</thead>
<tbody>
<tr>
<td>Onset</td>
<td>Develops within 1-3 week after delivery</td>
<td>Develop within 2-3 days of delivery</td>
</tr>
<tr>
<td>Cause</td>
<td>Abnormal neurotransmitter levels or activity</td>
<td>Abnormal neurotransmitter levels or activity</td>
</tr>
<tr>
<td>Symptoms</td>
<td>Manifests as more severe symptoms of major depression</td>
<td>Mild depressive symptoms that are generally self-limited</td>
</tr>
<tr>
<td>Resolution</td>
<td>&gt; Than 2 weeks</td>
<td>Within 2 weeks of onset</td>
</tr>
</tbody>
</table>
Which of the following is a part of normal postpartum changes in women?

A. Changes in sleep
B. Changes in energy
C. Changes in appetite
D. A and C
E. All of the above

Answer: E. All of the above
Pathophysiology

**Hormones**
- Decreased levels of estrogen and progesterone may trigger depression
- GABAAR expression is downregulated by the increase in progesterone-derived neurosteroids during pregnancy

**Neurotransmitters**
- Serotonin
- Norepinephrine
- Dopamine
**Objective**
- Determine the association between postpartum health related quality-of-life (HRQoL) and mode of delivery

**Methods**
- Prospective study with 300 women consisting of 150 vaginal deliveries and 150 cesarean sections were recruited between August 2007 and October 2008

**Results**
- Results showed the VD group in comparison to the CS group had a higher score in total physical health ($61.37 \pm 13.05$ and $58.36 \pm 14.09 \ P = 0.05$) and total mental health was ($64.99 \pm 12.44$ and $61.83 \pm 13.58 \ P = 0.036$) respectively

**Conclusion**
- VD leads to a better physical health at 2 months after delivery and mental health at 4 months after delivery

Risk Factors

- Previous depression or anxiety
- Family history of depression
- Stress involved in caring for a newborn
- Having a challenging baby
- Isolation
- Lack of support
- Having a baby with special needs
- First-time motherhood
- Being a very young or older mother
- Financial or employment problems
- Contraceptives
Objective

Analyze the association of postpartum depression with drugs (including contraceptive devices and implants) with spontaneously reported adverse events reported in the US Food and Drug Administration Adverse Event Reporting System database

Methods

Retrospective study of reports of postpartum depression events between 2004–2015

Results

The reporting odds ratios of levonorgestrel, etonogestrel, sertraline and drospirenone were 12.5 (8.7–18.0), 14.0 (8.5–22.8), 12.2 (6.5–23.1) and 5.4 (2.7–10.9) respectively

Conclusion

Use of contraceptives or an intrauterine device with progestogen might convey risk for postpartum depression
Postpartum blues occurs in what percentage of new mothers?

A. 70%
B. 75%
C. 80%
D. 85%
E. 90%
Clinical Presentation

- Loss of interest/pleasure
- Change in appetite
- Anxiety
- Disorganized thoughts
- Feeling guilty or worthless
- Mood swings
- Sadness

- Fear of not being a good mother
- Fear of being left alone with the baby
- Change in sleep
- Thoughts of hurting one’s self or the baby
What To Look For

- Missed appointments
- Excessive worrying
- Disheveled appearance
- Appearing unusually fatigued
- Major loss or gain of weight
- Problems with breastfeeding

- Problems handling the newborn
- Mood is angry, irritable, or affect is flattened
- Missing important cues with the baby
- Holding the baby in a mechanical manner
- Appears awkward with the baby
What To Ask

- How are you doing?
- Do you have any particular concerns?
- How are you sleeping? How much?
- Have you had any strange thoughts?
- Are you getting help at home? With the baby? Housework?
- How is the breastfeeding/bottle feeding going?
- Did you begin menstruating yet?
- How is your appetite?
- How much caffeine are you drinking?
- How are you feeling about motherhood in general?
- Have you been having mood swings?
Warning Signs in the Baby

- Irritable, fussy
- Inappropriate weight for age (too much, too little)
- Problems breastfeeding/bottle feeding
- Does not respond well to social contact

- Does not respond appropriately to the mother
- Poor visual contact with mother or others
- Weak communication
- Older child—delayed cognitive or verbal skills
Health Disparities

- Health insurance coverage
- Financial hardship
- Access to healthcare services
- Transportation assistance
- Availability of on-site childcare
- Availability of services in an obstetric setting
- Shared decision making with HCPs
Cultural Contributors

- Perception of the illness as a personal weakness
- Unwillingness to disclose negative feelings to friends, families, or healthcare providers
- Fear of being separated from one’s child or children because of mental instability
- Stigma
- Lack of support
Adverse Consequences
Impact on Breastfeeding

- Mothers with postpartum depression have reduced odds of continuing breastfeeding.

- Breast milk vs. formula:
  - Formula can be harder to digest than breast milk
  - Breast milk changes according to baby’s need
  - Breastfeeding keeps mother and baby close
  - Cost of formula is greater
Benefits of Breastfeeding

- Benefits of breastfeeding for the baby:
  - Lower risk of developing:
    - Asthma
    - Obesity
    - Ear infections
    - Diarrhea and vomiting
    - Sudden infant death syndrome (SIDS)
    - Type 2 diabetes
    - Eczema

- Benefits of breastfeeding for the mother:
  - Helps mother heal after birth
  - May help with weight loss
  - Lower risk of:
    - Type 2 diabetes
    - Certain breast cancers
    - Ovarian cancer
Effect on Parent-Child Interaction

- Postpartum depression can interfere with maternal-infant bonding
- Studies have shown that parents are more engaged with their children when neither parent has depressive symptoms
  - Mothers with depressive symptoms were less likely to:
    - Read to their child
    - Tell stories
    - Sing songs
    - Play peekaboo
  - Fathers with depressive symptoms were less likely to:
    - Play outside
    - Sing songs
Effects of PPD on Parenting Behavior

Objective
- Examine the effects of maternal and paternal depression on parenting behaviors

Methods
- Data from the first wave of the Early Childhood Longitudinal Study (ECLS)-Birth Cohort was examined. The ECLS-B is a multisource, multimethod study, conducted by the National Center for Education Statistics

Results
- Mothers were least likely to read to their child ($\chi^2 [3] = 19.06; P < .001$), tell stories ($\chi^2 [3] = 15.45; P < .01$), or sing songs ($\chi^2 [3] = 6.50; P < .10$) when either they or the child's father (but not both) was depressed. Fathers were most likely to play outside with their children when neither parent was depressed and least likely to do so when both parents were depressed ($\chi^2 [3] = 8.94; P < .05$)

Conclusion
- PPD is associated with undesirable parent health behaviors and fewer positive parent-infant interactions

Effect on Parent-Child Interaction Continued

Positive aspects of early childhood reading:
- Teaches communication
- Introduces numerous concepts
  - Numbers
  - Letters
  - Colors
  - Shapes

Builds listening, memory, and vocabulary skills
- Gives information about surroundings
- Helps develop early literacy skills
  - Name writing
  - Early reading skills
  - Sound awareness
Impact of Early Childhood Reading

Objective
- Examine the relationships between age of onset and frequency of reading to infants and toddlers and early literacy and language development

Methods
- Meta-analysis; studies used were a result of more than 20 literacy and language search terms to identify studies with outcomes of interest

Results
- The average weighted effect size between age of onset of shared reading and the outcomes was 0.24 (95% CI = 0.21 – 0.28) and the average weighted effect size for the frequency of reading and the outcomes was 0.10 (95% CI = 0.08 – 0.12)

Conclusion
- Age of onset of reading to very young children was associated with differences early literacy and language development

Impact of PPD on Infant Sleep

**Impaired Infant Sleep**

- Putting the infant to sleep in a prone position
  - Correct position is the supine position
- Infant being nursed to bed
  - Frequent night wakings are usually the result of inappropriate sleep associations (e.g. rocking, nursing)
- Infant sleeping in the parent’s bed
  - Bed sharing is shown to increase SIDS risk
- Not putting the infant to sleep awake
  - Will help the baby develop sleep associations that don’t rely on the parent for comfort
Impact of PPD on Child Healthcare

▶ Age appropriate well-child visits
  ▶ Infants and children of depressed mothers were less likely to:
    ▶ Receive age-appropriate well-child visits
    ▶ Receive age-appropriate vaccinations
  ▶ Infants and children of depressed mothers were more likely to:
    ▶ Have had ED visits and hospitalizations (3.2%)
    ▶ Have increased odds of sustaining injuries

Suicide is the leading cause of death in postnatal women
  - Incidence of suicide is lower than the rate of suicide in the general population of women (6%)
  - Suicidal ideation occurs in about 3% of postnatal women

Thoughts about harming the baby (infanticide) is rare
  - Occurs in approximately 2-7 per 100,000 infants
  - These thoughts are usually not revealed unless the patient is questioned directly about them
  - More likely to occur in women who are psychotic or have a previous psychiatric history
  - Mothers who harm their infants often try to harm themselves also
Which of the following may be a consequence of postpartum depression?

A. Reduced odds of breastfeeding
B. Reduced engagement with the infant
C. Reduced child healthcare visits
D. A and C
E. All of the above
Assessment and Screening
Assessment and Screening

- ALL postpartum women should be screened for depression
- Women should be screened at least once, about 3 weeks after delivery
- The most widely used tool for screening depression in postpartum women is the **Edinburgh Postnatal Depression Scale (EPDS)**
  - An alternative is the Patient Health Questionnaire
- Assessments should address current and past suicidal ideation and psychosis
- Assessment should focus on
  - Dysphoria
  - Anhedonia
  - Feelings of worthlessness/excessive guilt
  - Impaired concentration
  - Suicidal ideation and behavior
Edinburgh Postnatal Depression Scale (EPDS)

- Developed for screening women for PPD during:
  - Outpatient or home visit settings
  - At the 6-8 week postpartum examination
- Consists of 10 questions
- Can be completed in less than 5 minutes
- Responses scored from 0-3 according to severity of the symptom
- Items marked with (*) are reverse scored
- Women scoring 9 or higher should be referred for follow-up
Edinburgh Postnatal Depression Scale\(^1\) (EPDS)

Name: ___________________________  Address: ___________________________

Your Date of Birth: ___________________________  Phone: ___________________________

Baby’s Date of Birth: ___________________________  Phone: ___________________________

As you are pregnant or have recently had a baby, we would like to know how you are feeling. Please check the answer that comes closest to how you have felt IN THE PAST 7 DAYS, not just how you feel today.

Here is an example, already completed.

I have felt happy:

☐ Yes, all the time
☒ Yes, most of the time  This would mean: “I have felt happy most of the time” during the past week.
☐ No, not very often
☐ No, not at all

In the past 7 days:

1. 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

2. 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

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

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

5. I have felt scared or panicly for no very good reason
   ☜ Yes, quite a lot
   ☠ Yes, sometimes
   ☠ No, not much
   ☠ No, not at all

6. 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

7. 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

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

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

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

Administered/Reviewed by ___________________________  Date ___________________________
Diagnosis
Differential Diagnosis

- **Normal Postpartum Changes** – changes in sleep, energy, appetite
- **Postpartum Blues ("Baby Blues")** – a transient mood disturbance that occurs 3-5 days after childbirth
- **Postpartum Depression** - an episode of major depressive disorder that occurs in the postpartum period
- **Postpartum Psychosis** - acute, psychotic episode occurring within the first 2 weeks after birth
- **Bipolar Depression** – history of hypomania and/or mania
The diagnostic criteria for postpartum depression and major depressive disorder are the same:
- Patients are diagnosed with the specifier “with peripartum onset”
- Peripartum onset: onset of symptoms occurs during pregnancy or within 4 weeks after delivery
- According to the World Health Organization (WHO), onset occurs within 6 weeks after delivery
- Postpartum depression is defined as beginning within the period of 12 months after birth
According to the DSM-5

Major depressive disorder is “characterized by discrete episodes of at least 2 weeks' duration (although most episodes last considerably longer) involving clear-cut changes in affect, cognition, and neurovegetative functions and inter-episode remissions.”
Five (or more) of the following symptoms have been present during the same 2-week period and represent a change from previous functioning: at least one of the symptoms is either (1) depressed mood or (2) loss of interest or pleasure:

- Depressed mood
- Decreased interest/pleasure
- Significant weight loss/gain
- Insomnia/hypersomnia
- Psychomotor retardation or agitation
- Fatigue
- Guilt/feelings of worthlessness
- Decreased concentration
- Recurrent suicidal thoughts
The symptoms cause clinically significant distress or impairment in social, occupational, or other important areas of functioning.

The episode is not attributable to the physiological effects of a substance or to another medical condition.

The occurrence of the major depressive episode is not better explained by schizoaffective disorder, schizophrenia, schizophreniform disorder, delusional disorder, or other specified and unspecified schizophrenia spectrum and other psychotic disorders.

There has never been a manic episode or a hypomanic episode.
Mild: Few, if any symptoms in excess of those required to make the diagnosis are present, the intensity of the symptoms is distressing but manageable, and the symptoms result in minor impairment in social or occupational functioning.

Moderate: The number of symptoms, intensity of symptoms, and/or functional impairment are between those specified for "mild" and "severe."

Severe: The number of symptoms is substantially in excess of that required to make the diagnosis, the intensity of symptoms is seriously distressing and unmanageable, and the symptoms markedly interfere with social and occupational functioning.
SM is a 28-year old Caucasian female who gave birth to her first child 5 weeks ago. She presents to the clinic with a 4-week history of “unusual feelings”. She says she was not excited about having a baby. SM says her constant “bad mood” is starting to affect her relationship with her husband.

SM has had one previous episode of depression in her early 20s, treated with antidepressant and supportive therapy.
SM further describes that she has been feeling anxious, fatigued, has had poor concentration, headaches, crying episodes, insomnia, and decreased appetite.

She denies any suicidal ideas or symptoms of mania or psychosis.

There is no evidence of the misuse of alcohol, medication, or illicit drugs.
Which symptoms of PPD does SM have?

A. Fatigue
B. Insomnia
C. Decreased appetite
D. A and C
E. All of the above
What are the risk factors for this patient developing postpartum depression?

A. Family history of a mood disorder
B. Previous history of depression
C. Depressive symptoms during pregnancy
D. A and C
E. All of the above
Patient Case #2

- WV is a 30-year old African American female who gave birth to her second child 7 weeks ago. She presents to the clinic with her newborn for a newborn visit and f/u visit for herself. The nurse asks her how being a mom to a newborn again is going. She seems hesitant at first but confides in the nurse that she has several concerns about how she has been feeling lately. She says she was not excited about having this baby. She says she has not been having “normal” feelings towards her baby.
- WV does not have any previous history of any psychiatric conditions or treatment.
Treatment
Goals of Therapy

- Significantly reduce symptoms of depression so they no longer interfere with daily activities and nurturing of the infant/child
- Reduce family conflict and establish positive relationships with the family/partner
- Improve parent interaction with the infant/child
- Increase parent understanding of proper techniques for infant sleep, breastfeeding, and interaction
- Establish and maintain remission of postpartum depression
Psychotherapeutic Treatments
Psychotherapeutic Treatments

▶ **Cognitive Behavioral Therapy (CBT)**
  ▶ Based on the notion that perceptions and behaviors are linked to mood
  ▶ Patient modifies pattern of negative thinking by making behavioral changes that help to cope and reduce stress

▶ **Interpersonal Therapy (IPT)**
  ▶ Time-limited and problem-focus therapy

▶ **Electroconvulsive Therapy (ECT)**
  ▶ Small electric current passed through brain

▶ **Nondirective counseling**
  ▶ Empathetic and nonjudgmental listening and support

▶ **Peer and partner support**
  ▶ Aimed at increasing social support
Psychological Treatment

- **Objective**
  - Assess the efficacy of psychological therapies for postnatal depression in primary care

- **Methods**
  - Meta-analysis of psychological treatments of PPD, identified articles published in English between 2000 and 2014 that reported studies meeting eligibility criteria

- **Results**
  - Psychological interventions resulted in lower depressive symptomatology than control both immediately after treatment (standardized mean difference = −0.38; 95% CI, −0.49 to −0.27) and at 6 months of follow-up (standardized mean difference =−0.21; 95% CI, −0.37 to −0.05)

- **Conclusion**
  - Psychological interventions deliverable in the primary care setting are associated with a significant improvement in depressive symptomatology both immediately after completion and for up to 6 months of follow-up
Medications for the Treatment of PPD

- **Selective Serotonin Reuptake Inhibitors**
  - Fluoxetine (Prozac®)
  - Sertraline (Zoloft®)
  - Paroxetine (Paxil®)
  - Citalopram (Celexa®)
  - Escitalopram (Lexapro®)

- **Serotonin Norepinephrine Reuptake Inhibitors**
  - Duloxetine (Cymbalta®)
  - Venlafaxine (Effexor® XR)
  - Desvenlafaxine (Pristiq®)

- **Tricyclic Antidepressants**
  - Amitriptyline (Elavil®)
  - Desipramine (Norpramin®)
  - Nortriptyline (Pamelor®)
  - Imipramine (Tofranil®)

- **Miscellaneous Antidepressants**
  - Bupropion (Wellbutrin®)
  - Mirtazapine (Remeron®)
  - Trazodone (Desyrel®)
  - Nefazodone (Serzone®)
General Counseling Points for PPD

- Advise patients about medications that could potentially worsen depression
  - Antihypertensives, hormones, steroids, antiretrovirals
- Inform patients to take medications exactly as prescribed
- Advise patients that it may take 1-2 weeks to feel a benefit from this drug and 6-8 weeks to feel the full effect on their mood
- Instruct patients to continue to take their medication even if they feel well and to not stop taking the medication without consulting their healthcare provider first
Treatment Selection

- For postpartum patients who were treated with antidepressants during pregnancy and until delivery:
  - Continue to take the same medication and dose that was prescribed before delivery
  - Monitor closely for adverse effects

- For patients who start pharmacotherapy after delivery:
  - Medication doses are similar to those used in the general population of patients with depression
  - Patients may be started on lower doses if they are concerned about adverse effects

- Monotherapy at higher doses is preferred over medication combinations at lower doses

- Patients who are breastfeeding should take their antidepressant immediately after nursing their babies
Choosing an Antidepressant

- Patients treated prior to their pregnancies with pharmacotherapy generally resume the same regimen if it is compatible with breastfeeding.
- For patients treated with antidepressants during pregnancy, it is preferred to use the same medication while breastfeeding.
- For patients with severe major depression who are breastfeeding and have not been treated with antidepressants in the past, SSRIs are suggested.
- Among SSRIs, paroxetine or sertraline is generally chosen for initial treatment because adverse effects in infants appear to be low.
Choosing an Antidepressant Continued

- For lactating women resistant to initial treatment, switch antidepressants rather than adding a second drug.
- For lactating women with a partial response to initial treatment, add a second drug.
- For patients refractory to multiple sequential medication trials, suggest electroconvulsive therapy (ECT).
- For breastfeeding patients with PPD that includes anxiety, monotherapy with an antidepressant drug is preferred over the combination of a benzodiazepine.
- Initial and next step treatment of severe unipolar major depression in postpartum patients who are not breastfeeding is similar to treatment in the general population of patients with severe depression.
Risks of Pharmacological Treatment During Pregnancy

**SSRIs**
- Decreased birth weight
- Decreased length of gestation
- Lower Apgar scores
- Poor neonatal adaptation
- Constant crying
- Disruption of feeding and sleeping

**SNRIs**
- Increased risk of pre-term birth
- Preeclampsia

**TCAs**
- Increased risk of pre-term birth
- Increased risk of low birth weight
- Increased risk of respiratory distress

**Miscellaneous Antidepressants**
- Bupropion
  - Associated with cardiac anomalies and spontaneous abortions
- Mirtazapine
  - Possible risk of increased preterm birth and poor neonatal adaptation syndrome
- Trazodone/Nefazodone
  - Risks comparable to drugs that are considered nonteratogenic
Selective Serotonin Reuptake Inhibitors (SSRIs)

- **Black Box Warning (BBW):** Antidepressants may increase the risk of suicidal thinking and behavior in children, adolescents, and young adults.
- All SSRIs have the potential to cause sexual dysfunction and reduce libido.
- Instruct patients to report symptoms of serotonin syndrome.
- Advise patients that improvement may not be seen for 6-8 weeks.
- Advise patients against sudden discontinuation of drug.
- Warn patients about the increased bleeding risk with certain medications.
- Peripartum exposure has been associated with temporary neonatal withdrawal symptoms.
  - Symptoms are transient and usually resolve within two weeks after birth.
- **Adverse Effects**
  - Constipation, diaphoresis, nausea, xerostomia, insomnia, diarrhea.
## Selective Serotonin Reuptake Inhibitors (SSRIs) Continued

### MOA: Potentiates serotonergic activity in the central nervous system (CNS)

<table>
<thead>
<tr>
<th>Drug Name</th>
<th>Starting Dose</th>
<th>Usual Treatment Dose</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Citalopram</td>
<td>10 mg once daily</td>
<td>20-40 mg once daily</td>
<td>Undetectable to very low levels in infant plasma</td>
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<tr>
<td>(Celexa®)</td>
<td></td>
<td></td>
<td>Sleep disorder, irritability, neurodevelopmental delay</td>
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<tr>
<td>Escitalopram</td>
<td>5 mg once daily</td>
<td>10-20 mg once daily</td>
<td>Undetectable to very low levels in infant plasma</td>
</tr>
<tr>
<td>(Lexapro®)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fluoxetine</td>
<td>10 mg once daily</td>
<td>20-40 mg once daily</td>
<td>Highest infant plasma levels</td>
</tr>
<tr>
<td>(Prozac®)</td>
<td></td>
<td></td>
<td>Decreased postnatal growth, sleep disorders, colic, irritability, fever,</td>
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<td></td>
<td></td>
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<td>emesis, watery stool, and possible seizure</td>
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<tr>
<td>Sertraline</td>
<td>25 mg once daily</td>
<td>50-100 mg once daily</td>
<td>Undetectable in infant plasma levels</td>
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<tr>
<td>(Zoloft®)</td>
<td></td>
<td></td>
<td>Not associated with adverse effects in breastfeeding infants</td>
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<td></td>
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<tr>
<td>Paroxetine</td>
<td>20 mg once daily</td>
<td>40-50 mg once daily</td>
<td>Undetectable in infant plasma levels</td>
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<tr>
<td>(Paxil®)</td>
<td></td>
<td></td>
<td>Irritability, lethargy, poor weight gain, and hypotonia</td>
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<td></td>
<td></td>
<td></td>
<td>Pregnancy Category: (D)</td>
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Objective

- Compare the effect of sertraline to placebo for the treatment of postpartum depression

Methods

- Single-center, 6-week, randomized double-blind placebo-controlled trial of sertraline; participants were women with depression onset within 3 months of delivery and were prescribed sertraline 50 mg or placebo daily to a maximum of 200 mg/day

Results

- For the primary analysis of responder status, a significantly greater number of responders among women randomized to sertraline (59%, 10/17) vs. those randomized to placebo (26%, 5/19) ($\chi^2 (1)=3.9$, $p=0.05$) was seen

Conclusion

- Women who are treated with sertraline for postpartum depression are more likely to see remission

Objective

To determine the influence of SSRI antidepressant therapy and psychosocial and therapeutic interventions on depression during pregnancy.

Methods

40 patients were examined by using the scales for assessment of depression and anxiety, HAMD rating scale for the severity of depression, and HAMA rating scale for severity of anxiety; patients were evaluated at the beginning of the treatment and 3 months after antidepressant treatment.

Results

A larger number of mothers treated with antidepressant medications, had normal childbirth with the unremarkable condition of both, the mother and the newborn baby.

Conclusion

Well-combined treatment of maternal depression during pregnancy reduces the risk of postpartum depression.

Serotonin-Norepinephrine Reuptake Inhibitors (SNRIs)

- **Black Box Warning (BBW):** Antidepressants may increase the risk of suicidal thinking and behavior in children, adolescents, and young adults.
- All SNRIs have the potential to cause sexual dysfunction and reduce libido.
- Instruct patients to report symptoms of serotonin syndrome.
- Advise patients that improvement may not be seen for 6-8 weeks.
- Advise patients against sudden discontinuation of drug.
- Warn patients about the increased bleeding risk with certain medications.
- Peripartum exposure has been associated with temporary neonatal withdrawal symptoms.
  - Symptoms are transient and usually resolve within two weeks after birth.
- **Adverse Effects**
  - Diaphoresis, increased cholesterol, increased triglycerides, constipation, xerostomia, nausea, dizziness, insomnia, hypertension, headache.
<table>
<thead>
<tr>
<th>Drug Name</th>
<th>Starting Dose</th>
<th>Usual Treatment Dose</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Desvenlafaxine (Pristiq®)</td>
<td>50 mg once daily</td>
<td>50 mg once daily</td>
<td>No acute adverse events</td>
</tr>
<tr>
<td>Duloxetine (Cymbalta®)</td>
<td>20 mg once daily</td>
<td>30-60 mg once daily</td>
<td>Undetectable in infant plasma levels No acute adverse events</td>
</tr>
<tr>
<td>Venlafaxine (Effexor® XR)</td>
<td>37.5 mg once daily</td>
<td>75-225 mg once daily</td>
<td>Highest infant plasma levels No acute adverse effects</td>
</tr>
</tbody>
</table>
Increased Risk of Postpartum Hemorrhage in Relation with Serotonergic Drugs

Objective
- Explore the possible association between postpartum hemorrhage and serotonergic drugs

Methods
- Matched cohort observational study consecutively including all pregnant women using serotonergic medication

Results
- Postpartum hemorrhage occurred in 9.7% of women using serotonergic medicines, p value=0.01

Conclusion
- Pregnant women who use serotonergic medicines have an increased risk of postpartum hemorrhage
Tricyclic Antidepressants

- **Black Box Warning (BBW):** Antidepressants may increase the risk of suicidal thinking and behavior in children, adolescents, and young adults.
- Instruct patients to report symptoms of serotonin syndrome.
- Advise patients that improvement may not be seen for 6-8 weeks.
- Advise patients against sudden discontinuation of drug.
- Instruct patients to report any symptoms of cardiac arrhythmias.
- Inform patients that these drugs may cause anticholinergic side effects.
- Peripartum exposure to has been associated with temporary neonatal withdrawal symptoms.
  - Symptoms are transient and usually resolve within two weeks after birth.
- **Adverse Effects**
  - Weight gain, constipation, xerostomia, headache, somnolence, blurred vision, dizziness, urinary retention, fatigue.
### Tricyclic Antidepressants Continued

**MOA:** Block the absorption of serotonin and norepinephrine in adrenergic neurons

<table>
<thead>
<tr>
<th>Drug Name</th>
<th>Starting Dose</th>
<th>Usual Treatment Dose</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amitriptyline (Elavil®)</td>
<td>25-75 mg/day</td>
<td>100-200 mg/day</td>
<td>Generally not associated with adverse effects</td>
</tr>
<tr>
<td>Desipramine (Norpramin®)</td>
<td>25-75 mg/day</td>
<td>150-200 mg/day</td>
<td>Generally not associated with adverse effects Preferred, due to fewer cardiac, sedative, and gastrointestinal side effects in the fetus</td>
</tr>
<tr>
<td>Nortriptyline (Pamelor®)</td>
<td>25 mg/day</td>
<td>75-100 mg/day</td>
<td>Generally not associated with adverse effects Preferred, due to fewer cardiac, sedative, and gastrointestinal side effects in the fetus</td>
</tr>
<tr>
<td>Imipramine (Tofranil®)</td>
<td>25-75 mg/day</td>
<td>150-200 mg/day</td>
<td>Generally not associated with adverse effects</td>
</tr>
</tbody>
</table>
## Miscellaneous Antidepressants

<table>
<thead>
<tr>
<th>Drug Name</th>
<th>Starting Dose</th>
<th>Usual Treatment Dose</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bupropion (Wellbutrin® SR)</td>
<td>150 mg/day</td>
<td>200-400 mg/day</td>
<td>Undetectable in infant plasma levels Seizure, emesis Inconclusive data regarding congenital malformations Pregnancy Category: C</td>
</tr>
<tr>
<td>Mirtazapine (Remeron®)</td>
<td>15 mg/day</td>
<td>15-45 mg/day</td>
<td>Sedation, increased weight</td>
</tr>
<tr>
<td>Trazodone (Desyrel®)</td>
<td>150 mg/day</td>
<td>200-400 mg/day</td>
<td>No acute adverse events Pregnancy outcomes similar to unexposed pregnancies</td>
</tr>
<tr>
<td>Nefazodone (Serzone®)</td>
<td>200 mg/day</td>
<td>300-600 mg/day</td>
<td>No acute adverse events Contraindicated during lactation</td>
</tr>
</tbody>
</table>
Treatment of Mild-Moderate PPD

Initial Treatments
- Psychotherapy
  - Cognitive-behavioral therapy (CBT)
  - Interpersonal psychotherapy
  - Behavioral activation

Alternative Treatments
- SSRIs
- SNRIs
- Bupropion
- Mirtazapine
Treatment of Severe PPD

- **Initial Treatments**
  - SNRIs
  - SSRIs

- **Alternative Treatments**
  - Mirtazapine
  - TCAs
Potential Consequences of Untreated Depression During Pregnancy and PPD

- Infant growth effects
  - Delivery of low birth weight (LBW) or small for gestational age (SGA)
- Preterm deliveries (PTD)
- Increased risk for irritability, less activity and attentiveness, and fewer facial expressions
- Developmental delay
- Higher risk of developing postpartum depression and suicidality
- More likely to engage in high-risk health behavior
- Gestational hypertension and subsequent preeclampsia
- Worsening of the depression itself
Objective
- Investigate the antidepressant efficacy of estrogen given transdermally

Methods
- Double-blind, placebo-controlled study, 61 women with major depression, which began within 3 months of childbirth and persisted for up to 18 months postnatally, were allocated randomly to receive active treatment or placebo

Results
- The average HAM anxiety score in patients on day 1 was 36.0 ± 5.2 (severe anxiety), and after 3 months the score reduced to 22.2 ± 3.3 (moderate). The difference was 13.8 units (p = 0.00000)

Conclusion
- Transdermal estrogen is an effective treatment for postnatal depression. Further studies are required to establish the minimum effective dose and shortest necessary duration of treatment
Counseling points for a patient starting an antidepressant include which of the following?

A. “Take your medication exactly as prescribed.”
B. “You may stop taking the medication as soon as you feel better.”
C. “It may take 6-8 weeks to feel the full effect of the medication.”
D. A and C
E. All of the above
Patient Case #2

- WV is a 30-year old African American female who gave birth to her second child 7 weeks ago. She presents to the local health department with her newborn for a newborn visit and f/u visit for herself. The nurse asks her how being a mom to a newborn again is going. She seems hesitant at first but confides in the nurse has not been having “normal” feelings towards her baby.
- WV does not have any previous history of any psychiatric conditions or treatment.
患者案例 #2 继续

- WV 对与护士谈论她的感受感到非常不舒服。她说她和母亲谈过这个问题，母亲说她应该为有个健康的宝宝而感恩，而且她的感觉是正常的，会随着时间慢慢消失。
- 她否认有自杀意念或躁狂或精神病的症状。
- 没有证据表明她滥用酒精、药物或非法药物。
Which of the following may prevent WV from seeking treatment for her postpartum depression?

A. Lack of Access/Insurance
B. Family support
C. Stigma
D. A and C
E. All of the above
Which of the following can be used to treat WV’s postpartum depression?

A. Paroxetine 20 mg PO QD
B. Venlafaxine XR 37.5 mg PO QD
C. Sertraline 25 mg PO QD
D. A and C
E. All of the above

Correct answer: E. All of the above
Treatment Approaches with Complementary/Alternative Treatments
Complementary/Alternative Treatments

- **Omega-3 Fatty Acids**
  - Specific attention in the treatment of perinatal depression
  - Known health benefits of these compounds for pregnant and postpartum women
  - Key building blocks for the development of a baby’s central nervous system while in utero

- **Massage**
  - Used as adjunctive treatment in pregnancy for nausea, pain, breech presentation and induction of labor
  - Multiple benefits for the infants in the massage group, though there was no measure of effects on maternal depression

- **Exercise**
  - Moderate-intensity activities for at least 30 minutes per day, five days of the week, including walking in the form of “pram pushing”
New Therapy on the Rise

**Brexanolone**
- Novel product developed by for the treatment of PPD
- MOA: positive allosteric modulator of γ-aminobutyric-acid type A (GABA A) receptors
- Intravenous formulation of the steroid hormone allopregnanolone
- Provides a rapid, statistically significant, clinically meaningful, and stable reduction in depressive symptoms with a single **60-hour infusion**
- The calculated maximum relative infant dose (RID) for brexanolone in breastmilk is 1.3% of the mother’s dose
- Currently in phase 3 of research
- Adverse Effects: headache, dizziness, and drowsiness
Objective
  Investigate brexanolone for the treatment of post-partum depression

Methods
  Double-blind, randomized, placebo-controlled trial; consisted of 21 patients, 10 of whom were in the brexanolone arm

Results
  Mean reduction in HAM-D total score from baseline was 21.0 points (SE 2.9) in the brexanolone group compared with 8.8 points (SE 2.8) in the placebo group (difference -12.2, 95% CI -20.77 to -3.67; p=0.0075; effect size 1.2)

Conclusion
  In severe post-partum depression, infusion of brexanolone resulted in a significant and clinically meaningful reduction in HAM-D total score and this supports the rationale for targeting GABA-A receptors in the development of therapies for patients with post-partum depression

Which of the following alternative therapies can be used to treat postpartum depression?

A. Exercise
B. Massage
C. Omega-3
D. A and C
E. All of the above
Which of the following is/are appropriate counseling(s) points a pharmacist should relay to a patient picking up a new prescription for sertraline?

A. “Common side effects include constipation, nausea, and dry mouth.”

B. “This medication will help you feel better immediately.”

C. “Do not abruptly stop this medication.”

D. A and C

E. All of the above
Resources for Patients with Psychiatric Illnesses

National Resources

- The National Alliance on Mental Illness (NAMI) Helpline: (800) 950-6264 or text NAMI to 741741
- Substance Abuse and Mental Health Services Administration (SAMHSA): (800) 662-4357
- Crisis Text Line: Text DBSA to 741741
- National Hopeline Network: 1-800-442-4673

Local Resources

- 2-1-1 Big Bend: call 211 or 850-617-3333 or callers can text their zip code to 898211
- Depression and Bipolar Support Alliance (DBSA): 850-875-1556
- Postpartum Depression Support: Online support at http://www/ppdsupportpage.com or the http://www.postpartum.net/ or call 850-491-5807 or 850-583-6814
- NAMI-Tallahassee: 850-841-3386
Role of the Pharmacist

- Distinguish between the signs of PPD and the normal mood fluctuations women experience postpartum
- Recognize symptoms that may warrant referral to their physician
- Counsel women starting a new medication for PPD
- Suggest solutions for when patients have bothersome side effects
- Monitor drug regimen for efficacy and side effects
- Counsel on medication timing and side effects
PPD is a medical condition that needs treatment to improve symptoms
PPD does not have a single cause
PPD is not the same as the “baby blues”
Without treatment, postpartum depression can last for months or years
Family members and friends may be the first to recognize symptoms of postpartum depression
Treatment depends on the nature and severity of the postpartum depression
Questions

- Thank you!!
- Mikhail.tolbert@famu.edu