The Tipping Point

Balancing Motherhood and Mental Health

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The vision of the “baby experience” ahead
Sometimes realty looks very different
Click this link to view one mother’s story.

New York Times 6-16-2014

Alone, afraid, vulnerable
At other times, the hours seem so full that the tasks ahead become overwhelming.
Objectives for today

1. Describe the benefits of breastfeeding
2. Describe the benefits of breastfeeding for the mother experiencing depression
3. Describe the physiology of optimal milk production and risk factors that impact supply
4. Identify the boundaries of clinical management that can be used to preserve the breastfeeding relationship.
Preserving mental health

Preserving the breastfeeding relationship

Understanding the details of each area allows the intuitive provider to help a mother balance the two.
## Timing of the Baby Blues, Postpartum Depression, and Postpartum Psychosis

<table>
<thead>
<tr>
<th></th>
<th>Baby Blues</th>
<th>PPD</th>
<th>Postpartum Psychosis</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Prevalence</strong></td>
<td>40-80%</td>
<td>10-15%</td>
<td>0.2%</td>
</tr>
<tr>
<td><strong>Onset</strong></td>
<td>2-3 days</td>
<td>Onset within first month postpartum</td>
<td>Onset within 2-4 week postpartum</td>
</tr>
<tr>
<td><strong>Duration</strong></td>
<td>Lasts less than 10 days</td>
<td>&gt;2 weeks to months</td>
<td>&gt;4 day to months</td>
</tr>
<tr>
<td><strong>Suicide Ideation</strong></td>
<td>Not present</td>
<td>May be present</td>
<td>Present</td>
</tr>
</tbody>
</table>

http://www.medicinenet.com/postpartum_depression/article.htm
## Differential Diagnosis

<table>
<thead>
<tr>
<th>Baby Blues</th>
<th>PPD</th>
<th>Postpartum Psychosis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Feeling overwhelmed</td>
<td>Poor Sleep</td>
<td>Delusional: (eg baby is defective or dying, infant is Satan or God)</td>
</tr>
<tr>
<td>Anxiety</td>
<td>Depressed mood</td>
<td>Auditory hallucinations that instruct her to harm herself or her infant</td>
</tr>
<tr>
<td>Mood labiality</td>
<td>Anhedonia (inability to experience joy or pleasure in activities usually found enjoyable)</td>
<td>Agitation</td>
</tr>
<tr>
<td>Depressed mood</td>
<td>Weight change (loss or gain)</td>
<td>Unusual thoughts or behaviors</td>
</tr>
<tr>
<td>Irritability</td>
<td>Feeling of guilt or worthlessness</td>
<td>Hallucinations</td>
</tr>
<tr>
<td>Difficulty sleeping but tired</td>
<td>Anxiety</td>
<td>Hyper-sexuality</td>
</tr>
<tr>
<td></td>
<td>Difficulty sleeping but tired</td>
<td>Confusion/disorientation</td>
</tr>
<tr>
<td></td>
<td>Suicidal/infanticidal thoughts</td>
<td></td>
</tr>
</tbody>
</table>

- **Postpartum Psychosis:**
  - Delusional: (eg baby is defective or dying, infant is Satan or God)
  - Auditory hallucinations that instruct her to harm herself or her infant
  - Agitation
  - Unusual thoughts or behaviors
  - Hallucinations
  - Hyper-sexuality
  - Confusion/disorientation
Demographics of Perinatal Mood Disorders

• Incidence of depression: 15%
• Increased with history of prior depression: 25-50%
• Risk factors:
  Poor social support
  Major stress factors during pregnancy
  Family history of depression
  Gestational diabetes
  Gestational depression
Demographics of PPD

• Large scale study: 10,000 women who delivered at a single hospital
• 14% screened positive for depression
• 826 received full psychiatric assessments
  – 19.3 % considered harming themselves
  – 30 % had depression onset during pregnancy
  – 40 % during postpartum
  – 2/3rds also had an anxiety disorder

Psychotherapies

- **Psychotherapy** ("talk therapy") involves working with a trained therapist to figure out ways to solve problems and cope with all forms of depression, including postpartum depression.
- It can be a powerful intervention, even producing positive biochemical changes in the brain.
- This is particularly important as an alternative to medication treatment while women are breastfeeding. In general, these therapies take weeks to months to complete.
- More intense psychotherapy may be needed for longer when treating very severe depression or for depression with other psychiatric symptoms.
Interpersonal therapy (IPT): This helps to alleviate depressive symptoms and helps the person with PPD develop more effective skills for coping with social and interpersonal relationships. **IPT employs two strategies to achieve these goals.**

The first is **education about the nature of depression**. The therapist will emphasize that depression is a common illness and that most people can expect to get better with treatment.

The second is **defining specific problems (such as child care pressures or interpersonal conflicts)**. After the problems are defined, the therapist is able to help set realistic goals for solving these problems. Together, the individual with PPD and his or her therapist will use various treatment techniques to reach these goals.
Cognitive behavioral therapy (CBT): This helps to alleviate depression and reduce the likelihood it will come back by helping the PPD sufferer change his or her way of thinking. In CBT, the therapist uses three techniques to accomplish these goals.

**Didactic component:** This phase helps to set up positive expectations for therapy and promote cooperation.

**Cognitive component:** This helps to identify the thoughts and assumptions that influence behaviors, particularly those that may predispose the person with PPD to being depressed.

**Behavioral component:** This employs behavior-modification techniques to teach the individual with PPD more effective strategies for dealing with problems.
Medications (consider the mother vs infant risk)
Medication therapy for postpartum depression usually involves the use of antidepressant medication.

The major types of antidepressant medication are the selective serotonin reuptake inhibitors (SSRIs), serotonin/norepinephrine/dopamine reuptake inhibitors (NSRIs), the tricyclic antidepressants (TCAs), the monoamine oxidase inhibitors (MAOIs).

SSRI medications affect levels of serotonin in the brain.

For many prescribing doctors, these medications are the first choice because of the high level of effectiveness and general safety of this group of medicines.

If effective for mother, monitor infant may be best not to change
### Serotonin Reuptake Inhibitors (SSRIs)

<table>
<thead>
<tr>
<th>Brand name</th>
<th>Generic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prozac</td>
<td>Fluoxetine</td>
</tr>
<tr>
<td>Zoloft</td>
<td>Sertraline</td>
</tr>
<tr>
<td>Paxil</td>
<td>Paroxetine</td>
</tr>
<tr>
<td>Luvox</td>
<td>Fluvoxamine</td>
</tr>
<tr>
<td>Celexa</td>
<td>Citalopram</td>
</tr>
<tr>
<td>Lexapro</td>
<td>Escitalopram</td>
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</table>

### Serotonin/Norepinephrine/Dopamine Reuptake Inhibitors (NSRIs)

<table>
<thead>
<tr>
<th>Brand name</th>
<th>Generic</th>
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</thead>
<tbody>
<tr>
<td>Wellbutrin</td>
<td>Bupropion</td>
</tr>
<tr>
<td>Remeron</td>
<td>Mertazapine</td>
</tr>
<tr>
<td>Effexor</td>
<td>Venlafaxine</td>
</tr>
<tr>
<td>Cymbalta</td>
<td>Duloxetine</td>
</tr>
<tr>
<td>Pristia</td>
<td>Desvenlafaxine</td>
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</tbody>
</table>
### Tricyclic antidepressants (TCAs)

<table>
<thead>
<tr>
<th>Brand Name</th>
<th>Generic</th>
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<tbody>
<tr>
<td>Elavil</td>
<td>Amitriptyline</td>
</tr>
<tr>
<td>Anafranil</td>
<td>Clmipramine</td>
</tr>
<tr>
<td>Norpramin</td>
<td>Disipramine</td>
</tr>
<tr>
<td>Adapin</td>
<td>Doxepin</td>
</tr>
<tr>
<td>Tofranil</td>
<td>Imipramine</td>
</tr>
<tr>
<td>Pamelor</td>
<td>Nortriptyline</td>
</tr>
</tbody>
</table>

### Monoamine oxidase inhibitors (MAOIs)

<table>
<thead>
<tr>
<th>Brand Name</th>
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</thead>
<tbody>
<tr>
<td>Abilify</td>
<td>Aripiprazole</td>
</tr>
<tr>
<td>Zyprexa</td>
<td>Olanzapine</td>
</tr>
<tr>
<td>Invega</td>
<td>Paliperidone</td>
</tr>
<tr>
<td>Seroquel</td>
<td>Quetiapine</td>
</tr>
<tr>
<td>Risperdal</td>
<td>Risperidone</td>
</tr>
<tr>
<td>Saphris</td>
<td>Asenapine</td>
</tr>
<tr>
<td>Geodon</td>
<td>Ziprasidone</td>
</tr>
<tr>
<td>Fanapt</td>
<td>Iloperidone</td>
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</table>

### Non-neuroleptic mood stabilizers

<table>
<thead>
<tr>
<th>Brand Name</th>
<th>Generic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lithium Carbonate/Citrrate</td>
<td>Lithium</td>
</tr>
<tr>
<td>Depakote</td>
<td>Divalproex sodium</td>
</tr>
<tr>
<td>Lamictal</td>
<td>Lamotrigine</td>
</tr>
<tr>
<td>Tegretol</td>
<td>Carbamazepine</td>
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Pathways of Milk Synthesis

1. Exocytosis of milk protein and lactose in Golgi-derived secretory vesicles
2. Milk fat secretion via the milk fat globule
3. Secretion of ions and water across the apical membrane
4. Pinocytosis-exocytosis of immunoglobulins (Pinocytosis refers to the action of the macrophages when they engulf a bacteria)
   Essentially the secretory cell engulfs the immunoglobulins and spits them out into the milk.
5. Para-cellular pathway for plasma components and leukocytes

Human milk has been called a “live body fluid” by many and “white blood” by the ancients.
Medications and Milk
(another lecture!)
Principles of assessment

• During first week: immunoglobulins, proteins, drugs enter via para-cellular pathway
• Maternal Plasma level (most important)
• Protein binding and Lipophilicity
• Oral Bioavailability
• Molecular weight (>3-500)
• Relative Infant dose (<10%)
To preserve the breastfeeding relationship it is first necessary to understand completely the benefits of breastfeeding for mother and baby.
Human Milk

• Human milk is species-specific; it is made for human babies. It is designer food, adjusts over time to growing child’s need.

• Infant formula is made from cow’s milk or soybeans and must be chemically altered and adapted for use in human babies.

Hey, what happened to my milk?
Breast milk contains...
(nutrients that rain down benefits)

• **Nutritional support**
  – lactose, protein, fat, vitamins, minerals

• **Metabolic support**
  – Short and long term hormonal regulation and effects that science just beginning to understand

• **Immunologic support**
  – Antibodies, antimicrobial factors
Human Milk Nutritional Benefits

For the term, preterm baby and mother...Life long!

**Preterm milk:**
- *Initially higher nitrogen and protein content*
- Higher levels of anti-inflammatory enzymes
- *Higher IgA*
- *Increasing fat content over time.*
- *Initially lower lactose then increasing over time resembling “mature” milk at 3-4 weeks post delivery.*

**Term milk:**
- *Increasing over time fat and lactose*
- *Changes over time in response to the environment*
Breast feeding builds the baby’s immune system in a way that cannot be artificially duplicated

Protects the baby from
• environmental,
• bacterial
• viral agents
that the mother has been exposed to in her life

Creates the building blocks of the baby’s life long immune system!
Breastfeeding is Powerful Preventative Medicine!

- Obesity
- Asthma
- Serious lung infections
- Sudden infant death syndrome
- Eczema
- Ear infections
- Leukemia
- Flu
- Reflux - painful
- Multiple sclerosis
- Allergies
- Type 1 diabetes
- Type 2 diabetes

Source: National Library of Medicine (HSTAT report 2007) 9000 abstracts, 86 primary studies, 29 systematic reviews covering 400 individual studies
Breastfeeding is Powerful Preventative Medicine!

- Braces
- Dental problems
- Diarrhea
- Being Hospitalized
- Breast Cancer

- Childhood cancers
- Krohn’s disease
- Hodgkin’s disease
- Juvenile rheumatoid arthritis
- Toddler illnesses
Enhances Development and Intelligence

- Increased IQ
- Improved mental development
- Improved social development
Breastfeeding is Powerful Preventative Medicine!

- Unplanned pregnancy
- Keeping weight on
- Depression
- Type 2 diabetes
- Osteoporosis

- Breast Cancer
- Uterine Cancer
- Ovarian Cancer
- Endometrial Cancer
What are the benefits for society?

- Optimum child spacing
- Lower number of off work sick days
- Less burden on the health care system
- Financial savings (so how much is $3.6 billion?)
- Improved vaccine effectiveness
- More intelligent and stable workforce
- Environmentally friendly
- Less child abuse
Decreased risks for baby with just 3 months of exclusive breastfeeding

- Diabetes type 1..... 20% less risk
- Diabetes type 2..... later on in life 39% less risk
- Ear infections decreased risk by up to 50%
- Lower track respiratory infections by 72%
- Less asthma by
  27% (without family history) to 40%
  (< 10yo with family history)
Breastfeeding Benefits All Mothers and Babies
Benefits of breastfeeding for the mother experiencing depression

• Does breastfeeding offer protection against maternal depressive symptomatology? Hahn-Holbrook, J Archives of Women’s Mental Health Oct2013 Volume 16 Issue 5 p411-422

  – 205 women followed prenatally, 3, 6, 12, 24 months
  – Findings consisted with other research: Women with symptoms wean earlier (2.3 months)
  – Women with frequent breast feedings at 3 months showed greater decline in depressive symptoms over time (beyond the 3 months)
  – “In sum, these findings are consistent with a bidirectional association between breastfeeding and depression with prenatal depression predicting less breastfeeding soon after birth and breastfeeding predicting declines in maternal depression up to 2 years after birth. “
Comparison of prevalence of Postpartum Depression Symptoms Between Breastfeeding Mothers and Non-breastfeeding Mothers, Ashraf, T Iranian J Psychiatry 7:2, Spring 2012

- 78 breast feeding / 78 non-breastfeeding mothers, 4 health centers over first 6 months after birth
- Significant difference in Edinburgh score demonstrated
- Breast feeding mothers less symptoms

- “Infant feeding method may be related to maternal mood disorder and breast feeding mothers are less depressed. Breastfeeding may decrease PPD”
The Protective Effects of Breastfeeding of Infants of Depressed Mothers


Our research examined infant temperament and its relationship to breastfeeding with depressed and non-depressed mothers.¹

Our findings demonstrated that depressed mothers were less likely to maintain breastfeeding when their infants were more negatively reactive.

Conversely, for non-depressed mothers (and for depressed mothers whose infants were low in reactivity), the degree of negative reactivity of their infants did not affect whether they continued to breastfeed.

Further, our model was supported in that both physiological and temperamental styles mediated the relationship between maternal depression and breastfeeding duration, suggesting that infant temperament does influence a depressed mother’s breastfeeding patterns.
...and so forth

- Early Breastfeeding Experiences and Postpartum Depression.

- Association Between Maternal Mood and Oxytocin Response to Breastfeeding.
  Stuebe, A. J of Women’s Health Vol 22, No 4 2013

- Maternal-Infant Bonding: Review of Literature
Adequate Milk Supply

Under optimal conditions, mothers produce adequate milk for their babies.
Optimal milk production reflects:

- History of regular menstrual cycles, stable glucose, normalized weight and absence of chronic illness
- Timely, purposeful conception
- Evidence of early breast changes in first trimester: tenderness, enlargement, darkening of areola
- Early and complete prenatal care
- Normalized weight gain during pregnancy
- Prenatal birthing and breastfeeding classes
Optimal milk production

Spontaneous, term unmediated delivery
Skin-to-skin in the first hours after birth and frequently thereafter
Unlimited, unrestricted feedings at breast
Repeated deep comfortable latch
No supplementation,
No feedings away from the breast
Mother and baby not separated
Optimal milk production

Breast fullness (not engorgement) 48-72 hours after birth
Increasing frequency of feedings
(often 10 or more/24 hours)
Baby’s stools transitioning at day of life 3-4 from green to mustard yellow.
Fully yellow stools 24 hours after milk onset (coming-in)
Birth weight regained by day of life 8-10.
Continued gain of about 1 ounce per day
Assessment of Potential Inadequate Milk Supply

Consider the following possible contributors:

**Pharmacological**
- antihistamines
- diuretics
- cabergoline (aka ...the dry up shot)
- magnesium sulfate treatment for hypertension

**Physiologic**
- stress
- Pain
- Retained placental fragment
- Cigarette smoking
- Fluid over load in mother.

**Endocrine deficiency**
- POCS
- Thyroid
- Birth control (chemical especially in first week after delivery)
Breast Surgery

Reduction
Augmentation
Biopsy
Breast Trauma
Breast Shape and size

Normal
Hypoplastic
Size issues and latch on
Symmetry issues
Endocrine Issues

PCOS (Polycystic Ovarian Syndrome)
Thyroid
Infertility
Diabetes
## Chronic Illness

<table>
<thead>
<tr>
<th>Diabetes</th>
<th>Medications</th>
</tr>
</thead>
<tbody>
<tr>
<td>MS</td>
<td>Fatigue</td>
</tr>
<tr>
<td>FM</td>
<td>Eating disorders</td>
</tr>
<tr>
<td></td>
<td>Disabilities</td>
</tr>
<tr>
<td></td>
<td>Interactions</td>
</tr>
<tr>
<td></td>
<td>between</td>
</tr>
<tr>
<td></td>
<td>disease</td>
</tr>
<tr>
<td></td>
<td>process</td>
</tr>
<tr>
<td></td>
<td>and lactation.</td>
</tr>
</tbody>
</table>

And any other chronic condition that impairs function

Maternal age?

Diabetes
Cardiac issues
Autoimmune issues
Optimal milk production

Mother and baby safe in their own *environment*, surrounded by a cocoon of *supportive, breastfeeding-wise* family and friends.
Use It or Loose It!

Full breasts = Slower Production

Empty Breasts = Faster Production

Stimulating prolactin receptor sites increases production.

Active removal = Active production

Adapted from kellymom.com
Stimulate Supply
...get the milk out of the breasts!
Especially in the first 2 weeks of milk production.

Pumping Only:
• Personal Electric
• Hand
• Hospital Grade

Frequency and pattern:
8-10 times per 24 hours

Approximately 15-20 minutes each session

Normalized Newborn Feeding:
• Continuous contact with mother
• Frequent short feedings and longer feedings
  (8-15 times a day)
• Variable times, Variable lengths
• Comforting, contact needs
• Variable levels of breast sensations
The breastfeeding relationship is a very consuming relationship. 24 hours a day—7 days a week.

So how do we address maternal fatigue?
Prolactin Peaks = Restful sleep
Timing sleep with the time just after the peaks increases the mother’s sense of rest.
When helping a mother find that balance between her breastfeeding relationship with her baby and mental health... what is important?
- Knowing what she feels and believes is important for herself and her baby.

- Knowing accurate evidenced based information about breastfeeding, breast milk production and risk factors to maintaining milk supply.

- Knowing how to compassionately sharing of your findings and proposed interventions

- Monitoring milk production carefully. For most mothers there is a **three day window** of down regulation and up regulation in milk volume.

- If milk trends downward, address the issue in a timely manner.

- Knowing who to call for help.

*Educate not Dictate*

*Guide not Lead*

*Help not Hinder*