Mamás y Bebés Program: Replication of a Perinatal Preventive Intervention for Postpartum Depression: Adapting and Supporting the Promotora Model

Diana Griffis, LMFT, Staff Development Officer
Prevention and Early Intervention
Riverside University Health System Behavioral Health

Huynh-Nhu (Mimi) Le, PhD
George Washington University

Overview of Presentation

- Background on perinatal depression
- Describe evidence-based approach to preventing major depression
- Findings from 2 recent community-based randomized controlled trials (RCT)
- Findings from community implementation: Riverside University Health System Behavioral Health
- Video Testimonial

Postpartum Mood Spectrum

**Postpartum Blues**
tearfulness, fatigue, insomnia, overwhelmed
2-7 days

**Postpartum Depression**
Low mood, irritability, sleep/appetite disturbance, guilt, worthlessness
≥ 2 weeks

**Postpartum Psychosis**
Hallucinations, paranoia, inability to care for self or baby, thoughts of suicide or infanticide
Definition of Major Depression

- Five of more of the following, present during 2-week period:
  - Depressed mood
  - Diminished pleasure/interest
  - Insomnia/hypersomnia
  - Psychomotor agitation/retardation
  - Fatigue or loss of energy
  - Worthlessness or guilt
  - Diminished ability to think or concentrate
  - Weight loss (not associated with dieting)
  - Recurrent thoughts of death
- And impairment in one or more areas of functioning

Postpartum Depression (PPD)

- Highest risk for first episode of major depression is during childbearing years
- Prevalence: 10-15%
- DSM-IV-TR Category:
  - Major depressive disorder with postpartum onset "occurring within 4 wks of delivery."

Hispanic Population in the United States: 1970 to 2050

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<thead>
<tr>
<th>Year</th>
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<td>87.6</td>
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<td>2050*</td>
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*Projected Population as of July 1

Perinatal Depression among Latinas

- Latinas may have higher rates of depressive disorders
- Latinas may experience more severe depression than their non-Hispanic peers
- Hispanic/Epidemiologic Paradox: rates of disorder are lower, but increase with each generation
Recurrence of Major Depression

- Recurrence rates of major depression is high:
  - 50% after 1st episode
  - 70% after 2nd episode
  - 90% after 3rd episode

Risk Factors For Perinatal Depression

- Previous history of psychopathology
- Low social support
- Marital dissatisfaction
- Stressful life events
- Obstetrics complications
- Single
- Low-income
- Unplanned pregnancy

Consequences of Perinatal Depression

- Mothers’ well-being
  - Decreased Maternal Self-Efficacy
- Fathers’ well-being
  - Increased depression & marital stress
  - Increased concern of infants
- Infant development
  - Emotion dysregulation
  - Cognitive and language delays
  - Increased risk for psychopathology
- Mother-infant interaction
  - Mothers: understimulating or overstimulating
  - Infants: Less responsive, more gaze avoidant, more distress


O’Hara & Swain, 1996

Field, 1997; McInerney & McCloud, 1996; O’Hara, 1994
Levels of Stress

- Positive Stress: normative, helps in development
- Tolerable Stress: outside the normal range, one time events, buffered by caregivers
- Toxic Stress: prolonged activation of the stress response system, in absence of buffering adult

How depression affects development

- Specific aspects of parenting behavior:
  - Maternal responsivity
  - Maternal sensitivity
  - Emotional availability
  - Negative mood (intrusive/hostile)
  - Inconsistency in discipline
  - Modeling negative affect
  - Inability to assist with emotional regulation

The Mothers and Babies Course

MY PERSONAL REALITY

Internal Reality (In your mind)

- Thoughts
- Emotions

External Reality (In the world)

- Activities
- Alone with Others

Promote parent-infant bonding using cognitive-behavioral strategies
Community Partners

Mary's Center for Maternal and Child Care

Center for Life at Providence Hospital

Foundations of the MB Intervention

- UCSF Prevention Project (Muñoz)
  - Adapted to 12-week course for pregnant women (Muñoz et al. 2007)
  - Pilot test with predominantly Mexican American mothers to be (n=41)

- [http://medschool.ucsf.edu/latino/](http://medschool.ucsf.edu/latino/)

Cognitive Behavioral Theory

Thoughts

Behaviors

Depression

Pleasant activities

Interpersonal skills training
The Mothers and Babies Course

MY PERSONAL REALITY

Internal Reality (In your mind)
External Reality (In the world)

Thoughts
Activities
Emotions

Alone
With Others

Promote parent-infant bonding using cognitive-behavioral strategies

One-year Incidence of Major Depressive Episodes

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<th>Year</th>
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<th>MB Course</th>
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<td>30</td>
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</table>

Muñoz, Le, et al., 2007

14.3% vs. 25%

Iterative Model of Cultural Adaptation

1. Identify Need
2. Gather Information
3. Design Adaptation
4. Evaluate & Refine
5. Replicate & Disseminate
6. Replace & Innovate

Le, Zinnia, Parry, & Muñoz, 2015, American Journal of Orthopsychiatry
Washington, DC: Focus on New Latinas
- Increasing numbers of immigrants from the Dominican Republic and Central/South America
  - El Salvador: largest percentage of recent immigrants
- Different motivations for immigration
  - Civil Wars and political repression (El Salvador, Guatemala, and Nicaragua in 1980’s)
  - Mexican immigrants cite educational, economic, other reasons
- Implications for mental health status (exposure to trauma, PTSD)

Mamás y Bebés Sample
- 217 Latina immigrants
- New immigrants (in U.S. average of 4 yrs); over half from El Salvador
- Young (mean age 25)
- Low education (mean 9 yrs formal school)
- 17% married; close to half have a cohabiting partner
- 41% primiparous; ~30% have kids in home country
- High risk for postpartum depression
  - High depressive symptom score early in pregnancy (22%)
  - History of depression (50%)
  - Both high symptom score and history of depression (28%)

Mothers and Babies Course/DC
- Psychoeducational
- 2-hour group sessions
- 8 classes during pregnancy
- 3 one-on-one booster sessions (6 weeks, 4 & 12 months) in the first year postpartum

Funded by DHHS Maternal and Child Health Bureau
R40 MC 02497 (PI: Le, GWU)
Griffis

MB Course: DC

Class 1 Introduction to the Mothers and Babies Course

ACTIVITIES
Class 2 Activities and my mood
Class 3 Pleasant activities help make a healthy reality for my baby and myself

THOUGHTS
Class 4 Thoughts and my mood
Class 5 Fighting harmful thoughts and increasing helpful thoughts that affect my baby and myself

CONTACT WITH OTHER PEOPLE
Class 6 Contacts with others and my mood
Class 7 How to get support for me and my baby
Class 8 Planning for the Future
(Class 9 Graduation and data collection)

Class One: Overview

- Stress can affect the mother-baby relationship.
- Our personal reality is made up of two parts: the reality of our mind or internal reality, and the reality of our world or external reality.
- Our personal reality affects our mood.
- We can learn to manage stress and feel better by making changes in the way we behave, the way we think about and understand the stressors, the support we receive from other people.

Activity #1

- Quick Mood Scale:
  - Every night, before going to bed, circle the number (between 1-9), which indicates how you feel on that day. For example:
    - if your mood is average, (neither high nor low), circle number 5
    - if it is better than average, circle a number higher than 5
    - if it is worse than average, circle a number lower than 5

MB Course: DC (Le et al, 2009; BC HV Manual (Leis et al. 2009))
Mood & Activities

- Relaxation is a pleasant activity that we can use to manage stress.
- Doing pleasant activities can improve your mood.
- It may be hard to get the energy to do pleasant activities when we are feeling down or tired, but if we do pleasant activities, we may feel better and be less tired.
- All the activities you do with your child are learning opportunities.
- Babies who do pleasant activities are more likely to have healthy moods.
- When mothers and babies do pleasant activities together, their relationship is strengthened.
- There are obstacles to doing pleasant activities with your baby, but you can generate solutions to these obstacles.

MB Course DC (Lee et al. 2009)
BC HV Manual (Lee et al. 2009)
Activity #2

- Generating ideas of pleasant activities:
  - Ask women to list things that they like to do, emphasizing those that are no or low cost.
  - Ask them to keep track of their pleasant activities and what pleasant activities they have done in the last week.
  - Identify obstacles and brainstorm how to get around these obstacles.

Mood & Thoughts

- Our thoughts almost always affect our mood.
- If we can become aware of the many types of thoughts we have, we can learn to use them to achieve a healthier mood.
- You can learn ways to decrease and combat harmful thoughts throughout your day.

Our thoughts affect our mood. They also affect how we interact with our babies.
Some thoughts are helpful because they make us feel good, and they help us teach our babies to love themselves.
Other thoughts are harmful because they make us sad, and they do not help us teach our babies to love themselves.

MB Course DC (Juliet et al., 2009);
BC HV Manual (Leis et al., 2009)

Activity #3

- Some thoughts help us to feel more positive about our lives – they give us energy and hope.
- Other thoughts can make us feel more negative – they can make us feel depressed and tired.
  - "I’m a failure as a mother because my baby cries all day long and I can’t stop her.

All or Nothing Thinking:
Thinking in extremes: All good or all bad. The best or worst. Perfect or a failure.

Blaming Oneself:
Thinking that when negative things happen they are always my fault.

Need to identify harmful thoughts and then practice more balanced thinking.
Mood & Contact With Others

- Negative mood can lead to fewer positive contacts with others, which can cause a more negative mood.
- It’s important to have people in your life who give you support.
- There are different kinds of support: help with practical things, advice, doing activities together, and listening to your feelings.
- You have the right to ask for what you need in a close relationship. It’s helpful to be positive, clear, and direct when you ask for what you need.
- Having more positive and fewer negative contacts with others can improve our mood.
- It’s important to surround yourself with people who will provide support for you and your baby.
- Role changes such as becoming a mother can affect our mood and change our relationships with other people.
- Our thoughts, behaviors, and contacts with others can help us adjust to role changes.

MB Course DC (Le et al, 2009);
BC HV Manual (Le et al, 2009)

Applying these concepts...

- Our internal and external realities affect the activities that we do, our thoughts, and our contacts with other people. All of these things affect our mood, our baby, and the relationship we have with our baby.
- Babies have different temperaments, meaning they have different ways of responding to the world.
  - “Temperament” has a similar meaning to “personality” but it refers to babies instead of children or adults.
- Knowing and understanding our baby’s temperament helps us interact with them in appropriate ways.

MB Course DC (Le et al, 2009);
BC HV Manual (Le et al, 2009)

Relaxation Techniques

- Steps to follow:
  - Sit quietly in a comfortable position.
  - Close your eyes.
  - Relax all your muscles as fully and deeply as possible. Start with either end of the body (your feet or your head) and move systematically all the way up or down, focusing on each muscle, and relaxing each one.
  - Breathe easily and naturally through your nose. Become aware of your breathing. As you breathe out, say a brief word you have chosen to repeat (for example, the word “relax.”)
  - Continue for about ten minutes at first, until you get used to producing the feeling of relaxation. Your goal is to be able to produce this feeling in one minute or even less at any time you choose. This way, you can provide yourself with a moment of relaxation as often as you wish throughout your day.
  - Before you open your eyes, remind yourself to retain this feeling of deep relaxation and simultaneous alertness when you return to your normal activities.

Mean Depressive Symptoms by Intervention Group
(with 95% confidence intervals)

Beck Depression Inventory-II

(Lo, Perry & Stuart, 2011)

Cumulative incidence of major depressive episodes Baseline to 12 months Postpartum (n=150)

7.8% (MB, n=6) vs. 9.6% (UC n=7)

(Lo, Perry & Stuart, 2011)

Qualitative Exit Interviews

Purpose:
- Study feedback/experience
- Immigrant strengths and stressors
- Conducted with independent interviewer

40 interviews
- 25 Intervention
  - 15 completers, 10 non-completers
- 15 Usual Care
The Usual Care(Plus) Experience

- They asked me questions about my mood, how did I feel in the last 2 or 3 weeks... We shared time talking about how you feel, and about your mood. This is very important because sometime you don’t have anybody to talk to.

  Ellas me hicieron preguntas sobre mi estado de ánimo, como me siento las últimas dos tres semanas... compartimos el tiempo hablando de cómo uno se siente, del estado de ánimo. Fue bien importante porque a veces uno no tiene con quien platicar. (1071p1)

  (Le & Perry, 2009)

Iterative Model of Cultural Adaptation

1. Identify Need
2. Gather Information
3. Design Adaptation
4. Evaluate & Monitor
5. Replicate & Disseminate

Le, Zimada, Perry, & Muñoz, 2010, American Journal of Orthopsychiatry

RCT Design

- Study population: pregnant women and women with child < 6 months
- Setting: Four Baltimore HV programs; 2 paraprofessional, 2 professional (social workers)
- Inclusion criteria:
  - Elevated depressive symptoms (CES-D ≥ 16) and/or personal history of MDD
  - Pregnant or child < 6 months
- Exclusion criteria:
  - Current MDE (referred to HV programs)
Recruitment for RCT

Assessed for eligibility (n = 171)
Eligible for study, Agreed to Participate, & Randomized (n = 105, 61%)
Excluded (n = 66)
Not meeting inclusion criteria (n = 64)
Met inclusion criteria, declined (n = 2)
Allocated to intervention (n = 54)
Entered study (n = 41, 76%)
Allocated to control (n = 51)
Entered study (n = 37, 73%)
Completed 1-week post assessment (n = 40)
Completed 3-month post assessment (n = 41)
Completed 6-month post assessment (n = 41)
Completed 1-week post assessment (n = 37)
Completed 3-month post assessment (n = 35)
Completed 6-month post assessment (n = 34)

Sample Characteristics at Baseline

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<th>Control (n = 37)</th>
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<td>Age (Mean, SD)</td>
<td>24.4 (6.4)</td>
<td>23.8 (5.9)</td>
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<tr>
<td>Part- or full-time employment at baseline (%)</td>
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<td>29</td>
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<tr>
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<td>Pregnant (%)</td>
<td>19</td>
<td>17</td>
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<tr>
<td>First-time mother (%)</td>
<td>27</td>
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</table>

RCT Findings:

Depressive Symptoms

BDI Score

Baseline 1 Week Post* 3 Month Post* 6 Month Post**

Intervention

Control

*p < .01
**p < .001

0 2 4 6 8 10 12 14 16 18 20
Baseline 1 Week Post* 3 Month Post* 6 Month Post**

Intervention

Control

*p < .01
**p < .001
RCT Findings: MDE

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<th>Major Depressive Disorder New Cases</th>
<th>Intervention</th>
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<td>3 Months Post-Intervention*</td>
<td>5/41 (12%)</td>
<td>10/35 (29%)</td>
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<td>6 Months Post-Intervention**</td>
<td>6/41 (15%)</td>
<td>11/34 (29%)</td>
</tr>
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</table>

* $X^2 = 3.2, df = 1, p = .07$

** $X^2 = 3.3, df = 1, p = .07$

At 6 months, MDE assessed through clinical interviews

Summary of Findings

- Among intervention participants, depression symptoms declined from baseline to 1 wk post-intervention, with further decrease at 3 and 6-months post-intervention.
- Reductions were statistically significant at all three time points compared to women receiving usual HV.
- Fewer women receiving the intervention exhibited MDE at 3- and 6-months post-intervention.

Riverside

- Riverside - Mental Health Services Act- Proposition 63.
- Largest ethnic/cultural group in Riverside is also population greatly underserved. In 2007, the Public Policy Institute of California reported that "fertility rates are higher in California than in any developed country in the world. -- large number of foreign born women, who tend to have more children than U.S. born women."
- RUHS-BH participated in Women’s Mental Health Policy council in order to understand specialized needs of women - Gender specific programs were identified to address Latina Population.
- Community Feedback- stakeholders, key community leaders, and community members made recommendations.
Riverside Implementation

- 8 week version of MB course
- Released RFP December 2010
  - To serve monolingual Latina population pregnant 12-28 weeks in PEI-MHSA Targeted communities in non-stigmatizing locations.
  - Participants required to meet screening criteria developed by model.
  - Contractors required to meet monthly with RCDMH discuss model adherence and peer support.
- Contracts awarded in Oct 2011.
  - In Mid County and Western Region - Family Services Association - Case Managers - BA level
  - Desert Region El Sol – Neighborhood Education Center
  - Promotores - Peers

Riverside: Outreach, Recruitment, Barriers

- Presentations, Health Fairs, Flyers, Breast feeding events, Birthing classes, Health clinics, WIC, apartment complexes
- Barriers - Stigma, Narrow criteria, Access, Transportation, Referral process, Collecting Data

Riverside Implementation

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<th>Enrollment</th>
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### Table 3. Outcome Evaluation: Center for Epidemiologic Studies Depression Scale Baseline Measurement

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<tr>
<td>&lt; 16</td>
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### Table 3. Outcome Evaluation: CES-D Pre to Post Measurement

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<thead>
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<td>CES-D Total Score</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pre</td>
<td>N/A</td>
<td>22</td>
<td>21.14</td>
<td>21.44</td>
</tr>
<tr>
<td>Post</td>
<td>N/A</td>
<td>18</td>
<td>10.45</td>
<td>10.43</td>
</tr>
<tr>
<td>% Change (Pre-Post)</td>
<td>N/A</td>
<td>55%</td>
<td>51%</td>
<td>51%</td>
</tr>
</tbody>
</table>

### Table 2. Outcome Evaluation: Major Depressive Episode Screener Baseline Measurement

<table>
<thead>
<tr>
<th></th>
<th>FY 11-12</th>
<th>FY 12-13</th>
<th>FY 13-14</th>
<th>FY 14-15</th>
</tr>
</thead>
<tbody>
<tr>
<td>MDE Total Score</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0-4</td>
<td>18</td>
<td>151</td>
<td>168</td>
<td>357</td>
</tr>
<tr>
<td>&gt; 5</td>
<td>8</td>
<td>147</td>
<td>145</td>
<td>143</td>
</tr>
</tbody>
</table>
Mead Valley Graduation

Incentives
The following are the questions asked on the Mamas Y Bebes Satisfaction survey and the percentage of participants who responded per the likert scale listed. For each question over 80% of participants responded in a the positive.

<table>
<thead>
<tr>
<th>Question</th>
<th>% Responded (N=27)</th>
</tr>
</thead>
<tbody>
<tr>
<td>6. Did you learn new methods to help cope with feelings of sadness you may have experienced?</td>
<td>69.0% 17.2%</td>
</tr>
<tr>
<td>7. Do you think participation in this program has helped to prevent feelings of sadness and depression?</td>
<td>69.0% 17.2%</td>
</tr>
<tr>
<td>8. Would you say, as a result of the program, you now know how to get help for depression while pregnant and after the birth of the baby?</td>
<td>72.4% 13.8%</td>
</tr>
<tr>
<td>9. Would you suggest this program to someone else who’s pregnant?</td>
<td>82.8% 3.4%</td>
</tr>
</tbody>
</table>

FIDELITY MONITORING & PROGRAM SUPPORT
FOR EVIDENCE BASED PRACTICE IN COMMUNITY MENTAL HEALTH

Preparation
- Administration Support
- Program Coordination
- Initial Training
- Develop Data Protocol with Research

Implementation
- Outreach Support
- Monthly Meetings
- First Cycle Support: Site Visits, Live Observations
- Fidelity Monitoring Checklist & Feedback Debriefings

Maintenance
- Reinforcement: Minimum 3 site visits per year
- Ongoing training for turn over staff
- Monthly contact
- Outcomes: Data Driven Decisions

VIDEO TESTIMONIAL
Conclusions

- Accumulating evidence of effectiveness of MB course
  - Three distinct populations of low-income ethnic minority mothers
- Download the MB curriculum:
  - http://www.gwu.edu/~mbp/projects.html

Thank you

Diana Griffis DCGriffis@rcmh.org
Huynh-Nhu (Mimi) Le hnle@gwu.edu

DC Mothers and Babies Team

- PI: Huynh-Nhu (Mimi) Le (GWU)
  - Deborah Perry (GU/JHU)
- Coordinator: Adriana Ortiz
- Research Assistants:
  - Maria Luz Berbery - Ruth Craig
  - Laila Hochhausen - Marta Genovez
  - Glorimar Ortiz - Leah Mathene
  - Claudia Reyes
- M. Hernandez; M. Vera; L. DiCesare; M. Firmino; Castillo, K. Schaefer; L. Jacob; L. Golten; J. Roman; A. Taega; A. Chapman; S. Cho; M. Junes; L. Chowdhury; W. Bamatter; C. Quilionez; X. Sheng
Baltimore MB Project Team

- Principal Investigator:
  - Darius Tandon, PhD, Johns Hopkins School of Medicine
- Co-Investigators:
  - Tamar Mendelson, PhD, JHU School of Public Health
  - Deborah Perry, PhD, Georgetown University
- Project Staff:
  - Project Coordinator: Karen Kemp, MSW
  - Graduate Research Assistant: Julie Leis, PhD
  - Clinician Supervisor: Adriana Ortiz, PhD
  - Study Clinicians: Linda Darrell, MSW; Tracy Ganaway, PhD; GiShawn Mance, PhD; Heather Ciapp, MSW
- Acknowledgements
  - Supervisors, staff, and clients from four Baltimore City Home Visiting Programs: M&I Nursing, DRUM Healthy Families, Open Gates, & Sinai Hospital Perinatal Depression Outreach Program