

**CENTER FOR SOCIAL RESEARCH, UNIVERSITY OF HARTFORD**

# Report on the NFN Depression Improvement Study: A Clinical Trial Testing In-Home CBT

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Final Report

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The high prevalence of maternal depression and trauma experiences are a relatively new programmatic focus in home visiting populations. In-Home Cognitive-Behavioral Therapy (IH-CBT), uniquely adapted to meet the needs of first-time mothers participating in home visitation, was found to be efficacious in a clinical trial conducted by its developers.<sup>3,4,5</sup> In this paper, we report on results of a clinical trial of IH-CBT for first-time mothers in Connecticut's Nurturing Families Network (NFN) Home Visiting Program who met criteria for major depression. We examine the impact of IH-CBT when implemented independently by another home visiting program in a different geographic region with a different population.

## **BACKGROUND**

Making the transition to motherhood can be difficult for some mothers especially as they experience the new demands of care giving. Mothers of infants are more likely than other women to experience depression.<sup>6</sup> As compared to 6-7% of adults,<sup>7,8</sup> 13% of mothers experience major depression<sup>9,10</sup> and for high risk mothers (e.g., young, poor, isolated), the percentage is as much as 25-30%.<sup>11,12,13</sup> Unlike the "baby blues" which generally lasts for a few hours to a few days, a depressive episode lasts for at least 2 weeks with an average of 6 months, and can extend as long as 15 months or more.<sup>14</sup> Symptoms include a low mood, often characterized by uncontrollable crying, little to no interest in typically pleasurable activities, sleeping and eating either too much or too little, little to no energy, problems concentrating or making even simple decisions, and excessive guilt. Not surprisingly, mothers who experience such symptoms have difficulty carrying out consistent routines, and are often less involved with and responsive to their children. As a consequence, exposure to even one episode of maternal depression can have serious adverse effects for the subsequent development of the child.<sup>15</sup>

The impact of unavailable or insensitive parenting associated with maternal depression is especially great in infancy when the parent-child bond is beginning to form and when the child is developing the capacity to self-regulate, a cornerstone of early childhood development.<sup>16,17,18,19</sup> Maternal depression has been linked to two types of parenting that disrupt the "serve and return" interaction between mother and child: disengaged/withdrawn, and hostile/intrusive.<sup>16,20</sup> In response to disengaged or hostile parenting, infants themselves exhibit negative behavior including signs of distress, anger and high physical activity and arousal.<sup>16,20</sup> In addition, they are less likely to develop a secure attachment with the caregiver, which is seen as a protective factor for later social, emotional, and cognitive development. If this type of interaction occurs continuously over time, the negative affect shown by infants with their depressed mothers will occur even when interacting with non-depressed adults.<sup>16</sup> Exposure to such parental behaviors result in more general effects with one possible consequence being that the child's arousal systems become sensitized to some or all potentially challenging situations. For example, maternal depression in infancy predicts increased levels of cortisol, a stress hormone, which in turn is linked with internalizing problems such as anxiety, social wariness, and withdrawal.<sup>21</sup> As a result, an infant's own negative affect interferes with their ability to process information and to effectively learn.<sup>16,22</sup> The effects of maternal depression on a child's development are more problematic and more durable the earlier it occurs in a child's life, the more severe the episode, and if there are multiple episodes.<sup>23,24</sup> A recent study found that maternal depression during infancy was associated with major depressive disorder in offspring as late as 18 years of age.<sup>18</sup> Other long term effects of maternal depression on child outcomes include anxiety, conduct, and substance abuse disorders, and persistent problems with social functioning and education and employment.<sup>16,18,25</sup>

A number of variables have been identified that contribute to or co-vary with elevated symptoms of depression. Depressed mothers often experience at least one additional psychiatric disorder (comorbidity) particularly anxiety.<sup>26,27,28</sup> Perinatal Mood and Anxiety Disorders (PMAD) is a general term used to describe a wide range of

emotional disorders that in the past were collectively referred to as postpartum depression.<sup>29</sup> The term perinatal covers the period of pregnancy and the first year after a baby is born; the spectrum of mood and anxiety disorders that can affect mothers during this time period includes symptoms of depression, depression with anxiety, panic disorder, obsessive-compulsive disorder, and postpartum posttraumatic stress disorder. Further, in low-income communities with limited resources, maternal depression often co-exists with other parental adversities such as financial strain, substance abuse, domestic violence, and prior trauma.<sup>31,32</sup> As the number of risks increase in addition to depression, so too does the likelihood of the child developing behavioral problems related to aggression, anxiety, inattention, hyperactivity, and depression.<sup>31</sup>

Although there is a substantial literature documenting efficacy of interventions for treating depression, many new mothers do not access available services.<sup>28,32,33,34,35</sup> For low income mothers in particular, there is a constellation of barriers that make them less likely to seek mental health services.<sup>32,33</sup> The first barrier is difficulty in recognizing the symptoms for what they are: community- and self-stigma surrounding mental illness makes it difficult for mothers to acknowledge their feelings, and perhaps fuels further shame and guilt. Second, when mothers do seek help, they often turn to their medical doctor who may have difficulty distinguishing symptoms of depression in the context of multiple life stressors. Lastly, reports by mothers in low-income communities indicate that their experience or views of mental health care is that it is uncaring, with long wait lists and a ‘medication first’ mentality. Under these circumstances, mothers understandably will often not follow through or adhere to such intervention.<sup>32,33</sup> In contrast, as reported by mothers<sup>32</sup> and home visitors,<sup>33</sup> when depression is framed in de-stigmatizing language by someone who they trust will listen to them without judgment, mothers will talk about their symptoms and are more receptive to help.

## **THE TREATMENT MODEL**

In-home Cognitive Behavior Therapy (IH-CBT) is grounded in the core principles and established procedures of CBT.<sup>36,37</sup> CBT has been extensively researched and consistently found to be effective in the treatment of depression as well as other disorders such as anxiety, substance abuse, and PTSD. According to the model, depression emerges from distressing, often inaccurate perceptions and beliefs about oneself, relationships with others, and what’s possible for the future. In contrast to other forms of psychotherapy, it is usually focused on the here-and-now and on solving specific problems, including, for example, difficulties functioning at home, within relationships, or at work. Treatment takes an educational approach: the therapist helps the client examine unrealistic or unhelpful thoughts, and how they affect their feelings and behavior. Together, using assessment tools, informational materials, and visual aids based on principles of learning as well as cognition, the therapist and the client develop an “action plan” for the client. Specified goals and intervention strategies focus on reducing depression by making changes in how the client thinks about themselves and interprets situations in their lives, and what the client does every day. Some of the goals are focused upon during therapy, and some of the goals or strategies the client is encouraged to work on or practice on their own, for example via “homework” assignments. This process fosters clients’ active engagement in their own treatment so that when their treatment ends, clients are more easily able to transition the skills and tools from therapy into their day-to-day lives. Although CBT is manualized and each session is structured, intervention strategies are tailored to the unique needs, strengths, and naturally occurring supports of the individual. As in most psychotherapeutic approaches, CBT relies on the development of a positive therapeutic alliance between client and therapist in order for the specific treatment strategies to be most effective.

For high-risk first-time mothers receiving home visitation services, CBT is appealing for the following reasons: It focuses on the restructuring of maladaptive thoughts, particularly common among high-risk mothers, that precipitate

and perpetuate depression; has been found to be effective for treating depressed women who have traumatic exposure histories;<sup>38</sup> is readily adaptable to the diversity found in home visitation populations including the wide range of ethnic, religious, family, and home cultures of participating mothers;<sup>39</sup> has built-in outreach via trusted home visitors who can encourage depressed mothers to enter treatment and support their ongoing involvement; emphasizes a collaborative relationship between therapist and client (i.e., responsive, nonjudgmental, caring); empowers new mothers (many of whom have typically been marginalized) by helping them to develop skills for resolving a depressive episode or preventing a relapse on their own; by reducing symptoms of depression, it allows home visitors to attend to the goals of standard home visiting such as positive parenting practices and healthy child development.

## **STUDY DESIGN AND PROCEDURES**

A randomized clinical trial design was used with assessments at pretreatment, post treatment, and at 3-month follow-up. Participating mothers were drawn from 25 home visiting sites in urban, mid-city, and rural areas of Connecticut from September 2009 through December 2012. Home visitors screened and identified mothers with depressive symptoms using the Edinburgh Postnatal Depression Scale (EPDS). An eligibility assessment was conducted with 94 mothers using the Structured Clinical Interview for DSM-IV Axis I Disorders and 70 mothers (74%) were determined to be eligible for the study (i.e., were 1-12 months postnatal, at least 16 years of age, met diagnosis for major depressive disorder, were not addicted to drugs or alcohol, and were not already receiving treatment). Eligible mothers (57% Hispanic, 20% White, 18% Black and 7% multi-racial) were randomized to either IH-CBT plus Standard Home Visiting or to Standard Home Visiting (SHV) alone.

In SVH, mothers received services from home visitors as per the NFN model which calls for regular (often weekly) home visits during the intervals covered in the trial. Curricula emphasize nurturing mother-child relationship, child health and development, maternal health and development, and connection to other community services as needed. Consistent with SHV, mothers were permitted to receive treatment for depression in the community if they chose. Mothers in the IH-CBT condition received IH-CBT plus SHV as per the NFN model which calls for regular home visits. Mothers assigned to IH-CBT were asked to exclusively receive their therapy from the trial during the treatment phase.

Treatment was administered by a licensed clinical social worker who was trained in IH-CBT and received weekly clinical supervision. Treatment consisted of 15 sessions, scheduled on a weekly basis, each lasting an average of 60 minutes. There was also a 16th (booster) session 1 month post-treatment. Each session followed a standardized format including protocols for “homework” assignments and review of self-monitoring tools; selection of CBT topics and exercises were tailored where possible to meet individual client needs.

In addition, IH-CBT explicitly ensures integration between the therapy and home visitation services: these two services are designed to work together synergistically, each helping the other achieve maximum effectiveness. The home visitor screens for depression with the EPDS, engaging the mother in a conversation about the importance of understanding symptoms of depression. This is often the first time the new mother has had the opportunity to share her feelings after giving birth and the home visitor is in a unique position to normalize the mother’s experience and help her to recognize that she might benefit from treatment. Procedures to bring about integration once referred and assessed as meeting criteria included: joint attendance at the 1st and 15<sup>th</sup> session, preparation of mid-treatment report for the home visitor, and preparation and review of a summary report for the mother and home visitor.

Measures of depression, functional adjustment, and psychological distress were given at pre, post, and 3 month

follow-up. The presence of comorbid psychiatric disorders was also assessed at pre-treatment in order to explore potential moderating influences. At post-treatment and follow-up assessment, clinical ratings and diagnoses were assessed by independent evaluators (bi-lingual research assistants as needed) who were trained to criterion and blinded to condition. Assessments were conducted in the home. Participants received \$40.00 for each assessment session.

## **THE ART OF PROVIDING IN-HOME THERAPY: HOW TREATMENT WORKS TO CREATE CHANGE**

Establishing a therapeutic alliance with mothers receiving home visiting, many of whom are young, poor, and were raised in adverse home environments themselves, has particular challenges. For many of the new mothers who participated in the NFN Depression Improvement Study, their depression was embedded within any combination of income problems, social isolation, family conflict, relationship trauma and additional mental health concerns such as symptoms of severe anxiety and post-traumatic stress disorder. Some had experienced rejection and hostility from their own mothers. Others had been sexually abused by family members or while in foster homes. Some continued to experience trauma in their current relationships. The terrible irony for anyone suffering such adversities, often at the hands of those who claim to care for them, is that it can foster an internalized sense of failure, unworthiness, and vulnerability that is then perpetuated by the person's ongoing beliefs about what is possible for themselves. Due to these histories, as well as to the negative beliefs towards the helping professions (perceived or real) that are relatively common among home visiting populations, the therapist had to focus considerable attention during the initial sessions to developing trust. Many of these mothers who, either due to young age or circumstance, had never had "a voice" before or felt that they were important enough to matter, benefited from having a therapist who truly listened, was empathic, and showed genuine interest in their day-to-day lives, their talents and passions.

The therapist has to be comfortable themselves providing treatment in someone's home and is challenged to create a "safe space" in an initially unfamiliar environment. The therapist has to pay attention to the norms and expectations within each household, and consider the dynamics of the family as a whole. This includes being highly respectful and thoughtful about the daily interactions among family members, the individual roles within the family "system," the resources of the household, and how changes affect family members. In contrast to office-based treatment, the in-home therapist is much more likely to encounter and interact with family members. For example, she might find herself spending a few moments each session talking with the grandmother of a teen mom about her week, before then turning to the mom to start the session.

While there are common signs and symptoms associated with depression, the way depression affects each individual varies considerably. One mom may be very troubled with "automatic thoughts" that tell her she will never be able to accomplish her goals such as finishing school, obtaining meaningful work, or finding an apartment. Another mom feels unceasing sadness because she doesn't have the relationship she imagined she would with the father of her baby. And a third mom loses her appetite and is unable to get up and dressed in the morning. Moms often described feeling frustrated in their primary relationships, and overwhelmed about where they can turn for help. Attachments and relationships with significant others, such as the new baby, partner, and family of origin were often at the center of the work. Each situation required understanding and sensitivity.

Determining goals for treatment began at the first session and were often modified over time as the therapy progressed. Many of the moms simply wanted to "feel better," "worry less," "get rid of bad thoughts," or "enjoy things again." For some, the focus was on "being more productive" and to "get more things accomplished." Many also wanted to get help with "controlling my anger" or deal more effectively with difficult emotions, or voicing their

concerns more clearly. Some wanted to improve their relationship with, or feelings toward, their partner or a family member, or to be able to respond to or confront a specific person. As therapy progressed, many of them came to focus on their own wellbeing rather than focusing on others' needs, and learning how to balance their own needs with the care of their child.

Despite the burden of depression and the accompanying negative beliefs about themselves, the majority of the new mothers also desired what many want for themselves: a good job, an education, a home, "to be a good mom" or "to be a family." Many mothers had concrete needs that they spoke about during treatment such as: needing to secure a day care situation for their child, obtaining a driver's license, buying a car, planning a vacation, obtaining citizenship or legal residency status, organizing a birthday party, improving nutrition, increasing exercise, and losing weight.

As mothers shared their goals, experiences and disappointments in a safe environment with no judgment, the majority of them came to experience the therapist as a supporter and even an ally. The therapist incorporated a variety of tools to assist women in altering some of their habitual patterns of thinking and behaving that were seen as contributing to their negative moods. For example, the therapist guided the women in reflecting on their "thinking errors" or mistaken or unhelpful beliefs that cause people to feel badly or become more upset about a situation. She taught them how they might be "digging a ditch" by allowing negative thoughts to dominate their minds. She helped them to recognize times they might be "personalizing," or viewing themselves as deserving of blame or causing an unpleasant situation without adequate evidence. She observed when they might be "discounting the positive" or overlooking the good things and their role in such situations. She taught them how their thought patterns might be dichotomized in the form of "black and white thinking" (belief that all is either good or bad) and provided strategies to help them move toward greater flexibility. Other patterns that might be identified included, "labeling" (seeing only one way about something), "fortune telling," and "mind reading." These were all common (irrational) patterns of thinking among the moms in the study.

Examining and questioning beliefs is the hallmark of CBT. Using a Thought Record as a visual aid, the therapist helped mothers to learn how to examine their feelings, the thoughts that preceded the feelings and the subsequent action or inaction taken by the mother. Beliefs were examined for validity and usefulness. For a mother with a core belief that she was of little worth and essentially a victim of her circumstances, it was important to see how her past had negatively influenced her feelings of self-worth and confidence, and then perpetuated self-defeating patterns that served to confirm these negative views of self. Through practice with the therapist and as "homework," mothers learned to apply Thought Records in "real" time during situations when feeling sad, anxious, or angry.

For many mothers a prominent negative feeling was one of anger. When experienced or expressed appropriately, anger can lead to healthy coping and change. However, for some of the mothers participating in the study, their anger was frequent, intense or enduring enough that it was doing them harm. It caused problems in relationships at home and at work, contributed to feelings of anxiety and inner turmoil, and sometimes led to withdrawal and isolation. The therapist helped the mothers develop an "Anger Profile." This exercise encourages the client to deconstruct the experience of anger by examining its antecedents, consequences, and associated features.<sup>40</sup> Many came to understand that anger was a secondary emotion, often masking more vulnerable feelings of hurt and sadness. Together with the therapist, the mom identified specific steps to help her calm down when she became angry and deal with it in more constructive ways. With training (i.e., during therapy sessions) and practice, mothers learned and applied the Stop, Think, Objectify, and Plan (STOP) technique.<sup>41</sup> Some mothers came to understand how stress and anger can impact them physically by increasing fatigue or restlessness. Others learned the negative impact of caffeine, alcohol, tobacco, and sugar (i.e., CATS) on their system (and tolerance level), particularly when already distressed.<sup>42</sup>

In addition to a Thought Record and Anger Profile, other visual aids used to evaluate a situation and modify mood included such things as Ladder of Success, Activity Schedule, Advantages and Disadvantages, and Differences in Situations. Mothers were further guided in how to use cognitive and behavior techniques to replace negative thought patterns, emotions, and behaviors. Therapy sessions focused on identifying the mothers' strengths and highlighting their valuable contributions through their many roles as a mother, a partner, sister, student, and friend. Therapy involved clarifying their goals and accomplishments, and identifying activities they find enjoyable. This information was often incorporated into visual aids such as a Coping Cards or Affirmation Statements, and helped moms to develop alternative responses for dysfunctional thoughts or reactions or simply to feel less upset with a situation.

"Doing" (e.g., changing routines or increasing overall activity level) was often equally important as sitting and reflecting for the majority of mothers because it served as an impetus - "move a muscle, change a thought." Mothers learned to very concretely focus on wellbeing by engaging in actions that shifted their outlook and helped them feel less passive. Examples include: taking a walk, playing with their child, cooking, baking a cake, knitting, writing in a journal or poetry, listening to religious music or reading spiritual texts. Many mothers were also open to practicing mindfulness-based techniques especially to cope with particularly stressful events. Strategies such as guided imagery, calming exercise, meditation, and deep (diaphragmatic) breathing were very important for helping moms who felt overwhelmed, upset, and could not otherwise calm themselves.

As described above, application of newly learned strategies is a primary emphasis in CBT. As early as the second session, the therapist told the participating mothers, "I am going to teach you how to be your own therapist, *tailored to you!*" "You can start today." "*YOU* can decide what kind of day to have." "You can write them [strategies] down, and practice them." Many of the mothers found this very empowering. The majority were able to grasp the CBT concepts and principles: thinking errors "rang true," they mastered the Thought Record (and other visual aids) and completed many of them. Over the course of treatment, clients compiled their own individualized folder with everything that they had learned for coping with depressive episodes. For example, while a Thought Record was used to help develop a more balanced view about a fear, worry, or sadness, and the Advantages and Disadvantages visual aid was used to brainstorm solutions to specific problems, Coping Cards highlighting strengths or affirmations were used to replace negative thinking with more positive images and thoughts. Through this process moms became open to new ways of thinking, and paid more and more attention to their thoughts, feelings, and actions. By the end of treatment, many claimed they were "no longer a victim of thinking errors," were more hopeful and optimistic about the choices in their life and in their ability to apply coping strategies on their own and follow through when faced with hardships. Instead of feeling vulnerable and incompetent, mothers felt worthy of having goals and dreams, and more hopeful about being able to reach them. They appeared to have shifted from feeling weak and vulnerable to having a sense of their own power and control over their circumstances.

Summary reports following treatment indicated that for mothers receiving IH-CBT, 95% were using newly learned strategies for coping with negative thought patterns and depressive episodes (i.e., Thought Record, Coping Cards, Pros and Cons List, calming imagery, and deep breathing exercises); 84% reported a significant decrease in negative symptoms such as intense feelings of sadness, crying or episodes of angry rage; 74% were feeling much more optimistic and hopeful about themselves and their future; 42% were working toward specific goals related to employment and education; 42% reported they were more active on a day-to-day basis such as taking walks, shopping, exercising, and eating properly; and 37% reported that their parenting had improved as a result of receiving IH-CBT.



## STUDY RESULTS

The rate of recovery for the IH-CBT group was similar to the original IH-CBT trial: 68.3% no longer met criteria for depression at post, and 78% no longer met criteria at 3 month follow up. Group comparisons on self-reported depression over time were statistically significant. For mothers receiving treatment, self-reported ratings on symptoms of depression were significantly lower at post-treatment, compared to the control group. In addition, although the majority of the control group was also doing better by the 3-month follow-up, analysis indicated that over time mothers in the treatment group experienced significant improvements in depressive symptoms at an accelerated rate as compared to the control group. (See below Figures 1 & 2.).

Further exploration of the potential moderating influences of comorbidity showed that for mothers who were additionally diagnosed with an anxiety disorder (i.e., post-traumatic stress disorder, panic disorder, agoraphobia, social phobia, or generalized disorder) (N=28), the treatment group reported significantly lower levels of psychological distress (Global Severity Index as measured by the Brief Symptom Inventory) over time as compared to the control group (See below Figure 3). For mothers with PTSD in particular (N=13), the treatment group were rated significantly higher on functional adjustment over time relative to the control group and significantly lower on specific symptoms of psychological distress including obsessive-compulsive and somatization symptoms. (See below Figures 4 -6.)

## CONCLUSIONS

Results support the efficacy of IH-CBT in reducing maternal depression and extend its impact to other home visiting models with different geographic regions and populations. The quicker remission of symptoms for the treatment group is an important finding given evidence that the more severe and longer lasting the episode of maternal depression, especially when it occurs early in a child's life, the more severe and durable the effect on the child's development. For mothers with additional symptoms of anxiety disorders, a relatively common constellation in home visiting populations, treatment significantly improved overall functioning and alleviated symptoms of psychological distress. Qualitative analysis of treatment reports further suggests that mothers gained new perspectives for helping them continue to improve, and skills for resolving a depressive episode or preventing a relapse on their own.

### Results from primary analysis

Figure 1. Self-rating of depressive symptoms, Edinburgh Postnatal Depression Scale: IH-CBT compared with SHV

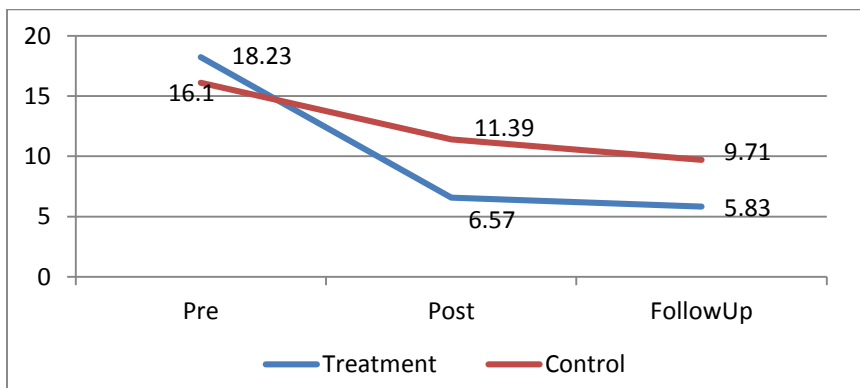
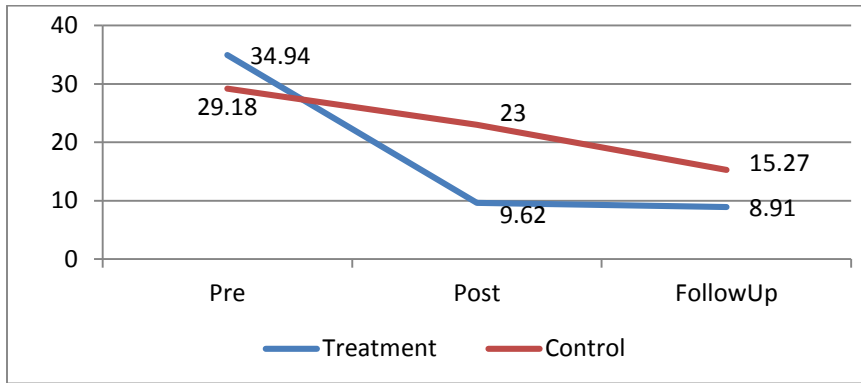
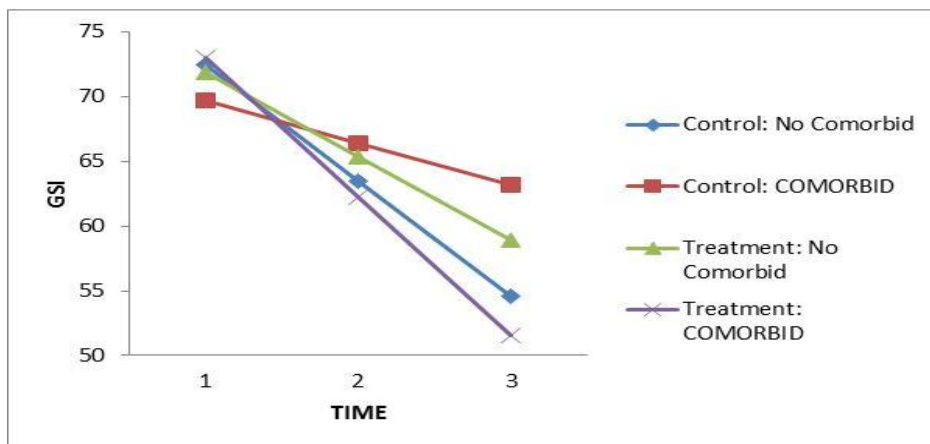


Figure 2. Self-rating of depressive symptoms, Beck Depression Inventory-II: IH-CBT compared with SHV



**Results from analyses exploring moderating effects of comorbidity**

Figure 3. Global Severity Index (measure of psychological distress): Group (IH-CBT/ SVH) by Comorbidity\*



\*Comorbidity: mothers who were additionally diagnosed with post-traumatic stress disorder, panic disorder, agoraphobia, social phobia, or generalized disorder

Figure 4. Global Assessment of Functioning (SCID): Group (IH-CBT/SVH) by Post-traumatic Stress Disorder

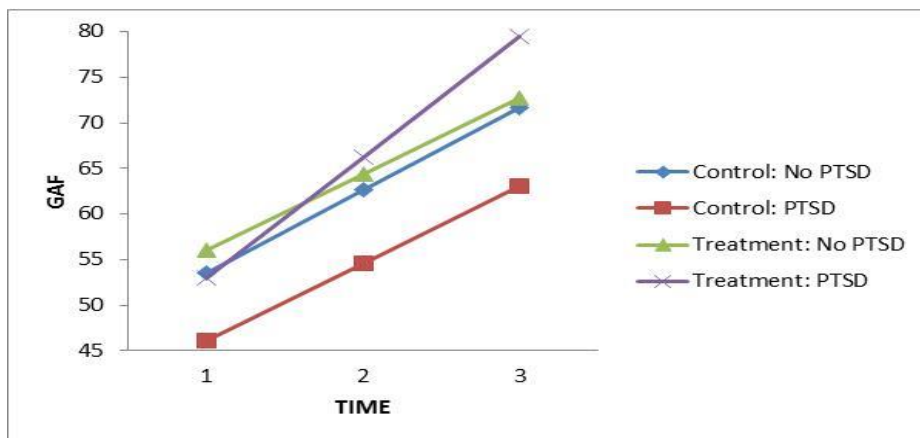


Figure 5. Obsessive-Compulsive Subscale: Group Condition (IH-CBT/SHV) by Post-traumatic Stress Disorder

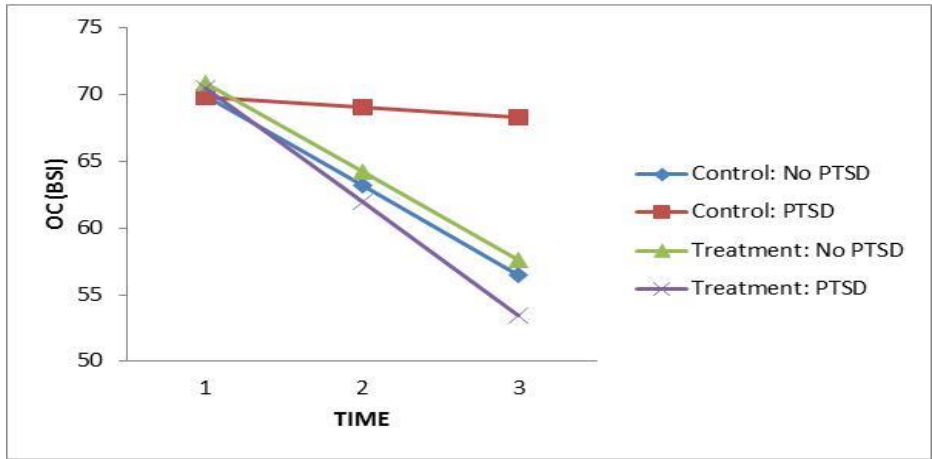
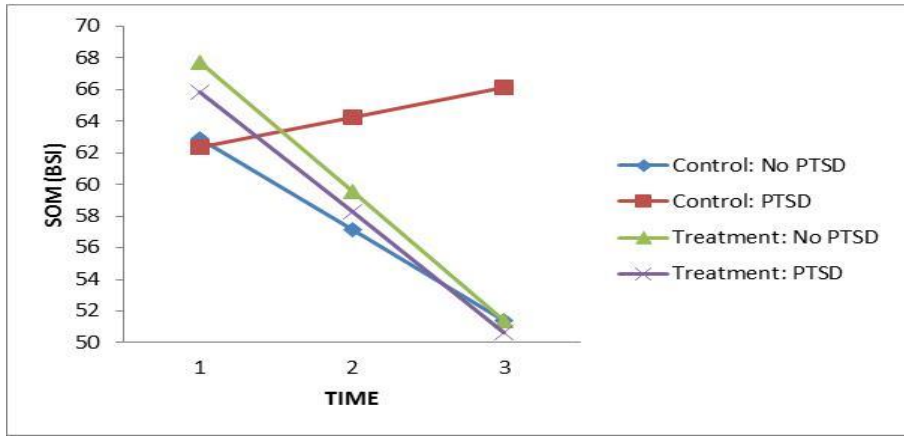


Figure 6. Somatization Subscale: Group Condition by Post-traumatic Stress Disorder



## REFERENCES

- <sup>1</sup>McFarlane, E., Crowne, S., Burrell, L., & Duggan, A. (2014). Home visiting service delivery and outcomes for depressed mothers. *Zero to Three, 34*(5), 53-60.
- <sup>2</sup>Segre, L. S. & Taylor, D., (2014). Implementing universal maternal depression screening in home visiting programs. *Zero to Three, 34*(5), 12-20.
- <sup>3</sup>Ammerman, R. T., Putnam, F. W., Altaye, M., Stevens, J., Teeters, A. R., & Van Ginkel, J. B. (2013). A clinical trial of in-home CBT for depressed mothers in home visitation. *Behav Ther, 44*(3), 359-372.
- <sup>4</sup>Ammerman, R. T., Putnam, F. W., Stevens, J., Bosse, N. R., Short, J. A., Bodley, A. L., & Van Ginkel, J. B. (2011). An open trial of in-home CBT for depressed mothers in home visitation. *Matern Child Health J, 15*(8), 1333-1341.
- <sup>5</sup>Ammerman, R. T., Putnam, F. W., Stevens, J., Holleb, L. J., Novak, A. L., & van Ginkel, J. B. (2005). In-Home Cognitive-Behavior Therapy for Depression: An Adapted Treatment for First-Time Mothers in Home Visitation. *Best Practice in Mental Health, 1*(1), 1-14.
- <sup>6</sup>Koniak-Griffin, D., Logsdon, M. C., Hines-Martin, V., & Turner, C.C. (2006). Contemporary mothering in a diverse society. *Journal of Obstetric, Gynecologic, Neonatal Nursing, 35*(5), 671-678.
- <sup>7</sup>Canadian Paediatric Society (2004). Maternal depression and child development. *Paediatric Child Health, 9*(8), 575-583.
- <sup>8</sup>Kessler, R. C., Berglund P., Demler O., et al. (2003). The epidemiology of major depressive disorder: results from the National Comorbidity Survey Replication (NCS-R). *Journal of the American Medical Association, 289*, 3095-3105.
- <sup>9</sup>Center for Disease Control and Prevention. (2008). Prevalence of Self-Reported Postpartum Depressive Symptoms -- 17 States, 2004--2005. Morbidity and Mortality Weekly Report (MMWR): Retrieved from <http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5714a1.htm>.
- <sup>10</sup>Mora, P. A., Bennett, I. M., Elo, I. T., Mathew, L., Coyne, J. C., & Culhane, J. F. (2009). Distinct trajectories of perinatal depressive symptomatology: evidence from growth mixture modeling. *Am J Epidemiol, 169*(1), 24-32.
- <sup>11</sup>Maresa, I. (2004). *Community Care Networks for Depression in Low-Income Communities and Communities of Color: A Review of the Literature*. Submitted to Annie E. Casey Foundation. Washington, CD: Howard University School of Social Work and the National alliance of Multiethnic Behavioral Associations.
- <sup>12</sup>Lanzi, R.G., Pascoe, J. M., Keltner, B., Ramey, S. L. (1999). Correlates of maternal depressive symptoms in a national Head Start program sample. *Archive of Pediatric Adolescent Medicine 153* (8), 801-807.
- <sup>13</sup>Hobfoll, S. E., Ritter, C., Lavin, J., Hulsizer, M. R., & Cameron, R. P. (1995). Depression prevalence and incidence among inner-city pregnant and postpartum women. *J Consult Clin Psychol, 63*(3), 445-453.
- <sup>14</sup>Keller, M. B., Lavori, P.W., Mueller, T. I., Endicott, J., Coryell, W. Hirschfeld, R.M., & Shea, T. (1992). Time to recovery, chronicity, and levels of psychopathology in Major Depression. *Arch Gen Psychiatry, 49*(10), 809-816.
- <sup>15</sup>Hay, D. F., Pawlby, S., Angold, A., et al. (2003) Pathways to violence in the children of mothers who were depressed postpartum. *Developmental Psychology, 39*, 1083– 1094.
- <sup>16</sup>Bagner, D. M., Pettit, J. W., Lewensohn, P. M., & Seeley, J. R. (2010). Effects of maternal depression on child behavior: A sensitive period? *Journal of the American Academy of Child and Adolescent Psychiatry, 40*, 699-707.
- <sup>17</sup>Cummings, E. M. & Davies, P. T. (1994). Maternal depression and child development. *Journal of Child Psychology and Psychiatry, 35*(1), 73-112.
- <sup>18</sup>Forman, D., O'Hara, M., Stuart, S., Gorman, L., Larsen, K., & Coy, K. (2007). Effective treatment for postpartum depression is not sufficient to improve the developing mother child relationship. *Development and Psychopathology 19*, 585-602.
- <sup>19</sup>Pearson, R. M., Evan, J., Kounali, D., Lewis, G., Heron, J., Ramchandani, P. G., & Stein, A. (2013). Maternal depression during pregnancy and the postnatal period: risks and possible mechanisms for offspring depression at age 18 years. *JAMA Psychiatry, 70*(12), 1312-1319.
- <sup>20</sup>Center on the Developing Child at Harvard University (2009). *Maternal Depression Can Undermine the Development of Young Children: Working Paper No.* <http://www.developingchild.harvard.edu>.
- <sup>21</sup>Maternal depression in infancy predicts a child's likelihood of increased cortisol levels at preschool age, which in

- turn has been linked with internalizing problems such as anxiety, social wariness, and withdrawal (Ashman et al., 2002).
- <sup>22</sup> Field T. (1992). Infants of depressed mothers. *Developmental Psychopathology*, 4, 49-66.
- <sup>23</sup> Essex, M. J., Klein, M. H., Miech, R., & Smider, N. A. (2001). Timing of initial exposure to maternal major depression and children's mental health symptoms in kindergarten. *The British Journal of Psychiatry*, 179 (2), 151-156.
- <sup>24</sup> O'Hara M.W. (1997). The nature of postpartum depressive disorders. In: Murray L, Cooper PJ, editors. *Postpartum Depression and Child Development*. New York: Guilford; 1997. pp. 3–31.
- <sup>25</sup> Weissman, M.M, Pilowsky, D.J., Wickramaratne, P.J., Talati, A., Wisniewski, S.R., Fava, M., et al. (2006). Remissions in maternal depression and child psychopathology. *Journal Of American Medical Association*, 295, 1389-1398.
- <sup>26</sup> Goodman, S.H. & Gotlib, I.H. (1999). Risk for psychopathology in the children of depressed mothers: a developmental model for understanding mechanisms of transmission. *Psychol Rev*. 106(3), 458-90.
- <sup>27</sup> Kessler, R. C., Berglund P., Demler O., et al. (2003). The epidemiology of major depressive disorder: results from the National Comorbidity Survey Replication (NCS-R). *Journal of the American Medical Association*, 289, 3095-3105.
- <sup>28</sup> Ammerman, R. T., Putnam, F. W., Altaye, M., Chen, L., Holleb, L. J., Stevens, J., Van Ginkel, J. B. (2009). Changes in depressive symptoms in first time mothers in home visitation. *Child Abuse Negl*, 33(3), 127-138.
- <sup>29</sup> Postpartum Support Internationl. (2015). *Perinatal Mood and Anxiety Disorders FACT SHEET*. <http://www.postpartum.net/wp-content/uploads/2014/11/PSI-PMD-FACT-SHEET-2015.pdf>
- <sup>30</sup> Stevens, J., Ammerman, R. T., Putnam, F. G., & Van Ginkel, J. B. (2002). Depression and trauma history in first time mothers receiving home visitation. *Journal of Community Psychology*, 30(5), 551-564.
- <sup>31</sup> Whitaker, R. C., Orzol, S. M., Kahn, R. S. (2006). Maternal Mental Health, Substance Use, and Domestic Violence in the Year After Delivery and Subsequent Behavior Problems in Children at Age 3 Years. *Arch Gen Psychiatry*, 63(5), 551-560.
- <sup>32</sup> Abrams, L. S., Dornig, K., & Curran, L. (2009). Barriers to service use for postpartum depression symptoms among low-income ethnic minority mothers in the United States. *Qualitative Health Research*, 19(4), 535-551.
- <sup>33</sup> Hughes, M., Damboise, M.C., Erdmans, M.P., Lamkins, K., Black, T. (2008). Revisiting the cultural broker model. *Nurturing Families Network: 2008 Annual Evaluation Report*. Center for Social Research, University of Hartford.
- <sup>34</sup> Ammerman, R. T., Putnam, F. W., Teeters, A. R., & Van Ginkel, J. B. (2014). Moving Beyond Depression: A Collaborative Approach to Treating Depressed Mothers in Home Visiting Programs. *Zero to Three*, 34(5), 20-28.
- <sup>35</sup> Knitzer, J., Theberge, S., Johnson, K. (2008). *Reducing Maternal Depression and Its Impact on Young Children: Toward a Responsive Early Childhood Policy Framework*. Project Thrive, Issue Brief No. 2. National Center for Children in Poverty, Columbia University, Mailman School of Public Health.
- <sup>36</sup> Beck, A.T., Rush, A.J., Shaw, B.F., & Emery, G. (1979). *Cognitive Therapy of Depression*. New York: Guilford Press.
- <sup>37</sup> Beck, A.T. (2011). *Cognitive behavior therapy: Basics and beyond* (2nd ed). New York, NY: Guilford.
- <sup>38</sup> Nemeroff, C.B., Heim, C.M., Thase, M.E., Klein, D.N., Rush, A.J., Schatzberg, A.F., et al. (2003). Differential responses to psychotherapy versus pharmacotherapy in patients with chronic forms of major depression and childhood trauma. *Proceedings of the National Academy of Sciences*, 100, 14293-14296.
- <sup>39</sup> Hays, P. A. (2009). Integrating evidence-based practice, cognitive-behavior therapy, and multicultural therapy: Ten steps for culturally competent practice. *Professional Psychology: Research and Practice*, 40(4), 354-360.
- <sup>40</sup> Nay, W. R. (1995). Anger and aggression: Cognitive-behavioral and short term interventions. In L. Vandercreek, S. Knap, & T. Jackson (eds.) *Innovation in Clinical Practice*. Sarasota FL: Professional Resource Press.
- <sup>41</sup> Nay, W. R. (2004). *Taking Charge of Anger: How to Resolve Conflict, Sustain Relationships, and Express Yourself without Losing Control*. New York, NY: The Guilford Press
- <sup>42</sup> Wehrenberg, M. (2008). *The 10 Best-Ever Anxiety Management Techniques: Understanding How Your Brain Makes You Anxious and What You Can Do to Change It*. New York, NY: W.W. Norton & Company, Inc.