Published in final edited form as:

Cogn Behav Pract. 2018 August ; 25(3): 402–415. doi:10.1016/j.cbpra.2017.10.002.

Treatment of Maternal Depression With In-Home Cognitive Behavioral Therapy Augmented by a Parenting Enhancement: A Case Report

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Abstract

Depression is prevalent among mothers who participate in home visitation programs. This case study describes In-Home Cognitive Behavior Therapy (IH-CBT), an empirically based treatment for depressed mothers that is strongly integrated with ongoing home visitation. The use of a Parenting Enhancement for Maternal Depression (PEMD) module was added to address parenting difficulties in a depressed mother. This case describes issues and challenges encountered in delivering treatment in the home with low-income, depressed mothers. Issues involving engagement, adaptation to the setting, responding to the unique needs of low-income mothers, and partnership with concurrent home visiting to optimize outcomes are considered. Long-term follow-up (18 months after the end of treatment) permits examination of sustainability of gains. Implications for treating this high-risk population are discussed.

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The authors declare that there are no conflicts of interest.

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Keywords

home visiting; low-income mothers; maternal depression; cognitive behavioral therapy; parenting

Major depressive disorder (MDD) affects a significant proportion of pregnant women and new mothers. Approximately 13% of women meet criteria for MDD postpartum (O'Hara & McCabe, 2013). Despite the potential attributions of certain depressive symptoms (e.g., changes in energy, mood fluctuations) as transitory and pregnancy specific, most women will experience symptoms for an extended period (e.g., > 5 months; Sexton et al., 2012). For many new mothers, the onset of MDD occurs during pregnancy (Banti et al., 2011). Another study examined self-reported depression measured at 10 time points over the first 12 years, reporting that 20.7% exceeded clinical cutoffs on average at one or more time points (Campbell, Morgan-Lopez, Cox, & McLoyd, 2009). Recent directives from the U.S. Preventative Services Task Force call for universal screening of all pregnant women and new mothers to identify and treat this debilitating condition (Siu & U.S. Preventive Services Task Force, 2016).

Maternal depression leads to significant functional impairment and contributes to poor cognitive, socio-emotional, and developmental outcomes in children (Kingston, Tough, & Whitfield, 2012; Pearson et al., 2013). The impact is particularly acute in the first year of a child's life, a sensitive period for developmental capabilities (Bagner, Pettit, Lewinsohn, & Seeley, 2010). As depression typically occurs in episodes that vary in length and severity, depressed mothers may struggle to develop and maintain a consistently nurturing and stimulating environment for their children (Garner, 2013). The key tasks of caregiving during infancy, such as recognizing infant cues and attending to needs, soothing, secure attachment, and providing social stimulation, are undermined by depressive symptoms. Depressed mothers struggle to recognize infant cues, are typically preoccupied with their own negative emotional state, and lack the energy to provide a consistent environment that promotes adequate development (Kleiber & Dimidjian, 2014). The offspring of depressed mothers are at higher risk for attentional problems, externalizing and internalizing behavior problems, and academic underachievement (Goodman et al., 2011).

Low-income mothers are at especially elevated risk for developing MDD and in experiencing the deleterious consequences of the condition (Levy & O'Hara, 2010). Rates of depression are typically two to three times greater than the general population, and a more persistent course has been described in low-income mothers relative to their higher-resource counterparts (Teeters et al., 2016). Chronic stressors, unstable housing, family and community violence, and financial hardship all contribute to elevated risk for depression in low-income mothers. Moreover, most depressed low-income mothers receive no or inadequate mental health treatment (Bishop, Press, Keyhani, & Pincus, 2014). Barriers to obtaining mental health services include transportation problems, stigma, poor prior experiences with treatment, inadequate community capacity, and chaotic home environments. When treatment is obtained, it is more often antidepressant medications rather than evidence-based psychological interventions (Huybrechts et al., 2013), even though

pharmacotherapy is less effective for women with histories of trauma, a common experience in low-income women (Williams, Debattista, Duchemin, Schatzberg, & Nemeroff, 2016).

Maternal Depression and Home Visiting Programs

Home visiting is a widely disseminated, evidence-based prevention strategy for young mothers and their families. Most mothers who participate in home visiting programs are low income, have had experiences with violence, and struggle to meet the demands of parenting (Adirim & Supplee, 2013). Originally designed to prevent child maltreatment, home visiting programs have broadened to encompass multiple approaches that optimize maternal and child health in vulnerable contexts (Finello, Terteryan, & Riewerts, 2016). They typically share six common elements: (a) enrollment early in the child's life (or prenatally) in order to intervene before negative outcomes are manifested, (b) engagement of mothers early in their roles as parents before maladaptive parenting practices become established, (c) strengthening individual and family protective factors and mitigating risk factors to set maternal and child health trajectories in the direction of normative development, (d) use of multiple strategies and resources to address varied maternal and child needs, (e) frequent contact between home visitors and families to allow sufficient opportunity to deliver specific content and interventions, and (f) extended program duration to ensure that home visitors are present during developmental transitions in which new needs of mothers and children emerge. Although a precise count has not been conducted, it is estimated that there are currently over 1,000 publicly and privately funded home visiting programs providing services for at least 650,000 children in the United States (Astuto & Allen, 2009; Health Resources and Services Administration, 2016).

The primary risk factors for developing depression in pregnancy and postpartum—trauma history, young age, social isolation, educational underachievement—are widely represented among mothers enrolled in home visiting programs. Ammerman, Putnam, Bosse, Teeters, and Van Ginkel (2010) reviewed the research on prevalence of maternal depression in home visiting and concluded that between 28%–61% of mothers have clinically elevated symptoms at some point during service. In a study of 231 mothers followed over 18 months and assessed at three time points using the Beck Depression Inventory-II, 39.5% met or exceeded a cutoff (17) associated with the psychiatric diagnosis of MDD, the most serious manifestation of depression (Teeters et al., 2016). Given that maternal depression moderates and undermines home visiting outcomes (Easterbrooks et al., 2013; McFarlane et al., 2013), it is imperative that approaches are developed to identify, prevent, and treat maternal depression in home visiting.

Home visiting offers a unique opportunity to reach and engage depressed mothers who would otherwise not receive treatment (Ammerman, 2017). Mothers may not seek treatment because they do not think it is needed or will be helpful, they have inconsistent transportation, they lack insurance, they experience delays in care, and/or they have limited provider options (Ammerman et al., 2013a; Bao et al., 2011; Miranda et al., 2003).

However, because mothers join home visiting to provide the best start for their children, appealing to this altruistic motive can be a powerful way to inspire them to consider

treatment to benefit their child's health and development. Scheduled screening for depression increases the likelihood that mothers will be identified early in their depressive episode. Providing treatment at that time may accelerate recovery and reduce the child's exposure to the effects of a depressed primary caregiver. Engagement in treatment is facilitated by leveraging the strong relationship that mothers have with their home visitors. Encouraged to consider treatment by a trusted home visitor, depressed mothers are more open to entering treatment.

In-Home Cognitive Behavioral Therapy (IH-CBT)

IH-CBT was developed to address the needs of depressed mothers receiving home visiting (Ammerman et al., 2011). CBT is an established, evidence-based treatment that has consistently been found to be effective in the treatment of depression (Butler, Chapman, Forman, & Beck, 2006). Implemented by separate therapists who provide treatment concurrently with ongoing home visiting provided by a home visitor, IH-CBT combines the core principles and techniques of CBT (J. Beck, 2011) with procedures and strategies that promote engagement, make content relevant to the needs of mothers in home visiting, facilitate delivery in the home, and explicitly foster a collaborative relationship between the therapist and home visitor to smoothly coordinate services. IH-CBT is an enhancement to standard home visiting that emphasizes the reduction of maternal depressive symptoms and recovery from MDD, thereby allowing home visitors to attend to issues related to parenting, maternal functioning, and child development.

Empirical support for IH-CBT was established in a clinical trial comparing mothers who received IH-CBT and concurrent home visiting with those who received home visiting alone (Ammerman et al., 2013a). In this study, 93 mothers were first identified using the Edinburgh Postnatal Depression Scale (Cox, Holden, & Sagovsky, 1987) administered at 3 months postpartum as part of a standardized screening schedule. This was followed by diagnosis of MDD using a semistructured interview. Following random assignment to treatment and control groups, mothers were reassessed at posttreatment and at 3-month follow-up. Results indicated that mothers receiving IH-CBT experienced significant benefits in terms of depression reduction relative to controls. Compared to those receiving home visiting alone, mothers in the IH-CBT condition were less likely to meet diagnostic criteria for MDD at posttreatment, reported fewer depressive symptoms, and obtained lower scores on clinician ratings of depression severity.

Mothers receiving IH-CBT also reported increased social support, improved functioning in day-to-day activities, and decreased psychological distress (Ammerman et al., 2013b). Gains were maintained at 3-month follow-up. Findings remained when controlling for other psychiatric conditions, severity of MDD, therapist, home visiting model, and number of home visits. It is noteworthy that some mothers in the standard home visiting condition received treatment in the community, although as expected, this was often insufficient or ended prematurely. Mothers received a significantly larger dose of IH-CBT treatment than what is typically observed in center-based mental health settings (11.2 vs. 4.3 sessions; Hansen, Lambert, & Forman, 2002). Mothers who completed all sessions of IH-CBT treatment did especially well, with 78.3% no longer meeting criteria for MDD at

posttreatment and 90.5% recovered at follow-up. Mothers who recovered from depression reported increased ability to cope with stress related to the parenting role and more nurturing parenting of their children (Ammerman et al., 2014). A recent economic analysis found that IH-CBT was cost-effective in comparison to standard treatment for depression (Ammerman, Mallow, Rizzo, Putnam, & Van Ginkel, 2017).

Parent Enhancement for Major Depression (PEMD) in the Context of Home Visiting

During the development of IH-CBT, the treatment focus was almost exclusively on reduction of depressive symptoms. Issues related to parenting and child functioning were referred to home visitors. In the revision (Putnam & Ammerman, 2009), a module was added that addressed two core features of parenting in depressed mothers that have been found to be particularly resistant to treatments that are limited to depression alone: negative attributions of children (Bolton et al., 2003) and sensitivity to child cues (Field, 2010). By incorporating these two elements into treatment, it was anticipated that parenting and child outcomes would improve, and that improvements would be accelerated and more durable. In addition, mothers would be even more amenable to the concurrent services provided by home visiting, thereby maximizing the synergistic benefits of IH-CBT and home visiting.

Through a series of activities and strategies drawn from the larger literature on increasing maternal sensitivity to cues and changing maternal attributions of child behavior (Cassidy & Shaver, 2008), mothers interact with their children under the direction of the therapist, who in turn elicits attributions and guides mothers through the process of identifying, correctly labeling, and interpreting child emotional needs and cues. Accordingly, three components comprising PEMD were added to the treatment manual. First, mothers were shown 25 pictures of young children with facial expressions reflecting different emotional states (e.g., fear, joy). Mothers were asked to identify these emotional states and describe what about the facial expressions led to their interpretations. Mothers were also asked to describe their own child's emotional states and give examples of how they detected these through descriptions of facial expressions and behavior. The purpose of this activity was to enhance awareness of child cues, improve interpretation of emotional states through facial expression and behavior, and address misattributions that depressed mothers often make about their children.

The second component involved having mothers keep track of their baby's sleep, wake, and feeding cycles. A colorful form depicting two 12-hour cycles of daytime and nighttime with hourly hash marks was used to record these child states. Mothers complete this over 3 weeks and results are reviewed and discussed at each session. The purpose of this activity was to increase awareness and understanding of the child's biobehavioral rhythms and to generate discussion of child cues, relationship between rhythms and family routines, and adapting to rhythms and anticipating needs. Through a deeper understanding and awareness of child behavior and rhythms, mothers are better able to plan, appreciate child needs, and develop a greater sense of parenting effectiveness. Such discussions also provided opportunities to elicit misattributions and address these.

The third component consisted of asking mothers and children to play a game on the floor for 5 minutes. Games were interactive, such as peek-a-boo or playing with a stuffed animal. These were videotaped, and the therapist and other reviewed the recording. The therapist guided the mother in discussing the interaction with a focus on the child's behavior, interpretation of cues, identification of emotional state, awareness of mother's emotional reactions and behavior, and mother's attributions of the child.

These components were sequentially introduced in Sessions 4 through 9. They were seamlessly embedded in the IH-CBT session, extending the length of these sessions to 70 to 75 minutes. PEMD is consistent with the CBT approach, as misattributions often emerge from the irrational cognitive schemas that also contribute to depression. Likewise, the strategies used to increase maternal sensitivity to child cues are skills-based and developmentally informed, and highly compatible with CBT.

Method

All participants in the study from which this case was selected were enrolled in a home visiting program for first-time mothers. The home visiting program involved a home visitor who provided information, support, and coaching to new mothers in order to enhance positive parenting and optimize child development outcomes. Enrollment criteria for the home visiting program consisted of having at least one of four characteristics: unmarried, low income (200% of poverty), 17 years of age, and inadequate prenatal care. Mothers enrolled during pregnancy or up to the child being 3 months of age. Home visitors see mothers about 2 to 3 times per month during the first year of the child's life and these taper until the child is 2/12 to 3 years of age (Ammerman et al., 2007). The mother in this case received the Healthy Families America model of home visiting (Holton & Harding, 2007). The curriculum emphasized healthy pregnancy, child health and development, positive parenting, and linkages to community services. Depression is not specifically addressed in the home visiting.

This case was selected from participants in a randomized clinical trial. Treatment was provided by a master's-level mental health clinician who was trained in IH-CBT and supervised. Treatment was provided during ongoing home visiting although services were provided separately. Inclusion criteria for the study were 16 years or older, English speaking, and diagnosed with MDD. Exclusion criteria were psychosis, substance dependence, intellectual disability, and mental disorder due to general medical conditions, and current psychological or antidepressant medication treatment. The case was selected because it reflects many of the challenges and opportunities in providing CBT in the home and concurrent with home visiting.

Participant

Lisa (names and identifying details have been changed to preserve anonymity) is a 24-year-old White mother of a 3 1/2-month-old infant White girl who was referred to the study and randomly assigned to the IH-CBT condition. She resided with her grandfather in his trailer with her daughter. The father of the baby lived outside of the home but visited frequently. She had no history of previous mental health treatment. Lisa had joined home visiting

prenatally, and prior to the pretreatment assessment she had received home visiting for 10 months.

As a child, Lisa was raised primarily by her maternal grandfather. Although her parents were both living, she had minimal contact with her father, who was an alcoholic and lived out of state. She endorsed experiencing severe emotional abuse and physical neglect from her biological parents, feeling as though she was not loved or wanted by her parents, receiving hurtful comments from family members, and not being provided with adequate medical care. At the time of treatment, Lisa's mother was being cared for in a nursing home. Her maternal grandmother had passed away when she was 4 years old. Lisa's grandfather was a significant source of support and assisted daily in caring for her baby. Lisa had been dating the father of the baby for approximately 1 year. She indicated she did not have close friends. Lisa identified several current stressors, including the relationship with her boyfriend, taking care of her baby, often feeling judged by others, feelings of guilt that her grandfather was taking on the role of the baby's father, conflict in her work environment, and a fear that she would not be able to manage all her responsibilities as a mother, girlfriend, granddaughter, and employee.

Procedure

Lisa was first identified using a screen administered by the home visitor at 3 months postpartum. Lisa had reservations about treatment, expressing concern about the effectiveness of therapy and wariness of starting an additional service. She was pleased that it would be provided in her home, allowing her to work around her busy schedule and childcare and other family responsibilities. The home visitor encouraged her to try it, noting that if successful it would be beneficial to both her and her daughter, and would likely help her get the most out of home visiting. Her grandfather was supportive as well, and Lisa agreed to a referral being made and an assessment scheduled. Following referral to the study, a pretreatment assessment was conducted in Lisa's home by a separate provider, a master's-level mental health clinician. Table 1 presents the pretreatment, posttreatment, and 6- and 18-month follow-up scores on assessment measures.

Measures

Screening: The screen was the Edinburgh Postnatal Depression Scale (EPDS; Cox et al., 1987), a 10-item self-report measure of depressive symptoms. It has been extensively studied and used in a number of countries due to its good sensitivity, specificity, and positive predictive values (Boyd, Le, & Somberg, 2005). Items consist of depressive symptoms that are endorsed on a 4-point scale indicating occurrence and severity over the past week, yielding a total score. The EPDS was used by the home visitor to screen for eligibility for the full assessment using a cutoff of 11, a level highly associated with likely diagnosis of MDD (Ji et al., 2011). Lisa received a score of 11. Assessments were repeated at posttreatment, and then at 6-, 12-, and 18-months posttreatment.

Maternal Psychological and Social Functioning: The Structured Clinical Interview for DSM-IV Axis I Disorders (SCID-I, January 2007 version; Spitzer, Williams, Gibbon, & First, 1992) was used to diagnose MDD and comorbid psychiatric conditions. The SCID-I is

a semistructured psychiatric interview widely used in research and clinical practice. Lisa met criteria for MDD, Single Episode, Moderate with Postpartum Onset. She reported the following MDD symptoms: dysphoria, anhedonia, hypersomnia, psychomotor retardation, feelings of worthlessness, difficulty concentrating, and suicidal ideation. Lisa indicated that she had experienced suicidal thoughts of wondering “what would it be like if I were not here” but had no plan and denied intent.

The Beck Depression Inventory-II (BDI-II; Beck, Steer, & Brown, 1996) is a widely used self-report screen of depressive symptomatology, with strong reliability and validity features. It consists of 21 items indicating presence of symptoms over the past 2 weeks by endorsing one of four statements reflecting severity, yielding a total score. The BDI-II was administered at pretreatment, all 15 therapy sessions, and follow-up assessments. Lisa obtained a score of 30 on the BDI-II at pretreatment, indicating a severe level of depressive symptoms.

The Hamilton Rating Scale for Depression (HRSD; Hamilton, 1960) is a widely used clinician rating that consists of depressive symptoms that are recorded using 5- or 3-point scales reflecting presence and severity over the past week. Lisa obtained a score of 17, indicating a moderate level of depression.

The PTSD Checklist–Stressor Specific Version (PCL-S; Weathers, Litz, Herman, Huska, & Keane, 1993) is a self-report rating scale for assessing the 17 DSM-IV symptoms of posttraumatic stress disorder (PTSD). It has excellent test-retest reliability and internal consistency (Blanchard, Jones-Alexander, Buckley, & Forneris, 1996). Three versions of the PCL are available. The PCL-S is a nonmilitary version that can be referenced to any specific traumatic event; the questions refer to “the stressful experience.” Lisa’s total severity score of 46 at pretreatment indicated a positive screen for PTSD.

The Interpersonal Support Evaluation List (ISEL; Cohen & Hoberman, 1983) is a widely used self-report of social support that has been utilized with clinical and nonclinical populations. This measure consists of 40 items regarding the availability and use of tangible and emotional support from others using a 4-point scale. Sample items include: “If I were sick, I could easily find someone to help me with my daily chores,” and “There is at least one person I know whose advice I really trust.” The ISEL has excellent reliability and validity (Cohen & Hoberman, 1983). At pretreatment, Lisa obtained a total score of 62, which was slightly higher than the mean score found by Ammerman et al. (2013b) for depressed mothers.

Parenting and Child Functioning: The Parenting Stress Index—Short Form (PSI-SF; Abidin, 1990) is a widely used standardized, self-report measure in which respondents indicate agreement with 36 items using a 5-point scale. The PSI-SF Total Stress score is the sum of its three subscales: Parental Distress, Parent-Child Dysfunctional Interaction, and Difficult Child. The PSI-SF has excellent validity, internal consistency, and test-retest reliability (Abidin, 1990; Haskett, Ahern, Ward, & Allaire, 2006). At pretreatment, Lisa’s Total Stress score was at the 93rd percentile.

The Bayley Scales of Infant and Toddler Development (BSID; Bayley, 2006) is a standardized, well-established measure of developmental functioning of infants and toddlers between 1 and 42 months of age. The BSID consists of 5 scales: (1) the cognitive scale; (2) the language scale; (3) the motor scale; (4) the social emotional scale; (5) the adaptive behavior scale. The cognitive and language scales were administered by a trained psychologist. Results from the pretreatment administration of the BSID indicated a cognitive score of 90 (25th percentile) and a language score of 100 (50th percentile).

The Home Observation for Measurement of the Environment (HOME; Caldwell & Bradley, 1984) is an interview and observational measure of the home environment and parenting practices. It consists of 45 items clustered into six subscales: Parental Responsivity, Acceptance of Child, Organization of the Environment, Learning Materials, Parental Involvement, and Variety of Stimulation. A total score is calculated by summing the number of positive responses. Higher total HOME scores indicate a more enriched home environment. Validity, internal consistency, and test-retest reliability for the total score have been well established (Caldwell & Bradley, 1984). On the HOME Inventory, Lisa obtained a Total score of 37 (upper 25 percent).

Treatment

Lisa received 15 sessions of IH-CBT. Designed for use with mothers 16 years and older who have MDD, IH-CBT consisted of 15 weekly sessions that last about 60 to 75 minutes, plus a booster session at 1-month posttreatment. The focus and content of treatment primarily target depression reduction. Treatment elements include behavioral activation, identification of automatic thoughts and schemas, thought restructuring and reframing, and cognitive rehearsal (Hollon & Dimidjian, 2009). Relapse prevention is the focus in later sessions. The goals of relapse prevention are to reduce the likelihood of additional MDD episodes, delay the onset of the next episode, ensure that a subsequent return of depression is identified early, and entrench learned skills that mothers can apply to facilitate a more rapid recovery. IH-CBT is structured, in that therapists use specific tools and follow a treatment manual (Putnam & Ammerman, 2009). It is also individualized where clinical content of treatment sessions is guided by what is important to mothers in their return to a healthy emotional state (Ammerman et al., 2014).

The PEMD focused on two core parenting deficits identified in depressed mothers: (a) lack of sensitivity to infant cues; and (b) negative attributions about the baby and themselves as parents (Forman et al., 2007). PEMD sessions were embedded in selected IH-CBT sessions (Table 2).

Results

Course of Treatment

Lisa's course of treatment was completed after 124 days. Table 2 summarizes the content themes of each session.

Session 1—The first session with Lisa occurred in her grandfather's trailer. Lisa was introduced to the program and an overview of IH-CBT. Goals were developed which

included increasing healthy communication, becoming more assertive, making a decision about returning to college, improving coping abilities, and increasing confidence in her skills as a mother. Additionally, Lisa described her fear of abandonment as a pattern in her life that stemmed from her grandfather's old age and deteriorating health, her boyfriend's current lack of effort in helping take care of their family, feeling distant and isolated from her friends, and her experience of being abandoned by her mother when she was 12 years old. Her first homework assignment utilized behavioral activation and recording her mood for each day. Some ongoing challenges to treatment, typically seen in providing in-home therapy, were evident in this first session (Ammerman, Putnam, Teeters, & Van Ginkel, 2014). The therapist needed to identify a suitable area for conducting therapy as the environment of the trailer was restrictive due to its small size, making privacy more difficult (Ammerman et al., 2013). To adapt to this challenge, Lisa's grandfather was asked to go into the living room, which was 10 feet away. He would watch television and entertain the baby. At times, the baby would cry and Lisa would get up to tend to her. Other distractions included a cat and a small dog. Both animals would frequently come into the kitchen area, jump up on the table, or jump onto the therapist's lap. Going forward, the therapist utilized the grandfather throughout subsequent sessions to help with distractions of the baby and purposely scheduled sessions at times when the grandfather was present so he could watch her during the sessions.

Sessions 2–3—Lisa continued to report events from her daily activity schedule. Automatic thoughts were examined in detail. She recalled that when she needed to reprimand an employee, she thought, “I feel like the bad guy,” “They hate me,” “I’m never going to get out of this place,” and “If I try to leave, my boss will think I’m an irresponsible person.” Lisa also reported fighting with her boyfriend when she was afraid to go out and leave her baby at home for a few hours while she and her boyfriend went to a New Year’s Eve party. Her thought, “What if I leave and something bad happens to the baby and I’m not there to take care of her?”, produced feelings of guilt and caused her to come home early from the party. She used “should statements” as part of her irrational thoughts— for example, “I should be at home taking care of my baby all day and all night,” “I should always be there for the baby in case something happens,” and “Doing a pleasurable activity is selfish and means I am a bad mother.”

Through cognitive restructuring, these cognitions were challenged and reframed into a more realistic perspective. Homework was assigned to engage in one pleasurable activity for each week, while leaving the baby at home and to record her mood before and after the activity. Because Lisa had discussed some concerns of finding suitable daycare options, after the session, the therapist contacted the home visitor to inquire whether she could provide child care resources.

Session 4—In this session, her relationship with the father of the baby was examined. Lisa became tearful when discussing her boyfriend, noting that he did not make their daughter a priority in his life. She explained that she wants him to take the initiative to care for the baby on his own. Lisa related this conflict with her boyfriend to how her parents were never there to take care of her when she was a child. Lisa expressed a fear of repeating the same cycle of

dysfunction with her own child that she experienced with her parents. Assertion training was implemented in this session to practice effective communication with her boyfriend to cope with her fears of becoming like her parents. Lisa completed the worksheet “Evaluating My Thoughts” in session with the thoughts, “I will become just like my parents” and “When we move out, my boyfriend won’t be responsible.” The following interchange took place during this exercise:

THERAPIST: What is the worst thing that could happen for the thought, “When we move out he won’t be responsible?”

LISA: I won’t be able to leave her at home with him. If I had to work at night, if he had to take her to daycare he wouldn’t get up in time, he would just put a pacifier in her mouth so he could sleep instead of feeding her. He wouldn’t change her because he is too tired. I start to think of neglect. I hate to say it because he is not really a bad person. I feel he is going to neglect her [*starts to cry*]. It’s hard to mention that because I don’t want to hurt his feelings and I don’t want to get into an argument with him but it’s hard to make him see things like that.

THERAPIST: How does it make you feel to think he could be neglectful?

LISA: It hurts. It makes me mad. I get scared, because she should be number one. I feel like if anything were to happen it would be my fault. Anything and everything, even if he is with her, I feel like it would be my fault.

THERAPIST: What makes you feel it would be your fault?

LISA: Because I left her with him knowing the consequences of what could happen. My mom let my grandma raise me. She still doesn’t know how to talk to me. She permanently put herself in a nursing home because she doesn’t want to take care of herself. They had no motivation to take care of me. I think that is why I am so hard on myself.

THERAPIST: You don’t want to repeat that cycle?

LISA: I think the cycle would be repeated if I would have stayed with her. But I have my grandparents who raised me differently. So it is a different cycle. I don’t want to use the term neglect but I don’t know why someone wouldn’t want that time with their child. I started crying when I was thinking about my parents before. It is a sore subject. My parents didn’t take the time for me. I push for (baby) because they didn’t do it for me.

PEMD activity: During 15 minutes of the session, the first PEMD exercise was introduced. The therapist opened the presentation of the task with an introduction to the stresses of parenting an infant. The therapist instructed Lisa to look at pictures of babies with positive, negative, or ambiguous facial expressions. Lisa was asked to identify the emotional state, and describe what aspects of the picture influenced her decision. This exercise also seeks to elicit misattributions that can often be tied to a general schema, and then built into the therapy. The therapist asked different questions while Lisa looked at certain pictures, such as “What can you tell me about this child, and what makes you think that?”; “What is this child feeling, how can you tell?”; “What is this child thinking, how can you tell?”; “How does this

picture make you feel?"; "What goes through your mind as you're looking at this picture?"; and "Have you ever seen your child make a facial expression like the one in the picture?" Lisa struggled with the first picture of a baby girl showing an excited expression with her mouth open. She could not decide if the baby was showing anger, happiness, or sadness. She thought the baby could either be screaming or laughing. These responses were similar to Lisa's insecurities in her own parenting skills. She would often question her own decisions or judgment with the baby, which would cause her to feel a great deal of anxiety. She related this picture to her own baby when she is hungry, kicking her legs fast or when she is mad. At the end of the exercise Lisa was asked to give feedback. She stated, "This was kind of hard because it's difficult to think of all the emotions a baby can go through." The therapist and Lisa discussed the benefit of sharing Lisa's observations with her home visitor and offered to provide the home visitor with a summary of this PEMD exercise, which Lisa supported.

Session 5—Lisa reported a drop in BDI-II score from a 20 to 13. Due to her rapid response to treatment, goals were reviewed. She reported, "I am getting control of my life back." She attributed this drop to feeling more confident after expressing her concerns and feelings to her boyfriend in an assertive manner regarding his involvement with caring for their daughter. Her boyfriend reportedly received this conversation well, and promised to help more. Lisa described a fear of what others would think of her at work if she quit, and she realized a pattern of trying to please everyone. She was given a thought record for her work situation. Automatic thoughts were elicited that included, "I will never accomplish anything in life"; "If I get a new job or go back to school, it will have a negative effect on the baby"; and "It is selfish for me to pursue my career goals because I will spend less time with the baby." These cognitions were engrained in her mind with an image of her daughter sitting alone in a daycare room, watching her walk out of the room with a flat affect. These maladaptive thoughts led to anxiety and depression, which Lisa believed were impeding her long-term goals. Through cognitive restructuring, she could examine her thoughts, and she admitted she could spend time with the baby if she managed her time well, and she would feel better about herself if she was working a job that she enjoyed, which in turn would allow her to enjoy being a mother.

PEMD activity: The emotional recognition activity was continued during 15 minutes of the session. This time, a different picture was used with varied types of facial expressions. Lisa was more responsive and confident in her ability to answer the questions about what the baby may be feeling or thinking compared to the previous session. She generated more than one interpretation for why the baby could be sad. The picture showed a baby making a sad face with tears coming out of her eyes. Lisa stated, "This picture was a lot easier than the other one, because I can relate this type of emotion better to my baby; she looks like this a lot more." Through this experiential exercise, Lisa could see that she was more aware and accurate in her labeling of child emotions. And she was better able to apply these learnings to understanding and describing her own child's emotional states.

Session 6—In the sixth session, Lisa indicated an increase in stress this week due to several events such as her mother being hospitalized for a staph infection, worrying she may be fired from her job, and finding out her boyfriend is seeing another girl. Although she

identified feeling more stressed this week, her appearance was remarkable compared to previous sessions. She was no longer in pajamas, she had fixed her hair and had applied makeup. Providing treatment in the home allowed the therapist to observe this change in her clinical presentation.

Lisa used a thought record to process her thoughts and feelings surrounding a situation when she went shopping for clothes and ended up feeling angry, depressed, and insecure. She explained her automatic thoughts were as follows: “I remind myself of my mom”; “I won’t end up obese like her and unable to care for myself”; and “People will look down on me because of the way I look.” The primary fear identified was related to Lisa ending up isolated, obese, and unable to function, just like her mother. She then connected her relationship and patterns of behavior with her boyfriend as mirroring that of her parents. She was able to restructure her irrational thoughts with minimal assistance, and she generated new rational, realistic thoughts. Lisa expressed her ambivalence with being in a relationship with her boyfriend.

PEMD activity: In 15 minutes of the session, a PEMD activity was incorporated to help Lisa identify and respond to her infant’s behavioral cues by keeping track of sleep/wake/feeding cycles. It was explained that if she tracks the baby’s cycles and can discern patterns, she can better anticipate what the baby may need or want throughout the day. The therapist gave her three blank sleep charts to complete for three different days/nights. The charts contained a picture of her baby at the top, a clock for the day on the left side, and a clock for the evening and nighttime on the left. The bottom of the sleep chart contained a key with different symbols (i.e., sleeping, feeding, crying). Lisa was encouraged to add other symbols to the key that her baby may engage in throughout the day or night. She expressed excitement seeing a picture of her baby on the sleep chart. The therapist asked her to talk about her baby’s sleep habits and what she notices about her sleep cycles.

Sessions 7–9—Lisa’s BDI-II scores continued to drop. She attributed her improved mood to her use of cognitive restructuring techniques at work and with family members, changing the way she was thinking about her leaving her job for a better job. She engaged in role playing an interview situation to model communication and assertiveness, as well as offer opportunities to practice using the techniques modeled. Thought stopping techniques were introduced for Lisa to use while at work when she would have a negative thought about her daughter being in daycare or when a customer was rude to her. Coping cards were used to help Lisa increase her confidence and ability to cope with difficult situations and emotions at work and at home as well as to inspire her to continue working towards setting goals for herself. The therapist spoke with the home visitor after Session 7 and informed her that she would be providing her a mid-treatment summary with details on Lisa’s progress on treatment goals. The home visitor updated the therapist as to her work on educating mother on child health and developmental milestones. Both agreed to reinforce each other’s efforts in their upcoming sessions.

PEMD activity: An additional PEMD module, mother-child play interactions, was introduced at the end of Session 9. The therapist worked with Lisa on learning different ways to interact, have fun, and teach her baby utilizing a list of different games to play

together. The list of activities contained a description, the appropriate age group for each game, any items needed, and the level of difficulty of the game. After reviewing the list and choosing three to five activities to play with the baby, the therapist then demonstrated how to do each one with Lisa. Lisa was asked to try a behavioral experiment in between sessions of utilizing these games and determining which games her baby liked. This was in anticipation of videotaping and discussing play interactions in the next session.

Sleep chart assignments were also reviewed. Lisa continued to complete the charts, and added some of her own keys unique to her baby: PY = Play, DC = Diaper change, TT = Tummy time, NT = Night time. Lisa acknowledged noticing a difference in her baby's nap times when she compared daycare days to when the baby was at home.

Sessions 10–12—In these sessions, the BDI-II score continued to drop, with Lisa reporting significant improvement in her depressive symptoms, including decreases in guilty feelings, blaming herself, crying spells, irritability and an increase in motivation, confidence and assertiveness. She continued to work on her core belief of feeling unlovable, which impacted her behavior of rejecting others. She began identifying her feelings of rejection as temporary when she would reframe her thoughts or change the situation. She was able to identify situations where she was assertive at work and completed her goal of getting a new job. A new goal was added to establish healthy boundaries with her mother while her other treatment goals remained unchanged. Through Socratic questioning, it was revealed that Lisa could either decide to focus on what she didn't have control over (i.e., her mother), and be disappointed and angry all of the time with her mother's lack of interest in having a relationship, or she could focus on the things she does have control over. Homework assignments involved composing a mock letter to her mother expressing her thoughts and feelings.

PEMD activity: In Session 10, the therapist videotaped Lisa engaging in five different games with the baby. The activities included the lap game, dancing game, face imitation game, mirror game, and object game. These were videotaped. The therapist and Lisa reviewed the videotapes and discussed her baby's behavior, emotional states, and how Lisa's positive parenting elicited a joyful response in her child. The therapist and Lisa engaged in an open discussion about certain cues the baby was expressing, and what the baby was thinking or feeling, as well as what Lisa was feeling or thinking as she was watching the video. Lisa noted how these positive, healthy interactions reinforced her confidence in her parenting skills as well as strengthened their bond.

At the beginning of the 12th session, the PEMD piece was further incorporated by reviewing the baby games Lisa had chosen the week prior, and then videotaping her playing these with her baby. She commented on which games the baby preferred and which games would cause the baby to laugh or smile. She stated she liked the face imitation game, but the mirror game was harder because the baby was easily distracted. During the videotaping, the therapist would provide minimal instruction or praise at first. After a few games the therapist would offer praise and constructive feedback while she interacted with the baby. In addition, sleep chart assignments were reviewed.

Sessions 13–14—Lisa continued to obtain 0 on her BDI-II. Socratic questioning and coping cards were used to point out her accomplishments despite growing up without her mother. Lisa used the letter she had written to her mother as a journal and thought record. During the 14th session, Lisa discussed a plan to move out of her grandfather's trailer with the father of the baby. The therapist worked with Lisa to develop her therapy summary for the next joint session with the home visitor. Lisa identified goals and areas in which progress was made by giving a self-rating of improvement on each goal on a scale from 0–100, before therapy and after therapy. She indicated each treatment goal had improved. She was able to acknowledge specific techniques, skills, and strategies learned throughout the course of treatment as well as ideas for relapse prevention, and ways her home visitor could help her in the future. The therapist and home visitor spoke after this session to schedule a joint session.

Session 15—At the 15th session, Lisa had moved into her own apartment with her boyfriend and the baby. Her grandfather and the home visitor were also present for the session. The grandfather could watch the baby while the joint session took place. Accomplishments and progress on goals were reviewed with the home visitor and Lisa acknowledged she was no longer depressed. The home visitor and Lisa agreed to use the therapy summary for reminders of progress, coping tools, and relapse prevention. The home visitor offered encouragement, as well as future support if needed to help Lisa to continue to achieve her goals. Lisa noted, “I have learned so much about myself. I never thought I would come this far, but I did, and it feels great to see how much work I put into myself.” The home visitor commented on several positive changes she had witnessed in Lisa over the course of therapy, including an increase in her self-esteem, being able to leave her old job and find a better job, increased motivation, her ability to handle stress better and her increased confidence as a mother with parenting the baby without her grandfather there at all times. The home visitor also spoke about her witnessing the decrease in crying spells and anxiety over leaving the baby at daycare. The therapist reiterated they could call anytime with questions or concerns in the future or if they needed a referral for services in the community.

Booster sessions: Based on the success of other studies utilizing booster sessions to maintain the benefits obtained during cognitive behavioral treatment, two maintenance sessions were scheduled (Clarke, Rohde, Lewinsohn, Hops, & Seeley, 1999; Fava & Kaji, 1994; Wesner, Gomes, Detzel, & Guimarães, 1994).

- **Booster #1**—Lisa's first booster session was held 1 month after treatment ended. Goals of this booster session were to continue to accelerate recovery, review therapy skills learned, discuss relapse prevention, update the therapy summary, continue self-monitoring, and discuss future areas of concern. During the session, the BDI-II was administered, and a score of 0 was obtained. Although there were several stressful events during this month, which included her uncle being accused of murder, she did not relapse. During this session, she shared her ambivalent thoughts and feelings around potentially contacting her uncle in jail. She reviewed how she had continued to successfully utilize several coping strategies during the month, including thought stopping.

- **Booster #2**—A second booster session was held about a month after her first booster session in Lisa's new apartment. Goals of this booster session were to continue to monitor her recovery, review therapy skills learned, discuss relapse prevention, continue self-monitoring, and assess her comfort in termination. The BDI-II was administered, and Lisa received a score of 0. This session provided another opportunity to address maladaptive thoughts and feelings associated with Lisa's mother. While setting the agenda, Lisa initially denied having any concerns or issues that had arisen since the last booster session. Although she reported feeling happy and excited because her mother had elected to receive gastric by-pass surgery, she became tearful as she admitted she had been trying to ignore her issues with her mom over the past month. Lisa utilized a thought record in the session to examine her negative thinking and required minimal assistance in the thought restructuring process. Lisa noted that the best possible outcome would be for her to learn to manage her emotions about their relationship, to process how she feels and what she is thinking, even at small increments of time. This enabled her to feel less overwhelmed and stressed, which would lead her to avoid these thoughts less. Lisa reported feeling comfortable ending therapy and confident she would use the skills and techniques for future stressful events in her life.

Symptom Reduction and Treatment Outcomes

At posttreatment and follow-ups, Lisa no longer met criteria for MDD, although she endorsed insomnia at her second (18 month) follow-up session. Lisa exhibited a 30-point reduction in self-reported depressive symptoms on the BDI-II from the assessment to posttreatment and follow-ups (see Table 1). She endorsed more depressive symptoms on the HRSD at the second posttreatment session. Her child demonstrated improvements in her cognitive scores on the BSID at posttreatment, but both the cognitive and language scores decreased at the 6-month follow-up assessment. However, at the 18-month follow-up assessment, scores improved once more, from the 6-month follow-up increasing from the 16th percentile to the 37th percentile (cognitive) and from the 27th percentile to the 66th percentile (language). These gains are modest, however. On the HOME, her scores improved from pretreatment to posttreatment as well as at her follow-up assessment. At all time points, the total scores are in the upper 25%. However, the Acceptance score was lower at the 18-month assessment, dropping into the bottom 25% range, indicating a lower acceptance of suboptimal behavior in her child. It is possible that continued and more intensive support in parenting skills would have been beneficial. Lisa no longer had a score on the PCL-S consistent with PTSD at posttreatment. Her overall Total Stress score on the PSI-SF decreased from a very high score at pretreatment in the 90th–95th percentile, to a substantially lower score that was just below the 20th percentile at 18-month follow-up. Lisa reported more moderate changes on the ISEL from pretreatment to posttreatment and follow-up assessments, ending at a level suggestive of adequate social support. Additionally, Lisa self-reported positive changes in how her symptoms affected her work, social and family functioning.

Discussion

In this case, PEMD was added to IH-CBT to address any negative attributions Lisa had of her parenting and to increase sensitivity to her child's cues in addition to the focus on depression recovery. By incorporating these two areas into depression treatment, it was anticipated that parenting and child outcomes would improve, and that improvements would be accelerated and more durable. It was anticipated that this would help Lisa be even more amenable to the concurrent services provided by home visiting. Lisa enjoyed the PEMD activities and positive effects were seen on posttreatment assessment measures. The attributional portion of PEMD lent itself well to CBT principles. For example, Lisa had several misattributions that were discovered from observing her play with her child and utilizing the sleep chart. Lisa was operating from a negative mental filter with beliefs that her baby was not developing correctly, other people thought she was a bad mother, she had no time spend time with the baby because of her full-time work schedule, her boyfriend not interacting enough with the baby, and seeing herself as completely dependent on her grandfather. These activities helped challenge irrational cognitive schemas that contributed to her depression as well as increased her sensitivity to her infant's cues. Recognizing her infant's emotions while simultaneously examining her own emotions and thoughts allowed Lisa to see strengths in her parenting skills.

As in all IH-CBT cases, over the course of treatment, the therapist communicated with the home visitor to keep her updated on the issues addressed in therapy. This communication was a major factor in Lisa's successful completion of the therapy. Lisa was motivated to complete homework assignments and this also contributed to her success. This case was not without challenges. Although family members are encouraged to participate in home visiting, the focus of IH-CBT is on the mother and her recovery from depression. Privacy is an inherent challenge with doing in-home therapy, and the inclusive model of home visiting, where all family members are encouraged to be present and participate (in contrast to IH-CBT) was initially confusing to Lisa and her grandfather. This challenge was mostly alleviated by having the grandfather watch the infant in an adjacent room, which also minimized disruptions.

Longitudinal following of this client revealed continued high level of functioning and symptom improvement over 18 months after treatment. Although there was a slight deterioration at 18 months, in general Lisa continued to report depressive symptoms in the normative range. Other areas of functioning were also largely sustained, with slippage noted at the 18-month point. Parenting, as measured by the HOME Inventory, showed some improvement, as did child development (particularly in language).

There are limitations to the case study and our approach. The case represents a single course of successful treatment in an individual, and generalization to other clients is unwarranted. Results can be different in other cases, if there is early dropout or if the challenges of providing treatment in the home are not satisfactorily resolved. There are other aspects of mother and child functioning that were not measured and may or may not have changed because of treatment. It is possible that other approaches to treatment might have yielded different results, such as including other family members in treatment or increasing the

emphasis on parenting skills. We sought to take advantage of concurrent home visiting, however, by allowing the home visitor to focus on other family members and to take on the primary responsibility of supporting mothers in acquiring parenting skills. Such alternatives are important areas for further inquiry.

This case study demonstrates the potential benefits of providing a focused treatment in the home setting for depressed, low income, new mothers who are participating in home visiting programs. This is a difficult-to-engage and -retain population, and reaching them through an early childhood prevention program holds considerable promise for providing effective treatment to mothers who otherwise would not receive it. Leveraging the collaboration of the home visitor permits coordination of services and a unique synergy to help depressed mothers. The PEMD component complements ongoing home visiting and takes into consideration the clinical features of impaired parenting that often accompany depression. Even in the face of the stressors of poverty, new mothers can participate in treatment and make meaningful changes that facilitate recovery and mitigate likelihood of relapse.

Acknowledgments

Supported by Grant R01MH087499 from the National Institute of Mental Health. The authors acknowledge the participation and support of the United Way of Greater Cincinnati, Kentucky H.A.N.D.S., and Ohio Help Me Grow.

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Highlights

- This case study describes In-Home Cognitive Behavior Therapy, an empirically based treatment for depressed mothers.
- The use of a Parenting Enhancement for Maternal Depression module was added to address parenting difficulties.
- Issues involving engagement, adaptation to the setting, responding to the needs of low income mothers, and partnership with concurrent home visiting to optimize outcomes are considered.

Table 1

Results on Measures of Depression and Associated Functional Domains at Each Time Point

Measure	T1 (pre-treatment)	T2 (post-treatment)	T3 (6-month follow-up)	T4 (18-month follow-up)
SCID	SCID Diagnoses: MDD, Single Episode, Moderate with Postpartum Onset MDE Sxs Endorsed: Dysphoria Anhedonia Hypersomnia Psychomotor retardation Feelings of worthlessness Difficulty concentrating Thoughts of own death	MDD diagnosis: no MDE Sxs Endorsed on SCID: None	MDD diagnosis: no MDE Sxs Endorsed on SCID: None	SCID Diagnoses: none MDE Sxs Endorsed on SCID: Insomnia
BDI-II	30	0	0	0
HRSD	17	0	0	10
BSID	Cognitive = 90 (25 th %) Language = 100 (50 th %)	Cognitive = 95 (37 th %) Language = 100 (50 th %)	Cognitive = 85 (16 th %) Language = 91 (27 th %)	Cognitive = 95 (37 th %) Language = 106 (66 th %)
HOME	Responsivity = 8 Acceptance = 7 Organization = 6 Learning materials = 7 Involvement = 6 Variety = 3 Total score = 37	Responsivity = 10 Acceptance = 6 Organization = 6 Learning materials = 8 Involvement = 6 Variety = 4 Total score = 40	Responsivity = 10 Acceptance = 8 Organization = 6 Learning materials = 9 Involvement = 6 Variety = 4 Total score = 43	Responsivity = 10 Acceptance = 4 Organization = 6 Learning materials = 9 Involvement = 6 Variety = 3 Total score = 38
PSI-SF	Parental Distress = 53 Parent-Child = 20 Difficult Child = 20 Total Stress = 93	Parental Distress = 19 Parent-Child = 12 Difficult Child = 13 Total Stress = 44	Parental Distress = 24 Parent-Child = 12 Difficult Child = 23 Total Stress = 59	Parental Distress = 21 Parent-Child = 13 Difficult Child = 14 Total Stress = 58
PCL-S	46	28	37	34
ISEL	Appraisal = 11 Tangible = 22 Self-Esteem = 17 Belonging = 12 Total = 62	Appraisal = 21 Tangible = 21 Self-Esteem = 25 Belonging = 24 Total = 91	Appraisal = 14 Tangible = 21 Self-Esteem = 18 Belonging = 20 Total = 73	Appraisal = 18 Tangible = 25 Self-Esteem = 21 Belonging = 24 Total = 89

Note. SCID= Structured Clinical Interview for DSM-IV Axis I Disorders; BDI-II= Beck Depression Inventory; HRSD=Hamilton Rating Scale for Depression; BSID= Bayley Scales of Infant Development; HOME= Home Observation for Measurement of the Environment; PSI-SF=Parenting Stress Index-Short Form; PCL-S= PTSD Checklist-Stressor Specific Version; ISEL= The Interpersonal Support Evaluation List

Table 2

Summary of Sessions

Session	Theme	PEMD activity
1	Introduction and goals	
2–3	Behavioral activation; activity schedule; pleasurable activities, gathering automatic thoughts & distortions	
4–6	Introduction to thought record; automatic thoughts, distortions, and core beliefs; assertion training	Identification of baby emotions Sleep and rhythms
7–9	Continued practice and mastery of mood management skills	Videotaped play interactions
10–12	Continue with use of thought record and cognitive restructuring	
13–14	Relapse prevention and termination	
15	Joint session with home visitor	