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The Mother-Baby Prenatal Group: Nurturing Reflective Functioning in a Methadone-Maintenance Clinic

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ABSTRACT: This paper describes the rationale and curriculum for an attachment-based intervention for pregnant women who attend an outpatient methadone-maintenance clinic. Maternal drug use has been associated with negative prenatal internal representations and problems in mutual regulation after birth. Maternal attachment status during pregnancy has been correlated with subsequent security of infant attachment. Recent studies suggest maternal reflective functioning as a key mediator in attachment. The focus of the 6-week Mother-Baby Prenatal Group is to provide a safe space in which to develop and nurture reflective functioning to support secure maternal-fetal and maternal-infant attachment relationships.

KEY WORDS: Maternal-infant attachment, mentalization, reflective functioning, maternal substance abuse, prenatal intervention

INTRODUCTION

The literature on substance abuse among women describes problems frequently encountered, including psychiatric disorders; a history of sexual and/or physical abuse; lack of social support; domestic violence; and inadequate housing (Hans, 1999; Horrigan, Schroeder & Schaeffer, 2000; Howell & Chasnoff, 1999). These problems are even more critical when the woman is pregnant, for they may adversely affect both mother and infant, including the relationship that is forming between the two. Maternal drug use has been associated with negative prenatal internal representations and

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problems in mutual regulation between mother and baby after birth (e.g., Das Eiden, 2001; Goodman, Hans & Bernstein, 2005; Pajulo, Savonlahti, Sourander, Piha & Helenius, 2001). Additionally, maternal attachment status during pregnancy has been correlated with subsequent security of infant attachment (Fonagy, Steele, Moran, Steele & Higgitt, 1993). Recent studies suggest that maternal reflective functioning is a key mediator in the intergenerational transmission of attachment (Fonagy & Target, 2005; Grienenberger, Kelly & Slade, 2005; Slade, Grienenberger, Bernback, Levy & Locker, 2005). These findings support the significance of interventions that focus on nurturing reflective functioning to promote secure maternal-fetal and maternal-infant attachment relationships.

Background of Project

The project described in this paper is an outcome of consultation to the Narcotic Treatment Program (NTP) at Acadia Hospital in Bangor, Maine. As many as 600 individuals may attend the outpatient NTP clinic daily for treatment of opioid addiction. Many clients in the program have co-existing psychiatric disorders, with depression and anxiety being prevalent. At any given time, the clinic population includes between 20 to 30 women who are pregnant and treated with methadone.

During the last year, the hospital has started a program of in-house obstetric and pediatric services for NTP clients who are pregnant or parenting preschool children. Women who abuse substances tend not to access traditional systems of care for a variety of reasons, including barriers within the health care system itself and the inability of traditional systems to provide health care and treatment for substance abuse using an inclusive approach (Milligan, et al., 2002; Sword, Niccols & Fan, 2004). Research shows that the programs most effective in meeting the multiple needs of women with drug problems provide integrated services, with prenatal care and child care as important components (Ashley, Marsden & Brady, 2003; Howell & Chasnoff, 1999; Sweeney, Schwartz, Mattis & Vohr, 2000). As Sword and colleagues note (2004), evidence-based practice confirms "the importance of comprehensive, coordinated, and individualized service provided by an interdisciplinary team of professionals who are supportive, nonjudgmental, and nurturing" (p. 2).

Goals of the Well Child Clinic at Acadia Hospital include providing supportive care to pregnant women who attend the methadone clinic during the prenatal and postpartum period, and making available

maternal and infant mental health services to mothers and infants at risk for relationship problems. The research on maternal-infant interaction shows prenatal drug exposure to be one of many factors that may contribute to problems in mutual regulation and security of attachment (see Literature Review). As a result of the consultation process, we created the 6-week Mother-Baby Prenatal Group discussed below, using attachment theory and reflective functioning as the theoretical framework. Our work was influenced by the reflective model developed by Slade (2002) and colleagues at the Yale Child Study Center "to enhance, from pregnancy on, the mother's capacity to keep the baby in mind" (p. 10).

Literature Review

Attachment Theory is based on the work of John Bowlby (1979/2005). It describes the emotional bond between infant and caregiver that promotes infant proximity, safety and security. Attachment develops out of the relationship between infant and primary caregiver and is internalized within the infant as a co-created attachment system that "controls the balance in the child between attachment and exploration behaviors" (Swanson, Beckwith & Howard, 2000, p. 130). Attachment is genetically primed and based on repeated relational experiences with the primary caregiver. These social experiences are the "clay" out of which the mind of the infant constructs what Bowlby termed internal working models, increasingly complex mental representations of self and other (Bretherton, 1985). Internal working models "function as unconscious guides to behavior in relationships" (Zeanah & Barton, 1989, p. 138), directing perceptions, assignment of meaning, and affective responses. It is not just attachment per se, however, but the quality of attachment that is critical.

Research by Mary Ainsworth and colleagues (1978) led to a definition of attachment categories based on infant response to a procedure called the "Strange Situation," which involves brief maternal-infant separations and reunions. Differences in infant response to the procedure reflect either a secure or insecure attachment relationship between infant and mother. Insecure attachment was initially defined as either avoidant or ambivalent/resistant. A further classification of insecure attachment was later identified by Main and Solomon (1990) to describe infants whose behavior did not fit the original attachment categories. Infants with disorganized/disoriented attachment behaviors "seemed to lack a

readily observable goal, intention or explanation" (p.122).

Significantly, types of infant response correlate with particular patterns of maternal caregiving. Secure infants have mothers who are consistently sensitive to their need for proximity or comfort at times of distress. In contrast, avoidant infants have mothers who are rejecting of similar infant signals, while resistant infants have mothers who are "unpredictable and inconsistent in their responsiveness" (Main, 1998, p. 6). Infants classified as disorganized have mothers who exhibit contradictory behavioral responses, "punitive versus caregiving or frightened versus frightening" (Lyons-Ruth, Bronfman, & Atwood, 1999, p. 34). In turn, their infants seek closeness in contradictory or frightened ways, including misdirected movements, anomalous postures, "freezing, stilling, and slowed movements and expressions" (Main & Soloman, 1990, p. 135). Subsequent studies have shown an association between an infant's security of attachment and outcomes later in life; stability of attachment classification from infancy into adulthood; and insecure attachment and certain types of pathology (e.g., Fonagy, 1999; Fonagy et al., 1993; Lyons-Ruth, Melnick, Bronfman, Sherry, & Llanas, 2004; Slade, 2000).

The Adult Attachment Interview (AAI) developed by Mary Main and colleagues allowed researchers to classify a parent's "state of mind with respect to attachment" (Hesse, 1999, p. 395). The AAI demonstrates a relationship between a parent's response to questions about childhood that focus on attachment issues and the attachment behavior of his or her infant. It is not the story itself that is revelatory, but how the parent's story is told—the degree of coherence or incoherence in the telling. As Main (1998) explains:

> The essential point . . . is that while the content of an individual's life history cannot change, it can be told in many differing forms, and each of those differing forms predicts a different pattern of caregiving and in consequence a differing infant . . . response" (p. 21).

Remarkably, parents' responses on the AAI predict the attachment status of their infants even before birth. Fonagy and colleagues (1993) found that infants "whose mothers' internal representation of past relationships is indicated by the AAI to be insecure in the third trimester of pregnancy appear at increased risk to develop . . . an insecure relationship with their mothers" (p. 968).

A primary focus of research has been the "intergenerational transmission" of attachment (Fonagy & Target, 2005; Grienenberger et

al., 2005; Slade, 2005; Slade et al., 2005). How is a mother's "state of mind" regarding her attachment history conveyed to her infant? As Slade and colleagues (2005) note, many studies have confirmed the link between "a mother's capacity to regulate and organize her own thoughts and feelings about relationships with her primary caregivers . . . [and] her capacity to regulate, organize, and sensitively respond to needs for comfort, proximity, and safety in her child" (p. 283). Initially, "sensitive responsiveness" was thought to be the mechanism by which security of attachment is transmitted. However, the meta-analysis by van Ijzendoorn (1995) demonstrated only limited support for "transmission of attachment through responsiveness" (p. 398). Fonagy, Gergely, Jurist and Target (2002) suggest this limitation may be due in part to the way in which maternal sensitivity has been measured. Instead, they propose mentalization as the mediator of maternal-infant attachment.

According to Bateman and Fonagy (2006), mentalization "refers to making sense of each other and ourselves, implicitly and explicitly, in terms of subjective states and mental processes" (p. 185). How is this concept related to attachment? Fonagy et al. (2002) suggest that underlying secure attachment is the mother's ability to recognize and explore her own thoughts, feelings and desires as separate from those of her infant and, in turn, to recognize her infant as a separate intentional being communicating through his or her behavior: "We believe that . . . the caregiver's perception of the child as an intentional being lies at the root of sensitive caregiving, which attachment theorists view as the cornerstone of secure attachment" (p. 54). This hypothesis is supported in the research on mentalization and attachment, with mentalization being operationalized as the parent's capacity for reflective functioning.

In an early study of the relationship between self reflection and attachment, Fonagy, Steele, Steele, Moran, and Higgitt (1991) found a strong association between "expectant mothers' mental representations of relationships" (p. 209) during the last trimester of pregnancy, parental capacity for self-reflection, and infant attachment status. High parental reflective functioning was correlated with both secure parental attachment and secure attachment in the child at 12 months. Fonagy et al. proposed that "attachment security in infancy is based on parental sensitivity to, and understanding of, the infant's mental world," and furthermore that "the parent's capacity to understand the infant is rooted in . . . coherent mental representations based on the parent's own attachment history" (p. 214). This view is supported and extended by the research of Arietta Slade and

colleagues (2005). Slade et al. suggest that the quality of a parent's attachment during childhood, as measured by the AAI, is less relevant to intergenerational transmission than a parent's "capacity to reflect upon the internal experience of her child, and upon her own internal experience as a parent" (p. 287). Thus, the focus expands to include not only the parent's memory and narrative regarding her relationship with her own parents but also her reflections on herself as parent and on her child. As part of the study, which included prenatal and postpartum assessments, Slade and colleagues administered the Parent Development Interview (PDI) to mothers when their infants were 10 months old. The PDI is "designed to assess a mother's representations of her child, herself as a parent, and her relationship with her child" (p. 288). Results of the study showed a strong link between adult attachment measured during pregnancy and maternal reflective functioning measured at 10 months postpartum. Additionally, there was correlation between maternal reflective functioning and infant attachment security at 14 months. In a companion study, Grienenberger and colleagues (2005) found a close relationship between maternal reflective functioning and maternal behavior. They concluded that reflective functioning is "mediated through the mother's behavior . . . specifically her capacity to regulate [her] baby's fear and distress without frightening or otherwise disrupting the baby" (p. 306). The implication of these findings is summarized by Slade et al.: "If reflective functioning in a parent is indeed key to a child's socioemotional adaptation, then clinical interventions need to address the development of this capacity" (2005, p. 296).

The issue of central importance for this project is the relationship between substance exposure and attachment and the role of reflective functioning in prenatal interventions. Review of the literature on substance abuse shows a consistent link with insecure attachment. Schindler et al. (2005) suggest that from the perspective of attachment theory, "substance abuse can be understood as an attempt to cope with attachment insecurity, to diminish emotional distress, and to regulate interpersonal relationships" (p. 215). Substance abuse is discussed in the literature as a means to self medicate emotional pain and escape from overwhelming internal conflict (Riggs & Jacobvitz, 2002; Schindler et al., 2005). Women who abuse substances during pregnancy have higher rates of mental and physical illness, family disorganization and trauma, all of which may adversely affect the relationship between mother and infant (Lester, Boukydis & Twomey, 2000). Maternal drug use is associated with negative prenatal views of

the unborn child and self as parent (Pajulo et al., 2001); with higher risk for negative maternal-infant interactions (e.g., Das Eiden, 2001 Goodman et al., 2005; Goodman, Hans & Cox, 1999; LaGasse et al., 2003); and with low levels of reflective functioning (Levy, Truman, Slade & Mayes, 2001, as cited in Slade, 2002).

Studies of attachment status in substance-exposed children reveal an increased risk for insecure attachment. Swanson et al. (2000) found increased rates of disorganized/ disoriented attachment in prenatally exposed toddlers whose mothers were "chronic, heavy users of cocaine and other drugs" (p. 133). Primary caregivers of toddlers with disorganized attachment strategies were also more likely to be less sensitive and more intrusive in their interactions with the child. Beeghly, Frank, Rose-Jacobs, Cabral, and Tronick (2003) examined the relationship of prenatal cocaine exposure and attachment behavior after controlling for other variables associated in the literature with "maternal drug use and/or the quality of mother-infant interaction or attachment" (p. 31). They found no significant correlation between level of prenatal cocaine exposure and infant attachment status. This finding is consistent with the literature on attachment discussed above as well as with other studies that have shown prenatal drug exposure to be only one of many risk factors that affect maternal-infant interaction. These include level of maternal resources (Jeremy & Bernstein, 1984), perceived social support (Suchman, McMahon, Slade & Luther, 2005), and maternal psychopathology (Espinosa, Beckwith, Howard, Tyler & Swanson, 2001).

What is the significance of reflective functioning as an intervention strategy for mothers at risk of maternal-infant dysfunction, particularly mothers who abuse substances? Truman, Levy, Slade, and Mayes (2002, cited in Sadler, Slade and Mayes, 2006) found that mothers who use drugs had the lowest scores on reflective functioning in a cohort of high-risk women with children. In summarizing the findings of a separate study by Levy and Truman, Slade states that reflective functioning was found to "mediate the link between drug use, child social skills, parent distress, and parent-child dysfunction" (2002, p.12). She describes the essential connection between reflective functioning and intervention strategies for high-risk mothers as follows:

> It is [the mother's] capacity to link . . . awareness of her child's or her own internal state to behavior or to other internal states that is the hallmark of true reflectiveness. . . . From an intervention standpoint, this is the critical issue. Contingent,

> sensitive responding depends upon an accurate reading of the child's intentions and feelings, upon the mother's emotional availability. The reflective function is what makes this possible (p. 12).

Sadler et al. (2006) designed an intensive, relationship-based, home visiting program "targeting the development of mentalizing capacities in mothers" (p. 275). Elsewhere, Slade described the goals to include helping the mother "to reflect upon the emotional, internal life of her baby (even before it is born) . . . [and] to reflect upon her own internal affective experience of parenting, as early as pregnancy" (2002, p. 15). Preliminary results of the intervention include high rates of breastfeeding at birth and 3 months postpartum, up-to-date immunizations, and no reports of abuse. Mothers have more stable relationships and in some cases have ended relationships that were destructive. Many have returned to work or school, and there are no "rapid subsequent pregnancies or sexually transmitted infections" (Sadler et al., p. 285).

Pajulo, Suchman, Kalland, and Mayes (2006) describe an intensive program to "enhance maternal reflective capacity and mindedness" (p. 448) in residential treatment units for substance abusing pregnant and parenting women. They report that applying reflective functioning in their work with mothers and infants in the program "has been found particularly important" and suggest developing reflective functioning "as a key aspect of substance abuse treatment for women who are pregnant and are the parents of small children" (p. 461).

In discussing their rationale for an attachment-based intervention for drug-dependent mothers, Suchman, Mayes, Conti, Slade, and Rounsaville (2004) suggest the drug treatment clinic as "an ideal setting for providing therapeutic parenting interventions for mothers who are overwhelmed in their roles as parents" (p. 183). They emphasize the "potential social network of peers focusing on the common issues of parenting and recovery" (p. 183). This perspective and the research on attachment and maternal reflective functioning are the basis for the prenatal group.

Description of Curriculum

The name "Mother-Baby Prenatal Group" was chosen to emphasize the *presence* of the baby, as individual and in relationship with mother. By signifying the baby "as present," we hoped to lay the groundwork for curiosity and reflective functioning. In planning the curriculum, we

talked about our "worst fears," one of which was that the topics might trigger powerful emotions between sessions. We discussed our concern with the hospital social worker/observer, who agreed to be a contact person and resource for the women. At the same time, we believed the women could benefit from exploration of their own worst fears within the framework of the group. To do so, however, they would need to feel safe. Thus, "safety" became the focus of the first session and the foundation for the group as a whole.

Safety was reflected in the structure, content and process of Session 1. Each person was asked to share her intention for attending. Group rules—subject to change by consensus—were developed and listed on the board. Emphasis was placed on confidentiality and mutual respect. The structure of the sessions was reviewed and posted for reference. Each would begin with a brief check-in before the session topic was presented. Discussions would be brought to a close with 2 to 3 minutes of meditation accompanied by music. A meditative intention would be suggested, generally focusing on safe choices for the week ahead. This would be followed by check-out and completion of a written evaluation.

The topic for Session 1 was "safety for mothers and babies." To prompt reflection and discussion, we asked the following: "What helps you feel safe?" "What causes you to feel unsafe?" "What helps your baby feel safe?" "What causes your baby to feel unsafe?" An additional question invited reflection on childhood experiences: "Do you have a memory of a time when you were little when you felt especially loved, understood and safe?" One woman related she did not have safe memories, but that she was creating a different life for her family. As part of the discussion, the group generated a list of safe coping skills, an activity designed to nurture relationships, build trust and create a feeling of safety. Before closing, we turned our attention to three vignettes and asked, "How safe do you think each baby might feel?" In one scenario, a pregnant mother describes her infant in the following way: "He kicks me at night to keep me awake. He's a pain, just like his father." In response, one of the women said, "That mother has a lot of work to do. She is not even thinking about the baby. The baby is innocent."

Session 2 provided evidence-based information about the potential effects of particular substances on fetal development (methadone, heroin, cocaine, nicotine, alcohol, benzodiazepines and marijuana). This information spoke to a significant maternal "worst fear," and thus needed to be talked about early in the group process. We hoped each woman would feel safe enough to share her concerns. The information

was presented in a straightforward, non-accusatorial manner and much discussion followed. We openly expressed the idea that "knowledge is power," and emphasized the importance of accurate information in order to make informed choices. Low birth weight was discussed as an indicator of drug effects and a significant factor in long-term development. In general, group members were surprised to learn that fetal nicotine exposure came at high risk to their babies and relieved to learn that taking methadone at the clinic posed a low risk for poor developmental outcomes.

The next two sessions moved deeper into the realm of feelings. Session 3 focused on the emotions of pregnancy. As a framework for this topic, a "vocabulary of emotions" was created. Words that name feelings were written down and discussed. As women in the group talked about events and stories, they were gently redirected by asking, "What were you *feeling* when that happened?" This exercise set the stage for discussion of how each woman felt and imagined her baby might feel during three different stages: conception, early knowledge of the pregnancy, and mid-pregnancy. The women were also asked to consider how their own mothers might have felt during the same stages of pregnancy. Of particular significance was the apparent reflective capacity of the participants as they talked about intergenerational conception and pregnancy stories.

Attachment was the topic of the fourth session. The Maternal Fetal Attachment Scale (Cranley, 1981) was used as a teaching tool and to stimulate reflective functioning. Participants talked about their differing responses to statements on the scale, which became the catalyst for discussing how feelings may change over the course of pregnancy. We introduced the idea of "no praise/no blame" to make possible the expression of feelings that might otherwise have gone unnamed.

During Session 5, the focus turned to stress. Topics included a basic explanation of how the brain and body respond to stress; the potential effects of "too much stress" on mother and baby during pregnancy; and possible causes of an overactive stress response. The concept of mindfulness was described briefly, followed by an exercise. We asked each woman to name a frequently recurring negative thought and then to identify associated feelings and physical sensations. The task of connecting thoughts, feelings and sensations turned out to be quite difficult for most. We asked them to write the identified negative thought on a piece of paper, and then guided them through a process of recognizing the thought as an "object" separate from the "self." Though this approach seemed somewhat artificial, the women

responded with an interest to learn more.

The last session was about building relationships outside the group, specifically in the neonatal intensive care unit (NICU) where these mothers would be challenged by many stressors. One mother was adamant about never leaving her baby alone. She was praised for being protective of her infant in a strange environment. A discussion of safety and the importance of building relationships with hospital staff led her to say, "I guess you're right. If I know them I might trust them with my baby."

We invited the NICU social worker to attend the second half of the session to answer questions that continued to plague the women: What if I've had a child put in foster care before? Will my baby be taken away if marijuana shows up on my drug screen? How long will my baby be in the NICU? Are people going to think I'm nodding off because I'm tired? We wrote these and other questions on the board before the social worker arrived to ensure anonymity. Subsequently, he answered each question and invited the mothers to use him as a resource and support during their NICU stay.

Because the Mother-Baby Prenatal Group was to last only 6 weeks, we had started preparing the participants for our final session from the beginning. At the end of this session, we spent time talking about what the group had meant for each person, what had been learned and shared, and made arrangements for a follow-up group.

Evaluation of the Group

We evaluated the curriculum and the group as a whole by reviewing participant questionnaires, obtaining feedback from the hospital social worker/observer, and having post-group discussions between ourselves and with our clinical preceptor. At the end of each session, participants were asked to fill out a questionnaire that focused on how "helpful" the group was. Using a scale from 0 (not at all) to 3 (a great deal), they rated the topic, handouts, experience of the session, and helpfulness of the group leaders. In addition, they responded to three open-ended questions: How much did the information presented today help you and your baby? Do you have any other comments or suggestions about today's session? How can this group be more helpful to you? The numerical rating was never less than 2 and averaged 2.8. The written responses were specific and generally positive. Particular themes recurred during our own evaluation of the project: the operation of the group, the challenge of using a structured curriculum, and the issue of whether we were

addressing reflective functioning.

Group Operation

The group began on February 7th and clients were only eligible to participate if their due dates were after April 1st, to avoid "losing" members who might deliver during the 6-week sequence. Six women in the clinic met the criteria and were invited to the group. Of those six, four accepted. Only 3 of the 6 sessions were attended by all four participants. Though the rules established by the group during the first session stated that four members were required for the group to take place, we soon realized this expectation was unrealistic for reasons such as illness, personal crisis, lack of child care and problems with transportation. Starting the group at 8:30 in the morning was difficult for 3 of the 4 members, which may have caused some of the absences and late arrivals. However, 8:30 to 10:00 a.m. was the only time a suitable room could be obtained, so we stayed with the original schedule. As the group progressed, there were consistent comments about the group being too short, both in terms of session time ("More time for group, maybe 2 hours!!") and limiting the group to 6 weeks ("I wish the group could go for more [than] the short amount of weeks we have together.").

Structured Curriculum

Because the Mother-Baby Prenatal Group has a specific curriculum, with each session building on the previous topic and leading to the next, it was challenging at times to move forward if someone missed a prior session. This was dramatically illustrated during Session 4, which focuses on maternal-fetal attachment. The two group members present had not attended session 2: "substance exposure and fetal development." They were not ready to focus on attachment until we spent time talking about drug exposure, specifically, the in-utero effects of methadone. Once their questions were answered, they were open to hearing about maternal-fetal attachment. As one woman wrote, "Talking about the attachment to my baby was wonderful. I love my baby. [It helped] learning more about the effects of drugs on my unborn baby."

Enhancing Reflective Functioning

The preliminary curriculum discussed in this paper is the first step toward developing a group intervention to enhance reflective

functioning in women who are pregnant and treated for substance abuse. The goal is to nurture maternal-fetal and maternal-infant attachment. We chose session topics based on reading the literature on attachment, mentalization and reflective functioning, as well as by drawing on our experience in infant mental health, neonatology and developmental care. In designing the curriculum, we were not operating from a research protocol or attempting to measure reflective functioning. Instead, we hoped to learn from the responses of participants in the group whether the curriculum seemed to be on the right track. In essence, the group members functioned as an informal focus group by responding to questions that asked for their opinions. This qualitative information helped us make immediate changes, such as having silent rather than guided meditation at the close of sessions. Participant responses suggest the curriculum may be stimulating self-reflection, as illustrated in the following examples: "It's good to know what thoughts can do to affect your mood"; "I loved the "Emotions and Feelings of Pregnancy" worksheet. The whole 'baby-in-mother' and 'us-as-bab[ies]' thing was very cool. Sometimes remembering things and talking about it is very therapeutic"; "This group was helpful because it showed me the reactions my family and I have had about my pregnancy were normal. It also showed me that the reason I react the way I do to things could be from past experience."

As an outcome of co-facilitating the Mother-Baby Prenatal Group, we learned much about the power of the safe space that had been created. In a relatively short period of time, the women in the group shared deeply private stories, opened themselves to the new experiences the group offered and became for each other a source of social support (Two women exchanged phone numbers during the last session.). The experience of one of the women is illustrative. During the final session, she told of moving 2.5 hours away from home to attend the methadone clinic and escape the influence of friends who are still using drugs. She spoke about the difficulty of isolation, of not wanting to "hang out" with people in the outpatient program because some are abusing substances or dealing. She contrasted this experience with the support of being with the women in the prenatal group. In her evaluation of the last session, she wrote:

> I am very happy I've had the opportunity to learn more about what [my child and I] will be experiencing when she is born. I am also glad that I have had the support of every one involved in this group. The knowledge has helped me feel better about myself being on methadone.

Implications for Further Intervention

The most significant issue related to further intervention is whether the prenatal curriculum enhances reflective functioning. The therapeutic environment of the group provided a place of safety in which each mother could identify and explore thoughts and feelings about her pregnancy and her developing relationship with her baby. As noted above, responses on the end-of-session questionnaire seem to suggest self-reflection. However, the mental construct of reflective functioning can only be assessed as part of a research protocol using instruments such as the Parent Development Interview or the Pregnancy Interview (Slade, Huganir, Grunebaum & Reeves, 2004; cited in Slade, Sadler & Mayes, 2005). Fortunately, Slade and colleagues have developed clinical programs as an outcome of their research designed to enhance "reflective parenting" (A. Slade, personal communication, January, 13, 2007). When a training opportunity is available, we hope to participate and thus be better able to evaluate the potential effectiveness of our work.

We modified the curriculum in minor ways after the group ended in response to feedback from participants. For the most part, it was left unchanged and will be offered to a second group of NTP clients, allowing for further evaluation. Originally, we decided on six sessions so we could cover topics we considered essential and run the group twice during our clinical rotation. However, a frequent suggestion on the evaluations was for more sessions to be offered. Because the four participants expressed a strong desire to continue group work together and asked specifically for information on coping with stress, we offered a 6-week introduction to mindfulness and stress reduction as a follow-up. Eventually, we plan to integrate mindfulness into the prenatal curriculum and increase the number of sessions.

As a final comment, in this project we focused solely on maternal-infant attachment and reflective functioning. We recognize the need to provide an intervention that supports both parents and the infant's relationship with each. We hope to design such a program in the future.

Conclusion

The prenatal group described in this paper embodies our first attempt to create a group intervention in keeping with the research on attachment, mentalization, and reflective functioning that supports maternal-fetal and maternal-infant attachment.

Substance abuse is one of many risk factors that may contribute to problems in the interaction and mutual regulation of mother and infant, resulting in adverse consequences. Interventions during pregnancy that nurture a mother's capacity for self reflection and curiosity about her unborn infant as an "intentional being" (Fonagy et al., 2002, p. 54) may have a powerful relational effect. It is our goal for the Mother-Baby Prenatal Group to provide a supportive, therapeutic environment in which maternal reflective functioning may flourish.

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