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PROMOTING SUPPORTIVE PARENTING IN NEW MOTHERS WITH SUBSTANCE-USE PROBLEMS: A PILOT RANDOMIZED TRIAL OF RESIDENTIAL TREATMENT PLUS AN ATTACHMENT-BASED PARENTING PROGRAM

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Abstract

This pilot randomized trial tested the feasibility and efficacy of supplementing residential substance-abuse treatment for new mothers with a brief, yet rigorous, attachment-based parenting program. Twenty-one predominantly (86%) White mothers and their infants living together in residential substance-abuse treatment were randomly assigned to the program ($n = 11$) or control ($n = 10$) group. Program mothers received 10 home-based sessions of Dozier's *Attachment and Biobehavioral Catch-up* (ABC) intervention. Postintervention observations revealed more supportive parenting behaviors among the randomly assigned ABC mothers.

Substance abuse and problematic parenting are interrelated in multiple ways and are especially detrimental for young children (Mayes & Truman, 2002). Children in substance-abusing families are at increased risk for insecure attachment, maltreatment, and foster placement (Seifer et al., 2004; Smith, Johnson, Pears, Fisher, & DeGarmo, 2007). Moreover, maltreatment or harsh parenting during childhood can predict adult substance abuse (Lansford, Dodge, Pettit, & Bates, 2010). Parents' substance abuse may be a linking mechanism in the intergenerational cycle of child maltreatment (Appleyard, Berlin, Rosanbalm, & Dodge, 2011). Taken as a whole, the literature has emphasized a need for integrated substance-abuse and parenting services, especially for new mothers. The integration of these services is in fact becoming more prevalent, especially in the context of residential treatment (e.g., Whiteside-Mansell, Crone, & Connors, 1999). Conspicuously absent from such approaches, however, is a rigorous focus on the developing child–parent attachment.

Two specific concerns motivated the current pilot randomized trial of a brief, yet rigorous, parenting program for new mothers, embedded in ongoing residential substance-abuse treatment and focused on the infant–parent attachment, per se. First, infant–parent attachment has been well-established as a key building block of socioemotional development. A specific emphasis on promoting infant attachment security is a crucial focus of early parenting services (Zeanah, Berlin, & Boris, 2011). Second, a strong attachment-based approach, by definition, addresses mothers’ own attachment traumas (i.e., experiences of childhood maltreatment) (Berlin, Zeanah, & Lieberman, 2008), which are disproportionately likely among substance-abusing women.

To date, there is one published randomized trial of a substance-use treatment program with a supplemental attachment-based intervention for mothers and their young children ($N = 47$; Suchman et al., 2010). The Mothers and Toddlers Program (MTP) is a manualized, 12-week parenting program for mothers receiving outpatient substance-abuse treatment while caring for children between birth and age 3. Mothers who received MTP demonstrated more supportive parenting behaviors than did mothers who received out-patient treatment plus non-attachment-focused parenting education (Suchman et al., 2010).

In the present pilot trial, we aimed to leverage the strengths of both attachment-based parenting services and residential mother–infant substance-abuse treatment. We tested the feasibility and efficacy of supplementing services as usual for new mothers in residential substance-abuse treatment with an established, attachment-based parenting program. Developed by Dozier and her colleagues, the *Attachment and Biobehavioral Catch-up* (ABC) program consists of 10 home-based sessions delivered by a trained parenting coach. Each session includes both mother and child together, addresses a specific topic, and includes a review of video-recorded mother–child interaction. Although brief, the ABC program is intensive, providing explicit parenting coaching in reference to three specific behavioral targets: (a) nurturance, (b) following the child’s lead, and (c) reducing frightening caregiving behavior. Two sessions are devoted to the topic of “overriding” one’s own parenting history, nonnurturing instincts, or both. As mothers begin to consider the connections between how they were parented and how they want to parent their own children, they become more aware of how they can override automatically elicited, insensitive parenting behaviors. Two randomized trials have provided strong evidence of program efficacy (Bernard et al., 2012; Dozier, Peloso, Lewis, Laurenceau, and Levine, 2008). The current study is the first to test the efficacy of the ABC program for mothers and their infants targeted on the basis of maternal substance abuse. We hypothesized that mothers in the ABC group would demonstrate more sensitive and supporting parenting behaviors than would control group mothers.

METHOD

Design and Participants

Mothers who had been receiving residential substance-abuse treatment for at least 2 months and who had infants between the ages of 1 and 20 months were recruited at two collaborating treatment facilities. Both facilities provided secure, apartment-style residential units for women and their young children (up to age 8 years) for up to 1 year.

Comprehensive services included daily drug screens, group therapy sessions, individual substance-abuse and mental health counseling, case management, and childcare. Parenting services were limited, consisting of information sessions on topics such as developmental milestones and some referrals to community programs whose evidence-based services were typically provided only to parents of preschool-aged or older children.

Eligible mothers were informed about this study during regular group meetings and by flyers posted onsite. Mothers were voluntarily enrolled on a rolling basis. Twenty-one mothers were enrolled and randomly assigned to the ABC group ($n = 11$) or the control group ($n = 10$). All mothers provided informed consent, and all procedures were approved by the Institutional Review Board. ABC mothers received ten 1-hr sessions in their apartments, delivered approximately weekly by one of two parenting coaches trained by the program developer. Control mothers received a very light, 10-session “intervention,” the “book-of-the-week program.” This program provided 10 brief, home-based appointments with the same two clinicians, during which the clinicians made general inquiries about the mothers’ and infants’ well-being and gave mothers a developmentally appropriate book for their child.

The sample was representative of the client populations at both partnering facilities. At enrollment, mothers ranged in age from 19 to 43 ($M = 33$, $SD = 7$) years. Most of the mothers (86%) were White; had at least a high-school diploma/GED (86%); and were single, divorced, or widowed (86%). Ninety-one percent were receiving public assistance. Their children, 62% of whom were male, ranged in age at enrollment from 1 to 21 months ($M = 9.6$, $SD = 6.8$) months. A majority of the mothers had previously received inpatient substance-abuse treatment (76%) or inpatient mental health treatment (52%). ABC and control group participants did not differ significantly at enrollment on any demographic or psychosocial characteristics, with one exception: The children of ABC mothers were significantly older than were the children of control mothers (see Table 1).

Procedures

All mothers participated in a pre-intervention (enrollment) interview and a postintervention parenting observation. The enrollment interview included basic demographic questions about the mother and her child and several standard psychosocial assessments tapping maternal history of childhood maltreatment and mental health symptoms. Approximately 30- to 40-min postintervention observations by a trained observer who was blinded to program/control group status were conducted within 2 weeks of mothers’ completion of the intervention.

Measures

Childhood Trauma Questionnaire (CTQ; Bernstein & Fink, 1998)—Mothers indicated the frequency with which they had experienced emotional, physical, and sexual abuse as well as emotional and physical neglect. Almost all mothers (95%) had experienced at least one form of maltreatment.

Center for Epidemiologic Studies Depression Scale (CES-D; Radloff, 1977)—Mothers completed the widely used, 20-item CES-D (possible range = 0–60, $\alpha = .75$). Scores ranged from 3 to 30 ($M = 17.86$, $SD = 7.79$). Two thirds (67%) scored at or above 16, the cutoff score indicating clinical depression.

Generalized Anxiety Disorder 7-Item Scale (GAD-7; Spitzer, Kroenke, Williams, & Lowe, 2006)—Mothers reported how often they experienced anxiety symptoms during the past 2 weeks, and how much they were bothered by the symptoms (possible range = 0–21, $\alpha = .89$). Scores ranged from 1 to 19 ($M = 8.57$, $SD = 5.48$). One third (33%) of the participants scored at or above 10, the cutoff score indicating generalized anxiety disorder.

Maternal Behavior Q-Sort (MBQS; Pederson et al., 1990)—Sensitive and emotionally supportive parenting behaviors are the key predictor of infant attachment security (Belsky & Fearon, 2008) and the key intervention target of the ABC program. We observed sensitive parenting behaviors with the short version of the well-validated MBQS (Tarabulsky et al., 2009). The MBQS uses Q-methodology in which, immediately following observation, the observer sorts 25 cards which are then correlated with a criterion sort to provide an overall rating of sensitive parenting. Scores can range from –1.00 to 1.00. In the current study, scores ranged from –0.68 to 0.92 ($M = 0.34$, $SD = 0.52$). Twenty-five percent of the observations were scored by a second blinded observer, with good interater reliability (average correlation between security scores, $r = .80$).

RESULTS

Of the 21 mothers enrolled in the study, 16 (76%; 8 in each group) completed their respective intervention activities and postintervention observation. Those participants retained did not differ significantly from those not retained on any demographic or psychosocial characteristics assessed at enrollment. All of those retained remained abstinent for the duration of their participation in this study. Follow-up inquiries with the collaborating residential treatment facilities indicated that of the 16 retained participants, total duration in residential treatment averaged 11.5 months ($SD = 3.4$). There were no group differences in residential treatment duration. There was an effect of the intervention on observed sensitive parenting behavior favoring the ABC group, $d = .67$; one-tailed $t(14) = 1.37$, $p = .096$. According to Cohen's (1992) standard, this is a medium-sized effect. Moreover, this effect was maintained with child age covaried. The mean score for the ABC group ($M = 0.51$) was three times higher than that of the control group mean ($M = 0.17$) (see Table 2).

DISCUSSION

Extant research has highlighted the high risk of parenting problems among new mothers with substance-use problems. Attachment-based parenting programs are especially relevant to substance-using mothers because they directly promote sensitive, emotionally supportive parenting behaviors linked to child attachment security *and* address mothers' own attachment traumas, which are prevalent in this population and also can hamper supportive parenting. Consistent with the literature, the prevalence of childhood trauma in our sample

was high: Twenty of 21 mothers reported experiencing at least one form of childhood maltreatment. Mental health problems also were high: Sixty-seven percent reported symptoms indicative of clinical depression, 33% reported symptoms of generalized anxiety disorder, and 76% had previous inpatient substance-abuse treatment.

We tested the feasibility and efficacy of supplementing residential substance-abuse treatment with the ABC parenting program. Results, albeit preliminary, were promising. Regarding feasibility, the two residential treatment programs approached about this collaboration welcomed the opportunity, citing their residents' strong desires for help with parenting and the programs' relative limitations in supporting infant–mother relationships and infant mental health. Our experiences recruiting mothers into the study were consistent with both of these claims. Anecdotally, mothers commented on their relative dearth of role models for being a “good mother.” Program administrators and mothers accepted random assignment despite its obvious challenges, further attesting to the need for rigorous and engaging parenting services in this population.

As hypothesized, we found a positive effect of the ABC program on mothers' behaviors with their infants at home. The mean MBQS score for all mothers (0.34) was virtually equivalent to that found in a sample of high-risk adolescent mothers ($M = 0.35$; Tarabulsy et al., 2009). The mean score for the ABC group ($M = 0.51$) was lower than that found in a sample of low-risk mothers ($M = 0.73$; Pederson et al., 1990) but also three times higher than the control group mean ($M = 0.17$).

Given the small sample size, the medium-sized effect, albeit preliminary, is promising and provides initial support for this novel service model. Although child–parent attachment is typically not addressed for mothers in residential treatment programs, this pilot study suggests the potential benefits of supplementing residential substance-abuse treatment with a brief, yet efficacious, attachment-based intervention. Even among these extremely high-risk mothers, it appears that parenting behaviors known to support the key developmental issue of child attachment security can be increased.

It was a limitation of the current study, to be addressed by future research, that parenting behaviors could not be assessed both pre- and postintervention, which would have provided more specific information about intraindividual change. Moreover, although our sample was representative of the clients at our partnering facilities, the majority (86%) were White and had at least a high-school education, thus limiting the generalizability of our findings. It would be informative to conduct a similar trial with a larger and more heterogeneous sample.

These findings are consistent with Suchman et al.'s (2010) study of mothers receiving outpatient substance-use services. The current study extends this area of research to the previously unevaluated area of residential treatment. Integrated substance-use and attachment-based services may have particular leverage for breaking intergenerational cycles of maltreatment.

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TABLE 1

Participant Characteristics by Program Group

	Full Sample (<i>N</i> = 21)	ABC Group (<i>n</i> = 11)	Control Group (<i>n</i> = 10)	Test of Group Differences
Maternal Age	33 (7)	33 (7)	33 (7)	$t(19) = 0.20$
Maternal Race (1 = White)	86%	82%	90%	n.s. ^a
Maternal Education ^b	3.29 (0.78)	3.18 (0.75)	3.40 (0.84)	$t(19) = -0.63$
Child Age (months)	9.55 (6.8)	12.50 (7.0)	6.40 (5.1)	$t(19) = 2.31^*$
Child Sex (1 = male)	62%	55%	70%	n.s. ^a
Maternal Maltreatment History (1 = yes)	95%	100%	90%	n.s. ^a
Maternal Depression (CES-D; 0–60 scale)	17.86 (7.79)	16.82 (9.09)	19.00 (6.36)	$t(19) = -0.63$
Maternal Generalized Anxiety (GAD-7; 0–21 scale)	8.57 (5.48)	8.64 (5.73)	8.50 (5.50)	$t(19) = 0.06$

Note. Unless otherwise noted, data are means with *SDs* in parentheses. Where noted

^aFisher's exact test was used to test between-group differences.

^bMaternal education is scored on a continuous scale from 1 (<8th grade) to 6 (graduate degree).

* $p < .05$.

TABLE 2

Observed Sensitive Parenting Behavior by Program Group

	Full Sample (N = 16)	ABC Group (n = 8)	Control Group (n = 8)	Test of Group Differences
Maternal Behavior Q-Sort				
<i>M</i> (<i>SD</i>)	0.34 (0.52)	0.51 (0.49)	0.17 (0.52)	$t(14) = 1.37^a$

^a*p* = .096, one-tailed.

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