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Adaptation of Problem-Solving Treatment for Prevention of Depression Among Low-Income, Culturally Diverse Mothers

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Abstract

Adapting evidence-based interventions to be more accessible and culturally sensitive to the needs of diverse populations is a potential strategy to address disparities in mental health care. We adapted an evidence-based depression-treatment strategy, Problem-Solving Treatment, to prevent depression among low-income mothers with vulnerable children. Intervention adaptations spanned 3 domains: (1) the intervention's new prevention focus, (2) conducting a parent-focused intervention in venues oriented to children; and (3) cultural competency. The feasibility of adaptations was assessed through 2 pilot-randomized trials (n = 93), which demonstrated high participant adherence, satisfaction, and retention, demonstrating the feasibility of our adaptations.

Keywords

behavioral intervention; child development; community-based research; maternal depression; mental health

Disparities in access, receipt, and quality of mental health services among low-income and minority populations is well documented.^{1,2} Such disparities were highlighted in the report, *Mental Health: A Report of the Surgeon General*,³ and its supplement, *Mental Health: Culture, Race, and Ethnicity*,⁴ and studies examining trends in mental health care since the Surgeon General's reports have not found any progress toward reducing disparities. Adapting evidence-based interventions to be more accessible and culturally sensitive to the needs of diverse populations is a potential strategy to address disparities in mental health care, as well as being critical to demonstrating broad based intervention effectiveness.^{5,6} Cultural adaptation of programs unrelated to mental health have demonstrated improved uptake and use of services.⁷ Given the influence of culture and environment on the

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experience of mental illness, identifying processes that lead to successful adaptations of mental health interventions could be expected to have similar positive effects.

In its 2009 report, *Depression in Parents, Parenting, and Children*, the Institute of Medicine (IOM) emphasized the importance of developing strategies to prevent depression in parents of children at all stages of development.⁸ In light of the IOM's report, our group adapted the principles of Problem-Solving Treatment, an evidence-based depression-treatment strategy to prevent depression among low-income, culturally diverse mothers, whose children have—or are at risk for—developmental disability or school failure. We chose to work with mothers of preterm newborns hospitalized in the neonatal intensive care unit (NICU); mothers of young children with developmental delay, enrolled in community-based Early Intervention (EI) programs; and mothers raising preschool children in extreme poverty, enrolled in Head Start. We chose these groups because maternal depression is disproportionately common among all the 3 groups,^{9–14} and represents a potentially preventable risk for further adverse impact on child development and academic success.^{15,16}

The goal of this article is to communicate how our research group adapted Problem-Solving Treatment to a maternal depression prevention strategy in 3 settings where children of mothers with limited incomes, and high rates of depression, receive services. Using the 6-step approach for balancing program fidelity and adaptation outlined in the Substance Abuse and Mental Health Services Administration's *Finding the Balance: Program Fidelity and Adaptation in Substance Abuse Prevention: A State-of-the-Art Review*,¹⁷ we convey our basic interventional strategy; our methods for determining the precise nature of the adaptations we made; and, ultimately, the adaptations themselves.

BASIC INTERVENTIONAL STRATEGY AND PARADIGM FOR ADAPTATION

Since 1994, when the IOM outlined a series of principles for preventing mental disorders,⁵ a growing evidence base has confirmed the premise that depression is a preventable illness.¹⁸ Since this report, successful interventions to prevent depression have included cognitive behavioral strategies, interpersonal therapy, debriefing after a sentinel event, and social support during high-risk periods. A follow-up IOM report concluded that selective and indicated prevention strategies—those that target groups with demographic or social risk, or individuals with early symptoms—are more effective than universal strategies.⁶

Data on preventing depression in the general adult population, however, have not been uniformly transferable to depression in parents.⁸ In fact, in a 2005 systematic review of psychosocial interventions to prevent maternal depression in the first postnatal year, Dennis¹⁹ found no consistent evidence of effectiveness. Our use of Problem-Solving Treatment as a selective prevention strategy for low-income, culturally diverse mothers, however, differs from previous prevention efforts in this population because it targets a mother-infant population facing a set of joint biological and social circumstances that confers risk for mental illness to both generations. Its approach is tailored to a population whose daily life adversities constitute the principle risk for depression.²⁰

Problem-Solving Treatment is theorized to work by improving adaptive situational coping, and reducing the impact of stress on personal-social functioning.²¹ This comprises 7 steps: (1) identifying a problem; (2) setting goals for problem resolution; (3) brainstorming solutions; (4) creating guidelines for decision making; (5) evaluating solutions; (6) enacting a solution; and (7) evaluating the outcome. A client whose depression is creating social isolation, for example, may recognize loneliness as a negative feeling. The problem-solving provider helps the client to reframe the subjective feeling of loneliness into an objective, measurable problem, such as “staying home alone on weekends.” The client then sets an achievable goal—in this case, perhaps, engaging in social activities with friends. After brainstorming and evaluating solutions, the client is guided through a detailed action plan. Problem-Solving Treatment is conducted over 4 to 8 sessions, each covering a new problem, and each session lasting 30 to 60 minutes.²²

Problem-Solving Treatment is effective in reducing depressive symptoms and increasing functioning in adults with both major and minor depression.^{23,24} A Cochrane Collaboration review found Problem-Solving Treatment delivered by general practitioners to be effective,²⁵ with sustained effects lasting 6 to 12 months.^{26,27} Problem-Solving Treatment, both theoretically and empirically, is well suited to individuals whose depressive symptoms are intimately intertwined with specific life circumstances. It has demonstrated clear effectiveness among stroke victims,²⁸ adults losing their sight to macular degeneration,²⁹ and the homebound elderly.²⁶ We began the adaptation process with the hypothesis that Problem-Solving Treatment’s focus on daily problems, as opposed to the adverse feelings associated with them, could bypass the stigma of mental illness, which has been associated with underuse of mental health services among low-income women.³⁰

METHODS

Our adaptation process comprised 3 phases. In initial qualitative research, we sought to understand how future intervention recipients and the professionals who worked with them conceptualized stress or demoralization in the context of having a medically fragile child or of raising young children in poverty—experiences common to families using Head Start, NICU, and EI services. These findings provided a starting point for the second phase of our work, in which we conducted intervention demonstrations in each venue. During these demonstrations, we made incremental modifications to the parent Problem-Solving Treatment model based on systematic feedback from providers and recipients. Finally, we tested these modifications by conducting 2 pilot randomized controlled trials, and assessing processes we considered to be markers of successful intervention adaptation: subject recruitment and retention, and intervention adherence and acceptability.

To conduct this work, it was necessary to build alliances with key stakeholders in our target venues on 3 levels. First, on a systems level, alliances involved EI and Head Start agency directors and NICU nurse managers. At the second level, these individuals facilitated access to direct service providers: developmental, occupational, physical, and speech therapists in EI; family case managers in Head Start; and NICU floor nurses. Finally, working closely with direct service providers facilitated access to a diverse sample of mothers. All research was approved by the Boston University Medical Center institutional review board.

Preintervention qualitative research

Before attempts at intervention delivery, we tested our assumption that an intervention based on addressing daily life problems could access culturally relevant conceptions of how social adversity and personal circumstances relate to demoralization and stress. We also aimed to determine the personal and institutional barriers to implementing the intervention at each site, interviewing future intervention recipients and program staff. Using an approach developed in our earlier work with ethnically diverse, low-income mothers,³¹ we engaged 41 EI mothers and 28 mothers whose children would be eligible for Head Start services in individual, focused ethnographic interviews (precise methods discussed elsewhere^{32,33}). We also engaged 41 EI service providers and 15 Head Start staff from the same programs in semistructured interviews or focus groups. We used a similar interview guide for the semistructured interviews and focus groups. The only difference was the format, which was determined on the basis of the preference of the specific programs.

Targeted demonstration of the intervention

After adapting Problem-Solving Treatment based on our qualitative work, we conducted demonstration projects with a convenience sample of 10 to 15 subjects in each setting. In EI and Head Start, we enlisted existing staff, which included case managers, social workers, nurses, developmental specialists, speech pathologists, and occupational therapists, to incorporate the intervention into their daily responsibilities. In EI, the child's Individualized Family Service Plan was amended to include additional family support services, specifically the study intervention, which is the adapted form of Problem-Solving Treatment. The intervention was delivered as part of regularly scheduled home visits by EI staff who were trained as interventionists and had time specifically allotted to deliver the intervention. Engaging with a mother to deliver Problem-Solving Treatment contributed to EI staff members' overall productivity as would the provision of any other EI service. In Head Start, the intervention was delivered by a family's existing case manager as part of their routine interactions with the family. In the NICU, we enlisted 4 volunteer graduate students to serve as intervention providers. These graduate students had no previous relationship with the mothers and their only interaction with the family was related to intervention delivery. Across settings, the same intervention was delivered and was considered adjunct and complementary to existing services provided in each setting.

We met with interventionists weekly and conducted a series of Plan-Do-Study-Act improvement cycles,³⁴ during which we systematically elicited their feedback regarding intervention delivery. Plan-Do-Study-Act improvement cycles are designed to minimize risks of potential failure and adverse events by testing change on a small scale, evaluating it, modifying it, and trying it again until the desired change fits within the local context. We recorded all intervention adaptations, and conducted a series of structured team meetings in which we categorized the adaptations into potentially generalizable domains.

Pilot studies conducted in a rigorous research context

The last phase of our adaptation process was to test our intervention modifications. We did so by conducting randomized pilot trials in EI (n = 43) and the NICU (n = 50).³⁵ Successful adaptations, we hypothesized, would lead to efficient subject recruitment, intervention

adherence and acceptability, and retention of subjects. In both pilot trials, our focus was to measure these process parameters.

RESULTS

Qualitative narratives

The 41 mothers of children receiving EI services who participated in qualitative interviews were recruited from 5 EI programs in Massachusetts. The sample was 60% white, 20% black, 15% Hispanic, and 5% Asian. About half had incomes less than 200% of the federal poverty limit. The mothers whose children would be eligible for Head Start were recruited from Head Start programs and local Healthy Families home visiting programs; mothers of children who received NICU care were recruited from an urban safety net hospital. All had incomes below 200% of the federal poverty limit. We purposefully sampled mothers representing the range of medical conditions (EI and NICU) and social circumstances of children who receive EI, NICU, and Head Start services. The specifics of our qualitative work have been published elsewhere.^{31–33} However, one particular finding that substantially influenced intervention development from the outset was the tension between externally imposed adversities (such as the preterm birth of a baby or having a child diagnosed with autism), and the desire for self-determination to solve one's own problems. Women consistently gave voice to the demoralization associated with problems that were beyond their control, and to the sense of empowerment associated with taking control of these problems. Problem-Solving Treatment's focus was on controllable problems, and therefore had to be reconciled with the likelihood that many problems associated with poverty or having a medically fragile child would not be perceived as controllable. In the NICU, for example, we predicted that asking mothers to outline a list of potentially solvable problems would be, itself, problematic; and that the overwhelming issue in these mothers' lives would be their critically ill newborns. Unless otherwise cued, mothers would likely focus on their newborn infants, and try to solve problems over which they had little control. From the outset, therefore, intervention providers in all 3 venues learned to ask mothers to think about contextual issues not directly related to their children, and to emphasize the issue of personal locus of control.

Adaptations from demonstration projects

Our intervention adaptations spanned 3 domains: (1) those related to the intervention's new depression-prevention focus; (2) those related to conducting a parent-focused intervention in venues principally oriented to children; and (3) those related to conducting an intervention among culturally diverse, low-income families (Table 1).

Prevention adaptations—The first adaptation to Problem-Solving Treatment related to its prevention focus addressed how to convey to prospective intervention participants the concepts of risk and risk reduction. Because the idea of preventing depression was not intuitive to many of our participants, explaining to them exactly why they were being asked to participate became critical for both successful enrollment and sustained intervention adherence. For example, with respect to NICU mothers, sadness was often explained to them as a normal, predictable part of giving birth prematurely, and to many of these mothers, an

intervention to prevent a “normal” condition appeared unnecessary. Therefore, we reframed the purpose of the intervention as a way to learn new skills to better manage the stress and challenges of parenting a child born prematurely or with a developmental delay, or (in the case of Head Start) the general challenges of parenting in the context of poverty. Consistent with the focus on prevention and skills building, we renamed the intervention Problem-Solving Education and referred to intervention providers as “educators.” We also emphasized the principle of maximizing each child’s developmental potential, and conveyed to mothers that our goal was to decrease the burden of everyday problems so that they could devote more of their focus to their children.

The second prevention-oriented adaptation to Problem-Solving Treatment concerned how participants identified their problems. An important problem-solving intervention principle is that self-identified problems should be associated with specific depression symptoms, as solving these problems ultimately aims to alleviate adverse feelings. Because we were developing a prevention intervention, many of our participants did not have recognized or significant depressive symptoms at the start of the intervention; as a result, this principle did not apply. Hence, we developed a strategy of client interviewing based largely on the principles of ethnographic interviewing used in our preceding qualitative work. In focused ethnography, the interviewer asks a series of open-ended questions designed to understand the subject’s social context as it relates to a specific agenda—in our case, understanding one’s daily problems, their emotional impact, and the words and metaphors used to explain the relation between the two. Our interventional team, therefore, was trained in how to conduct an ethnographic interview as the principal means through which daily life problems were identified, classified, and explored.

Adaptations related to conducting a parent-focused intervention in venues oriented to children—Unlike more traditional mental health service delivery systems—in which services are delivered within infrastructures principally oriented to their actual recipients—our projects aimed to deliver services to parents in the context of infrastructures oriented to their children. The first specific issue related to venue was where to hold the actual intervention sessions, which we ultimately conducted as a series of home visits as opposed to traditional office consultations. For EI, this method of intervention delivery was consistent with the home-based EI care model and allowed the intervention to be delivered as part of a “co-visit.” The Problem-Solving Educator accompanied the family’s usual EI provider on the visit, during which the Educator worked with the mother and the usual EI provider worked directly with the child. For mothers of NICU infants who were often homebound once their infant left the hospital, travel to an office setting would have limited participation. Their home provided a more comfortable, nonstigmatizing environment.

The second issue related to venue was how to integrate the intervention with institutional priorities, cultures, and service models. Ultimately, successful adaptation and implementation of the intervention required cooperation from participating sites and a belief in the potential value of the intervention. Management teams and other key stakeholders in all the 3 settings tended to view parental mental health as an often overlooked, and therefore largely unaddressed, need, which lacked existing resources, infrastructure, or emphasis. In the hospital setting, this issue was viewed through the lens of families’ adherence to

treatment recommendations; in EI, it was largely viewed from the perspective of family wellness; and in Head Start, it was viewed from the perspective of school readiness of the child.

In all the 3 settings, the concept of parental support emphasized identification of social needs and connection to community resources. Similarly, in all venues, social workers tended to assume these responsibilities. In the NICU, our intervention's parent focus was initially perceived as a social work intervention; and social work staff initially perceived the project as competition. EI staff were similarly concerned at first that the intervention was duplicating existing social work services. Because staff buy-in, particularly among social workers, was crucial to successful implementation, we made clear distinctions between social work services and the intervention. We focused on its educational, skills-building, and time-limited nature. In all settings, social workers became some of the strongest advocates of the intervention.

The final issue related to venue was ensuring participant safety in the event of a mental health emergency. In its parent form, Problem-Solving Treatment tends to be delivered to individuals with recognized depressive symptoms in a clinical setting where clear procedures and appropriate staffing exist to manage emergencies. Our clients, however, were not routinely connected to mental health services, and the child-focused settings did not necessarily have established protocols for adult mental health emergencies. Thus, we created detailed protocols to be followed by our staff when serious concerns about depressive symptoms or suicidal ideation arose. Our group established a relationship with a consulting psychiatrist, identified existing mental health emergency services in the communities where we worked, and developed clear algorithms that specified when and how to activate emergency protocols.

Working with culturally diverse, low-income families—Many challenges inherent to delivering preventive mental health interventions to culturally diverse, low-income communities have been described.^{36,37} Relative to the specifics of our intervention model, however, we confronted 2 significant challenges in this domain. The first challenge was the occasional need to resolve cultural differences between intervention providers and recipients. Problem-Solving Treatment asks subjects to identify a problem, state the problem in objective and solvable terms, and set specific goals for problem resolution. Some clients during our piloting phases identified problems that educators thought were insignificant and did not reflect the “real” problems in their lives. Because the intervention is inherently nonproscriptive and fidelity to it requires that clients determine their own problems, goals, and solutions, educators had to become accustomed to working with clients to help them to solve problems they did not necessarily perceive as meaningful, and to achieve goals they did not necessarily endorse.

The second challenge, which occurred more frequently, involved striking a balance between allowing mothers to determine their own solutions and action plans, and providing potentially helpful information to facilitate problem resolution. For example, many mothers chose to work on problems related to furthering their education. It was common that the educators knew of available programs, particularly in EI and Head Start, where providing

community connections is a substantial component of existing responsibilities and institutional cultures. The experience of withholding certain information, while allowing an already stressed mother to develop her own problem-solving skills, often ran counter to the usual relationship between clients and program staff, many of whom were drawn to their professions out of a desire to “do good” or to “provide.” The tension between a nonproscriptive intervention model and a desire to “provide” (which has been well described in social exchange theory^{38,39}) created the need for weekly group supervision sessions, in which educators shared their experiences and sought help from one another in maintaining this important balance.

Trial recruitment, adherence, acceptability, and retention

Mothers were recruited from 2 urban EI programs and 2 urban level III NICUs. Across both randomized pilot trials (total n = 93), mothers were English or Spanish language speakers and more than 90% had incomes less than 200% of the federal poverty limit. Mothers' mental health was assessed at baseline and at all subsequent assessments using Quick Inventory of Depressive Symptoms Self Report (QIDS-SR).^{40,41} At baseline, mothers demonstrated elevated risk for depressive illness—the mean depressive symptom score reflected mild symptoms (QIDS score = 9, mild symptom score range is 6 through 10)⁴² and 22% either had a history of depression or were currently receiving mental health services. Mothers with psychosis, active suicidal ideation, and cognitive limitations were excluded. The research team worked closely with staff at each recruitment site to identify potential participants who were screened for study eligibility by the research team. A total of 218 mothers were referred to the 2 studies—29% did not meet inclusion criteria and 25% of potentially eligible study subjects refused participation. The most common reason for refusal was lack of time to participate in research generally. Of the 46 women randomized to receive the intervention, 35 (76%) received all planned sessions (4 sessions for NICU subjects and 6 sessions for EI subjects—no one received compensation for intervention participation). Using an intensive approach to sample maintenance and subject follow-up that included obtaining multiple phone numbers and contacts, reminder notices, a flexible research staff that met with mothers at locations and times of their choosing, and participant incentives, our research team retained 87% of the original sample and was able to complete 85% of all planned assessments over 6 months of follow-up.

To assess satisfaction, participants were asked about their experience through open-ended questions (NICU) and structured rating scales (EI). Only 2 intervention subjects failed to follow-up for any sessions, and only 1 intervention subject reported that the intervention did not seem relevant to her life circumstances. EI mothers who received the intervention were asked to rate their experience relative to its helpfulness, their enjoyment, and the likelihood of using skills in the future. Using structured rating scales, the mean rating across the 3 domains was 4.4 of 5.

DISCUSSION

We have described a series of adaptations made to transpose a treatment-oriented, cognitive-behavioral strategy to a selective prevention model for maternal depression. Through a series

of qualitative investigations, iterative quality improvement modifications, and testing of intervention modifications in randomized pilot trials, we aimed to enhance Problem-Solving Treatment's applicability as a prevention strategy delivered within child-oriented venues to culturally diverse, low-income women.

Although these adaptations are specific to our own intervention, the domains into which such adaptations fell, as well as our methodology for arriving at them, are consistent with the adaptation framework proposed by Castro et al⁴³ and potentially instructive to other efforts. Adaptations geared to prevention emphasized conveying concepts of risk and risk reduction to potential participants and portraying the intervention to participants so that they perceived it as valuable to themselves and to their children. Adaptations geared to integrating a parent-focused intervention into a child-focused setting addressed ways to broaden provider-participant discussions to issues beyond their child's illness or developmental disability. Finally, adaptations geared to delivering the intervention to low-income, culturally diverse families focused on maintaining a balance between upholding the nonproscriptive essence of the intervention model, while providing recipients the information they needed to solve their problems most effectively. Maintaining this balance required enhancing supervision and providing a forum for providers to reflect on the differences and similarities between themselves and their clients.

Given the influence of culture and environment on the experience of mental illness, and given the limited access that low-income populations have to quality mental health care, establishing best practices for adapting such interventions to diverse populations and settings is of substantial public health importance⁶ and could contribute to efforts to reduce disparities in mental health care. Arrived at through a replicable process of qualitative interviewing and incremental process improvement, our adaptations addressed issues related to prevention, venue, and cultural competency, and may provide a paradigm to future similar efforts.

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References

1. Miranda J, McGuire TG, Williams DR, Wang P. Mental health in the context of health disparities. *Am J Psychiatry*. 2008; 165(9):1102–1108. [PubMed: 18765491]
2. McGuire TG, Miranda J. New evidence regarding racial and ethnic disparities in mental health: policy implications. *Health Aff*. 2008; 27(2):393–403.
3. United States Department of Health and Human Services. *Mental Health: A Report of the Surgeon General*. Rockville, MD: Center of Mental Health Services, Substance Abuse and Mental Health Services Administration; 1999.
4. United States Department of Health and Human Services. *Mental Health: Culture, Race, and Ethnicity: A Supplement to Mental Health: A Report of the Surgeon General*. Rockville, MD: Center of Mental Health Services, Substance Abuse and Mental Health Services Administration; 2001.

5. Mrazek, P., Haggerty, R. Reducing Risks for Mental Disorders—Frontiers for Prevention Intervention Research. Washington, DC: National Academies Press; 1994.
6. O'Connell, ME., Boat, T., Warner, K. Preventing Mental, Emotional, and Behavioral Disorders Among Young People: Progress and Possibilities. Washington, DC: National Academies Press; 2009.
7. Kumpfer KL, Alvarado R, Smith P, Bellamy N. Cultural sensitivity and adaptation in family-based prevention interventions. *Prev Sci.* 2002; 3(3):241–246. [PubMed: 12387558]
8. England, MJ., Sim, LJ. Depression in Parents, Parenting, and Children: Opportunities to Improve Identification, Treatment, and Prevention. Washington, DC: National Academies Press; 2009.
9. Feinberg E, Donahue S, Bliss R, Silverstein M. Maternal depressive symptoms and participation in early intervention services for young children [published online ahead of print December 8, 2010]. *Matern Child Health J.*
10. Administration for Children and Families. Research to Practice: Depression in the Lives of Early Head Start Families. Washington, DC: United States Department of Health and Human Services; 2003.
11. Lanzi RG, Pascoe JM, Keltner B, Ramey SL. Correlates of maternal depressive symptoms in a national Head Start program sample. *Arch Pediatr Adolesc Med.* 1999; 153:801–807. [PubMed: 10437751]
12. Silverstein M, Feinberg E, Sauder S, Egbert L, Stein R. Comorbid posttraumatic stress symptoms in an urban population of mothers screening positive for depression. *Arch Pediatr Adolesc Med.* 2010; 164(8):778–779. [PubMed: 20679172]
13. Silverstein M, Feinberg E, Young R, Sauder S. Maternal depression, perceptions of children's social aptitude and reported activity restriction among former very low birthweight infants. *Arch Dis Child.* 2010; 95(7):521–525. [PubMed: 20522473]
14. Singer L, Salvator A, Guo S, Collin M, Lilien L, Baley J. Maternal psychological distress and parenting stress after the birth of a very low-birth-weight infant. *JAMA.* 1999; 281(9):799–805. [PubMed: 10071000]
15. Silverstein M, Augustyn M, Cabral H, Zuckerman B. Maternal depression and violence exposure: double jeopardy for child school functioning. *Pediatrics.* 2006; 118(3):e792–e800. [PubMed: 16950968]
16. Weissman M, Pilowsky D, Wickramaratne P, et al. Remissions in maternal depression and child psychopathology. *JAMA.* 2006; 295(12):1389–1398. [PubMed: 16551710]
17. Backer, TE. Finding the Balance: Program Fidelity and Adaptation in Substance Abuse Prevention. Washington, DC: Substance Abuse and Mental Services Health Administration; 2002. <http://www.humaninteract.org/images/FindingBalance2.pdf> Accessed September 10, 2011
18. Cuijpers P, van Straten A, Smit F, Mihalopoulos C, Beekman A. Preventing the onset of depressive disorders: a meta-analytic review of psychological interventions. *Am J Psychiatry.* 2008; 165(10):1272–1280. [PubMed: 18765483]
19. Dennis CL. Psychosocial and psychological interventions for prevention of postnatal depression: systematic review. *BMJ.* 2005; 331(7507):15. [PubMed: 15994688]
20. Silverstein M, Augustyn M, Young R, Zuckerman B. The relationship between maternal depression, in-home violence, and use of physical punishment: what is the role of child behaviour? *Arch Dis Child.* 2009; 94(2):138–143. [PubMed: 18786952]
21. D'Zurilla, TJ., Nezu, AM. Problem Solving Therapy: A Positive Approach to Clinical Intervention. New York, NY: Springer; 2007.
22. Hegel MT, Dietrich AJ, Seville JL, Jordan CB. Training residents in problem-solving treatment of depression: a pilot feasibility and impact study. *Fam Med.* 2004; 36:204–208. [PubMed: 14999578]
23. Oxman TE, Hegel MT, Hull JG, Dietrich AJ. Problem-solving treatment and coping styles in primary care for minor depression. *J Consult Clin Psychol.* 2008; 76(6):933–943. [PubMed: 19045962]
24. Unutzer J, Katon W, Callahan CM, et al. Collaborative care management of late-life depression in the primary care setting: a randomized controlled trial. *JAMA.* 2002; 288:2836–2845. [PubMed: 12472325]

25. Huibers MJ, Beurskens AJ, Bleijenberg G, van Schayck CP. The effectiveness of psychosocial interventions delivered by general practitioners. *Cochrane Database Syst Rev.* 2003; (2):CD003494. [PubMed: 12804471]
26. Ciechanowski P, Wagner E, Schmalting K, et al. Community-integrated home-based depression treatment in older adults: a randomized controlled trial. *JAMA.* 2004; 291:1569–1577. [PubMed: 15069044]
27. Lin EH, Katon W, Von Korff M, et al. Effect of improving depression care on pain and functional outcomes among older adults with arthritis: a randomized controlled trial. *JAMA.* 2003; 290:2428–2429. [PubMed: 14612479]
28. Robinson RG, Jorge RE, Moser DJ, et al. Escitalopram and problem-solving therapy for prevention of poststroke depression: a randomized controlled trial. *JAMA.* 2008; 299(20):2391–2400. [PubMed: 18505948]
29. Rovner BW, Casten RJ, Hegel MT, Leiby BE, Tasman WS. Preventing depression in age-related macular degeneration. *Arch Gen Psychiatry.* 2007; 64(8):886–892. [PubMed: 17679633]
30. Nadeem E, Lange JM, Edge D, Fongwa M, Belin T, Miranda J. Does stigma keep poor young immigrant and US-born Black and Latina women from seeking mental health care? *Psychiatr Serv.* 2007; 58(12):1547–1554. [PubMed: 18048555]
31. Feinberg E, Smith MV, Naik R. Ethnically diverse mothers' views on the acceptability of screening for maternal depressive symptoms during pediatric well-child visits. *J Health Care Poor Underserved.* 2009; 20(3):780–797. [PubMed: 19648705]
32. Silverstein M, Lamberto J, DePeau K, Grossman DC. "You get what you get": unexpected findings about low-income parents' negative experiences with community resources. *Pediatrics.* 2008; 122(6):e1141–e1148. [PubMed: 19047215]
33. Silverstein M, Reid S, DePeau K, Lamberto J, Beardslee W. Functional interpretations of sadness, stress, and demoralization among an urban population of low-income mothers. *Matern Child Health J.* 2009; 14(2):245–253. [PubMed: 19156506]
34. Langley, G., Nolan, K., Nolan, T., Norman, C., Provost, L. *The Improvement Guide: A Practical Approach to Enhancing Organizational Performance.* San Francisco, CA: Jossey-Bass; 1996.
35. Silverstein M, Feinberg E, Cabral H, et al. Problem-solving education to prevent depression among low-income mothers of preterm infants: a randomized controlled pilot trial. *Arch Womens Ment Health.* 2011; 14(4):317–324. [PubMed: 21667323]
36. Podorefsky D, McDonald-Dowdell M, Beardslee WR. Adaptation of preventive interventions for a low-income culturally diverse community. *J Am Acad Child Adol Psychiatry.* 2001; 40:879–886.
37. D'Angelo EJ, Llerena-Ouinn R, Shapiro R, et al. Adaptation of the preventive intervention program for depression for use with predominantly low-income Latino families. *Fam Process.* 2009; 48(2):269–291. [PubMed: 19579909]
38. Gouldner A. The norm of reciprocity: a preliminary statement. *Am Sociol Rev.* 1960; 25(2):161–178.
39. Deckop J, Crika C, Andersson L. Doing unto others: the reciprocity of helping behaviors in organizations. *J Business Ethics.* 2003; 47(2):101–113.
40. Rush AJ, Trivedi MH, Ibrahim HM, et al. The 16-Item Quick Inventory of Depressive Symptomatology (QIDS), clinician rating (QIDS-C), and self-report (QIDS-SR): a psychometric evaluation in patients with chronic major depression. *Biol Psychiatry.* 2003; 54(5):573–583. [PubMed: 12946886]
41. Trivedi MH, Rush AJ, Ibrahim HM, et al. The Inventory of Depressive Symptomatology, Clinician Rating (IDS-C) and Self-Report (IDS-SR), and the Quick Inventory of Depressive Symptomatology, Clinician Rating (QIDS-C) and Self-Report (QIDS-SR) in public sector patients with mood disorders: a psychometric evaluation. *Psychol Med.* 2004; 34(1):73–82. [PubMed: 14971628]
42. Inventory of Depressive Symptomatology (IDS) & Quick Inventory of Depressive Symptomatology (QIDS). Pittsburgh, PA: University of Pittsburgh; 2011. <http://www.ids-qids.org/index2.html#table5>. Accessed August 12, 2011
43. Castro FG, Barrera M Jr, Martinez CR Jr. The cultural adaptation of prevention interventions: resolving tensions between fidelity and fit. *Prev Sci.* 2004; 5(1):41–45. [PubMed: 15058911]

Table 1

Adaptation Domains, Challenges, and Specific Adaptations

Adaptation Domains	Challenges	Specific Adaptations
Prevention	Prevention framework was not relevant to some participants (ie, those who did not think there was something worthwhile to prevent)	Reframed the focus of the intervention from “prevention of depression” to learning new skills to deal with everyday stress, with an emphasis on parenting
	Sadness or stress was perceived as normal, or as appropriate to one’s life circumstances; mental health “treatment” was thus not considered necessary	Renamed intervention, “Problem-Solving Education” and providers became “educators”
	Lack of depressive symptoms in participants made identifying problems related to depression difficult	Used ethnographic interviewing to identify everyday problems that could be linked to depressive symptoms or to stress
Parent-focused intervention in venues oriented to children	Not knowing how to conduct parent intervention in a way that is consistent with child-oriented venues	Used existing EI model of home-based services to conduct intervention with EI mothers; extended home-based work to NICU mothers, who were often confined to their homes because of their infants’ fragile health
	Difficulty integrating the intervention with institutional priorities, cultures, and service models	Reframed the intervention to advance goals of parental support in each venue: NICU: adherence to treatment EI: familywellness Head Start: school readiness
	Ensuring safety for participants during a mental health emergency	Created and implemented detailed protocols; enlisted a consultant psychiatrist
Working with culturally diverse low-income families	Need to resolve cultural differences between intervention provider and client	Trained educators to work with client-centered goals, even if educators considered these goals unimportant
	Maintaining balance between providing important information to help in solving problem while allowing client to build problem-solving skills	Implemented weekly supervision meetings with educators to address their concerns

Abbreviations: EI, early intervention; NICU, neonatal intensive care unit.

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