

BRIDGES: A Community-Based Care Management Program for Teen/Young Adult Mothers and Fathers – Year 2

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Introduction: Adolescent mothers face increased risk for parenting inadequacies, school dropout, and depression; almost one-quarter will experience another birth within 2 years. Depression may increase risk for repeat pregnancy which in turn worsens outcomes. Research has documented the effectiveness of parent education programs for adolescent mothers. In contrast, interventions to reduce repeat pregnancy and birth have yielded only modest impact, perhaps due to insufficient attention to issues of motivation, support for behavior change, and the influence of depression on motivation. Motivational interviewing (MI) is a counseling style with demonstrated effectiveness for helping people change complex health behaviors. Use of MI, within the context of preventing adolescent repeat childbearing has not been well studied, nor have studies examined whether treating depression in adolescent mothers improves motivation to use contraception and the intention to defer additional childbearing until adulthood. Moreover, few interventions and studies have described the integration of these approaches. In the BRIDGES intervention, we are testing a multi-component home visiting and care management model designed to maximize engagement and service delivery. BRIDGES activity components are: parent training curriculum, Computer Assisted Motivational Intervention (CAMI), depression case finding, and linkage with primary care and mental health services. BRIDGES intervention objectives are to: 1) improve parenting, 2) reduce repeat pregnancy and birth, and 3) enhance educational attainment.

Methods: Design: Randomized, controlled trial with assignment of consecutively presenting, eligible, consenting adolescents to intervention versus usual care control group. Allocation to group performed using random numbers table in permuted blocks of six. Setting: Pregnant adolescents (≥ 24 weeks gestation) are recruited from urban prenatal sites in Baltimore, MD that serve low income families with multiple psychosocial stressors. BRIDGES intervention participants receive services in home, clinic, and community-based settings. Control participants receive usual care in the community. Participants: Predominantly low income, minority (95% African-American), pregnant and parenting teenagers (≤ 18 years at baseline), their children, the children's fathers, and other family members. Intervention: Monthly continuity visits with a Care Manager that begins during pregnancy and continues until 2 years postpartum. Core activities are: 1) Comprehensive risk and needs assessments for healthcare, mental health, school/job attainment, daycare, and housing stability; 2) Parenting instruction with a culturally sensitive, developmentally relevant parenting curriculum; 3) Computer Assisted Motivational Intervention (CAMI) sessions in which the teen answers questions that assess partner relationships, sexual behaviors, & risk for repeat pregnancy followed by Motivational Interviewing, and 4) Coordination and linkage with community partners for health care, mental health care, and other services. Measures: Structured interviews conducted by research assistants at baseline, and 1 and 2 years postpartum. Validated instruments are used to measure demographic information, maternal life course and well-being, family planning practices, partner relationships, parenting, and access to primary care. To measure program implementation, Care Managers record detailed process data onto scannable forms that document each service they deliver. Process data are stored in an ACCESS Data Management platform and later linked with interview data in a SPSS database. Analytic Plan: To test program effectiveness, we will use intention to treat analyses. We will: 1) assess baseline comparability of the intervention and control groups, 2) measure intervention implementation, 3) assess overall program impact on outcomes, 4) test the role of hypothesized mediators (proximal outcomes) in achievement of distal outcomes, and 5) investigate the role of fidelity of implementation to impact. Sample statistics (means, proportions) will be used to examine baseline group comparability and estimate the congruence between ideal and actual program service delivery. Techniques of generalized linear models will be used to investigate the relationship between study group and each outcome, after controlling for covariates such as baseline difference between the groups (if any). Multiple linear regression and multiple logistic regression will be used to test for group differences in continuous and binary outcomes. For outcomes with repeated measures over time, we will use generalized estimating equation (GEE) methodology. Survival analysis will be used to test for program effects where data are censored (e.g., time to next conception or birth). Finally, to produce unbiased estimates of intervention causal effects on outcomes, we will compute Complier Average Causal Effect models (CACE) that account for variable intervention participation.

Results: After obtaining Institutional Review Board approval, participant recruitment began in August, 2007 and is ongoing. Our target sample size is 140 teens per group. To date, 100 pregnant adolescents (and parents if <18 years) agreed to participate, gave written informed consent/assent, completed baseline structured interviews, and were randomly assigned to intervention (n=53) or usual care control (n=47) groups. Recruitment was temporarily halted between 9/11/08 and 12/15/08 because of personnel changes. Review of baseline data demonstrates balance on most attributes, except that compared to intervention group teens, those in the control group report more favorable parenting attitudes on one subscale of the AAPI (Adult-Adolescent Parenting Inventory) (p=.01). For the full sample mean age is 17 years (range 13-18), 95% African American, 90% in school or graduated, 90% insured with Medicaid, but only 65% report having a specific doctor. Most (63%) report being in a relationship with the father of their child and 89% report it is "extremely important" to prevent another pregnancy within 2 years. However, only 58% report that their partner feels the same way. More than one-fifth (21%) are depressed at baseline. Preliminary process analyses indicate that the Care Managers are completing more than 90% of home visits, mental health assessments, parenting modules, and CAMI sessions. CAMI counselors encounter significant ambivalence about contraception use and pregnancy prevention within and between CAMI sessions. Among intervention teens identified with depressive symptoms, few agree to referral for treatment either in primary care or specialty mental health settings.

Discussion: Intervention participants demonstrate a high degree of ambivalence about repeat pregnancy prevention, but nevertheless remain engaged in the CAMI process. They confront significant psychosocial hardship, including high rates of depressive symptoms. Care Managers face resistance from participants when they try to link the teen with treatment. We speculate this may be due to general stigma around mental illness or features of depression itself. Our ongoing monitoring of process data with real-time feedback to front line staff has been extremely valuable to ensuring program quality and fidelity. In mid-October, 2008, the earliest BRIDGES intervention and control recruits became eligible for their 1-year follow-up assessment by the research assistant.

Implications: Personalized feedback and collaborative goal setting geared to each teen's current stage of readiness to change appear to be more effective at reducing high-risk sexual behavior than are generalized risk messages. While the intervention is being conducted with high fidelity overall, it is too early in the project to report program outcome findings.

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Overall Comments:

Introduction section was concise. However, reviewer did not get an adequate description of your research design, especially of the two groups under study. What did these individual groups look like? Also see comments about other components missing in methods section. Your results were confusing in the respect that the reviewer did not know if you were referring to the full sample. Discussion and implications should expand on your results as well as speak to challenges and limitations you have seen so far (per abstract guidance).