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Original article

## Computer-Assisted Motivational Interviewing Intervention to Facilitate Teen Pregnancy Prevention and Fitness Behavior Changes: A Randomized Trial for Young Men



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## A B S T R A C T

**Purpose:** Despite recent declines, teen unintended pregnancy and sexually transmitted infections in the United States remain at levels higher than comparable nations. Initiatives to prevent teen pregnancy have focused primarily on female adolescents; how to effectively engage young men to reduce their risk of fathering a teen pregnancy has not been well studied. We proposed to adapt an innovative computer-assisted motivational interviewing (CAMI) intervention, originally designed and tested with young women, for use with young men, aged 15–24 years, to reduce their risk of fathering a teen pregnancy. This manuscript describes the design of a CAMI intervention for young men aimed at preventing teen pregnancy and improving fitness.

**Methods:** This randomized controlled trial will recruit 945 sexually active young men between the ages of 15 and 24 years from three health centers in New York City. Participants will be assigned by permuted block randomization to two study arms: one aimed at reducing involvement in unintended teen pregnancy (CAMI-teen pregnancy prevention) and the other at improving overall fitness (CAMI-Fitness). Except for topic, both intervention arms will provide four sessions of Motivational Interviewing coaching and use a mobile app to track behavior and set goals. We will assess young men's sexual and reproductive health behaviors and fitness at baseline, 12, 24, 36, and 64 weeks using a mobile device app created for the study.

**Results:** Pending ongoing study.

**IMPLICATIONS AND CONTRIBUTION**

Methods for reducing teen pregnancy risk for young men have not been well studied. This randomized controlled trial will rigorously evaluate a computer-assisted motivational interviewing intervention for young men, aged 15–24 years, aimed at teen pregnancy prevention and fitness behaviors.

**Conflicts of Interest:** Melanie A Gold: Clinical Advisory Board, Afaixis, Inc. and Round Table Speaker, Genoea.

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**Conclusions:** Results from the study are expected to enhance our understanding of the efficacy of CAMI to enhance young men's reproductive health and fitness behaviors.

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Most teen pregnancies (75%) are unintended [1]. Initiatives aimed at preventing teen pregnancy have focused primarily on female adolescents. Actively engaging young men in teen pregnancy prevention interventions may further reduce unintended pregnancies and births and is a necessary and central component to promote further behavior change.

Young men, aged 15–24 years, father most of the children born to teen mothers [2,3]. Men aged 20–24 years father a higher proportion of children born to teen mothers than men aged 19 years and younger [4]. The rate of teen fatherhood in 2010 was estimated at 16.1 births per 1,000 men aged 15–19 years [3]. In 2002, 15% of fathers aged 15–44 years reported having their first child before the age of 20 years, and teen fatherhood rates were highest among minority teens [5].

In addition to using male condoms, men can prevent unintended pregnancy through contraception-related communication between partners, joint responsibility, and decision-making. Young men's desire for pregnancy prevention, knowledge and attitudes about contraceptive methods (including condoms), and supporting partners' use of moderately or highly effective reversible contraceptive methods (MERC/HERC) are influences that impact higher contraceptive use among women, particularly contraceptive continuation [6,7].

Few interventions have been designed or shown to be effective specifically for young men in reducing teen pregnancy. Most of the interventions shown to be effective have included both male and female participants; only one intervention was designed specifically for young men [8], and most were designed as HIV/sexually transmitted infection (STI) prevention interventions. Interventions often do not address shared responsibility of contraceptive decision-making or on utilization of sexual and reproductive health services. Rigorous evaluations of interventions that focus on male-specific risk and protective factors for teen pregnancy have not been reported in the peer-reviewed literature.

Counseling and feedback based on motivational interviewing (MI) have demonstrated greater success than standard didactic counseling in several domains of behavior change [9–13]. MI has been shown to decrease teen pregnancy risk in young women [14–17]. The effectiveness of MI to alter young men's sexual and contraceptive behaviors has not been rigorously evaluated. We propose to adapt, implement, and rigorously evaluate an innovative computer-assisted motivational interviewing (CAMI) intervention, originally designed and tested with young women, for use with young men, aged 15–24 years, to reduce their risk of fathering a teen pregnancy. The primary objective is to evaluate the efficacy of the CAMI-teen pregnancy prevention (CAMI-TPP) intervention as compared with a CAMI-Fitness control in reducing sexual behaviors that increase the risks of fathering an unintended teen pregnancy, primarily through increasing condom use and female partner use of MERC/HERC. This manuscript describes the design of a CAMI intervention for young men aimed at preventing teen pregnancy and improving fitness.

## Methods

### Design overview

Our design employs a randomized controlled trial to evaluate a CAMI-TPP intervention compared with a CAMI-Fitness intervention. Both arms will receive four coaching sessions with an MI coach over 12 weeks and will be asked to track and set goals for their health behaviors and complete weekly check-ins and periodic assessments in a mobile application. Only the topics of the intervention will differ in the randomized groups' two arms: teen pregnancy prevention (CAMI-TPP) versus a CAMI-Fitness aimed at tobacco avoidance, healthy diet, and physical activity. Young men, aged 15–24 years, will be recruited from three New York City health centers associated with New York-Presbyterian Hospital and Columbia University Medical Center. The Institutional Review Boards at Columbia University Medical Center and the Centers for Disease Control and Prevention will have approved this study and all participants will provide written informed consent. Parental consent for participants who are minors will be waived according to guidance by New York state law for providing confidential services to minors.

Figure 1 represents the flow of participants in both randomization arms across study steps from screening through follow-up. Figure 2 (logic model) illustrates the theory of change. The logic model elucidates the causal pathway through which the planned activities and outputs lead to short-term outcomes (therapeutic alliance established; participant commits to change by creating a SAFE plan) and medium-term outcomes (increased commitment to avoid pregnancy now; active role in contraceptive decision-making; increased knowledge about and behavioral intention to use condoms and MERC/HERC; discussing MERC/HERC with partner; and intention to seek medical care) that lead to the primary contraceptive use and STI testing outcomes.

### Participants

We plan to recruit and enroll 945 men, aged 15–24 years, who have been sexually active with female partners from three health center sites in New York City.

Sites include two of New York-Presbyterian Hospital's school-based health centers (SBHCs) at George Washington Educational Campus in Washington Heights and John F. Kennedy campus in the Bronx and the Young Men's Clinic (YMC) in Washington Heights. The site's populations are predominantly Hispanic and Black with the majority on Medicaid managed care insurance.

Inclusion criteria: (1) male between the ages of 15 and 24 years at the time of enrollment; (2) has had sexual intercourse in the past 90 days with a female partner; (3) is able to sign informed consent or assent (parental consent will be waived for those under age 18 years); (4) is able to participate for 15 months; and (5) owns a smartphone (iPhone or Android); (5)

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