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Drug refusal skills training does not enhance outcomes of African American adolescents with substance use problems☆

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ABSTRACT

In prior research by Witkiewitz and colleagues, African American adults receiving refusal skills training (RST) had fewer heavy drinking days and were categorized as having more successful outcomes. This study extends findings to adolescents receiving the Adolescent Community Reinforcement Approach (A-CRA). Propensity score matching was used to create three groups equivalent on baseline characteristics, including: African Americans receiving refusal skills training (AA + RST; $n = 214$), African Americans not receiving RST (AA- RST; $n = 212$), and Caucasians receiving RST (CA + RST; $n = 214$). In propensity weighted regression models that controlled for overall A-CRA exposure, racial group by RST status was not a significant predictor of substance use frequency or abstinence/early remission outcomes. Higher exposure to A-CRA, however, was a significant predictor of both outcomes. Universal receipt of RST may not improve the outcomes of African American adolescents with substance use problems, and outcomes may be driven more by the overall number of A-CRA procedures received.

1. Introduction

There is continued concern about whether or not interventions for adolescent substance use disorders are equally effective for individuals from various racial backgrounds (Godley, Hedges, & Hunter, 2011b). African American adolescents in particular are less likely to complete treatment compared to adolescents from other racial groups (Alegria, Carson, Goncalves, & Keefe, 2011; Becker, Stein, Curry, & Hersh, 2012; Campbell, Weisner, & Sterling, 2006; White, Haas, & Williams, 2012), but it appears that their treatment outcomes have not suffered as a result of this discrepancy (Alegria et al., 2011; Becker et al., 2012; Godley, Hedges and Hunter, 2011b; Schmidt, Greenfield, & Mulia, 2006). Nevertheless, as African American youths with substance use problems experience greater social, economic, and health consequences than their White counterparts (Schmidt et al., 2006), investigations of promising approaches that may improve their outcomes are very important.

To our knowledge, no existing studies have isolated the effects of specific therapeutic procedures within empirically supported treatments for racially diverse adolescents with substance use disorders. However, recent research found that African American adults with alcohol use disorders benefitted more from a multicomponent behavioral intervention (Miller, 2004) when it included drink refusal skills training (RST), a skills training procedure where individuals role-played turning down drink offers. (A drink or drug offer occurs when an individual in one's social network suggests drinking or using drugs.) Specifically, African Americans receiving RST had fewer heavy drinking days at follow up compared to African Americans that did not receive RST and Caucasians who did (Witkiewitz, Villarroel, Hartzler, & Donovan, 2011). One potential reason why there may be differential benefits for African American adults receiving RST is that African American adults were found to have more drink offers than Caucasians (Walton, Blow, & Booth, 2001). It is unclear if this is also the case for African American adolescents.

Witkiewitz and colleagues (2011) noted that replication studies are needed due to the small sample size of their study (i.e., 60 African Americans). This study attempts to replicate these findings with a large sample of African American adolescents receiving a multicomponent behavioral therapy called the Adolescent Community Reinforcement Approach (A-CRA; Godley et al., 2001). If we replicate Witkiewitz and colleague's (2011) findings, it may imply that refusal skills training should be a routine component for African American adolescents in substance use disorder treatment.

1.1. Improving treatment outcomes for minorities

Three main approaches to addressing the cultural relevance of treatments include ethnic matching, developing culturally specific intervention programs, and identifying differentially effective program

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components. Some support exists for ethnic matching (Flicker, Waidron, Turner, Brody, & Hops, 2008; Wintersteen, Mensinger, & Diamond, 2005), no examples of culturally specific interventions for adolescent substance use disorders could be located, and there is no support for the approach used in the current study, which attempts to isolate components of interventions that improve outcomes for racial minorities. Some treatment components such as refusal skills training (RST) may have differential benefits for racially diverse adolescents with substance use disorders. This may especially be the case if a treatment outcome mediator such as ability to refuse a drug offer or peer substance use, varies by race (Castro, Barrera, & Holleran-Steiker, 2010).

One study found no gender or racial differences found for A-CRA, the treatment under investigation here (Godley et al., 2011a, 2011b) Specifically, Godley and colleagues (2011a, 2011b) examined the equivalence of treatment for both genders and different racial groups, and found no racial differences in treatment initiation, engagement, total sessions attended, or 6 month abstinence outcomes. African-American youth, however, reported higher treatment satisfaction compared to Caucasian adolescents. Their study design detected average effects for racial groups, rather than effects of receiving different constellations of services, which may vary and interact with race to produce different outcomes.

1.2. Refusal skills training for adolescents

Refusal skills training (RST) has long been part of efficacious multicomponent prevention programs serving African American adolescents. (Belgrave, Reed, Plybon, & Corneille, 2004; Cunningham et al., 2009; Epstein, Bang, & Botvin, 2007; Epstein, Griffin, & Botvin, 2001; Nasim, Belgrave, Corona, & Townsend, 2009; Nasim, Utsey, Corona, & Belgrade, 2006). One program significantly reduced the odds of drinking for African American and Hispanic youth ($M = 12.87$ years of age) living in low income urban settings (Williams, Epstein, Botvin, Schinke, Diaz, 1998). Further, among younger minority youth ($M = 12.4$ years of age) the ability to assertively refuse drug offers predicts reduced alcohol use (Epstein et al., 2001). These studies, however, are typically limited to the prevention context, mostly do not include comparison groups, and have not attempted to disentangle the effects of RST from other program components. RST was also part of empirically-supported treatments studied in the largest outcomes trial for adolescents with cannabis use disorders (Dennis et al., 2004b). However, this study also did not attempt to disentangle the specific effects of RST or whether RST was differentially beneficial to African Americans.

1.3. Summary and hypotheses

This study replicates Witkiewitz et al.'s (2011) study by comparing African American adolescents receiving RST, African American adolescents who do not receive RST, and Caucasian adolescents who receive RST. To our knowledge, this is the first study of whether receipt of RST enhances the outcomes of African American adolescents receiving an empirically supported substance use disorder treatment.

Limited research exists to guide a hypothesis about whether we will replicate Witkiewitz et al.'s (2011) findings with adolescents. However, we note that prior research on RST with adolescents did not separate the effects of RST from other components in multicomponent interventions, and that adolescent studies showing racial differences in drug offers are lacking. This is important, as drug offers may be the potential mediating variable through which RST has differential benefits for African Americans. Prior research showing African American adults to have more drug offers than Caucasians provided the rationale for the Witkiewitz et al. (2011) study. Thus, we hypothesize that we will not replicate these findings for adolescents in light of no literature support for racial differences in drug offers among adolescents. As a secondary and exploratory hypothesis, we investigated whether there were racial differences in peer substance use. There is limited literature support to guide such a hypothesis, so we did not predict whether peer substance use would be higher or lower for African American youth.

2. Method

2.1. Data source

Data were obtained from 37 SAMHSA-funded outpatient treatment sites implementing the Adolescent Community Reinforcement Approach (A-CRA; Godley et al., 2001; Godley, Smith, Meyers, & Godley, 2009). Sites were spread throughout all regions of the United States, with most participants drawn from metropolitan areas with populations larger than 250,000 (83.5%), and the balance from smaller cities and rural areas (16.5%). IRB approval was obtained locally, and HIPAA-compliant data sharing procedures were used. Agencies were trained and certified in A-CRA (Godley et al., 2011a, 2011b), as well as in data collection using the Global Appraisal of Individual Needs (Dennis, Titus, White, Unsicker, & Hodgkins, 2002).

Out of 1757 cases available (572 African American youth, 1185 non-Hispanic Caucasian youth) at the time of this study, we selected cases that had completed at least one follow up interview at either 3 or 6 months post-intake. We excluded 57 cases due to lack of follow up data (3.2%) and five cases (.02%) due to missing indicators of racial background or completion of the RST module. Only 4% of African Americans and 2.9% of Caucasians failed to complete at least one follow up assessment at either 3 or 6 months. Propensity score matching (see below) was used to create smaller comparison groups with equivalent baseline characteristics including: African American youth receiving refusal skills training (AA + RST; $n = 214$), African American youth who did not receive RST, (AA-RST, $n = 212$), and Caucasians that received RST (CA + RST: $n = 214$).

2.1.1. Participants

Participants were mainly male (83%), and the average age (in years) across comparison groups was 16.3 ($SD = 1.75$). On average, participants were abstinent on 61.4 days ($SD = 31.1$) of the 90 days prior to the baseline assessment. Regarding substance use disorders, 34.8% met criteria for past year DSM IV dependence diagnoses, 35.8% met criteria for past year substance abuse, and 77.6% met criteria for either lifetime abuse or dependence.

2.1.2. A-CRA description

The Adolescent-Community Reinforcement Approach (A-CRA) is an individualized, cognitive–behavioral model that aims to make sobriety more rewarding for adolescents (Godley et al., 2001). It is a flexible, manualized approach where clinicians select procedures (e.g. functional analysis of use, happiness scaling and goals of counseling, communications skills training, refusal skills training (RST), job skills training, and caregiver sessions) in response to client needs. Not all clients receive the same A-CRA procedures, enabling this study. The efficacy and cost effectiveness of A-CRA was established in a large randomized trial (Dennis, Godley, Diamond, Tims, Babor, Donaldson, et al., 2004b).

2.2. Measures

The GAIN is a reliable and valid semi-structured interview measure (Buchan, Dennis, Tims, & Diamond, 2002; Dennis, Scott, Godley, & Funk, 1999; Dennis et al., 2004a) with an empirically-validated training and supervision process (Titus et al., 2012). The GAIN contains items consistent with the DSM IV (American Psychiatric Association, 2000) criteria for substance use disorders and many common mental health diagnoses. Below we provide detailed