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A Comparison of Three Interventions for Homeless Youth Evidencing Substance Use Disorders: Results of a Randomized Clinical Trial

Natasha Slesnick, Ph.D. *, Xiamei Guo, Ph.D., Brittany Brakenhoff, M.S., Denitza Bantchevska, Ph.D.

Department of Human Sciences, The Ohio State University

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ABSTRACT

While research on homeless adolescents and young adults evidencing substance use disorder is increasing, there is a dearth of information regarding effective interventions, and more research is needed to guide those who serve this population. The current study builds upon prior research showing promising findings of the community reinforcement approach (CRA) (Slesnick, Prestopnik, Meyers, & Glassman, 2007). Homeless adolescents and young adults between the ages of 14 to 20 years were randomized to one of three theoretically distinct interventions: (1) CRA ($n = 93$), (2) motivational enhancement therapy (MET, $n = 86$), or (3) case management (CM, $n = 91$). The relative effectiveness of these interventions was evaluated at 3, 6, and 12 months post-baseline. Findings indicated that substance use and associated problems were significantly reduced in all three interventions across time. Several moderating effects were found, especially for sex and history of childhood abuse. Findings show little evidence of superiority or inferiority of the three interventions and suggest that drop-in centers have choices for addressing the range of problems that these adolescents and young adults face.

1. Introduction

Homeless adolescents and young adults are considered one of the most vulnerable populations worldwide with an estimated 100 million globally (UNESCO, 2007), and 500,000 to 2.8 million in the U.S. alone (Bucher, 2008; Cooper, 2006). A multitude of studies document high rates of alcohol and drug use, sexual risk behaviors and physical and mental health vulnerabilities (Robertson & Toro, 1999). Homeless adolescents and young adults frequently report histories of childhood physical and/or sexual abuse (Robertson & Toro, 1999) and are disconnected from family, housing and social services (Gaetz, 2004). The purpose of this study was to identify the most effective intervention for addressing substance use, as well as secondary outcomes including housing, mental health problems, and victimization among three theoretically distinct but empirically-supported interventions: the community reinforcement approach (CRA, Meyers & Smith, 1995), motivational enhancement therapy (MET, Miller & Rollnick, 2013) and case management (CM).

Substance use disorders are common among homeless adolescents and young adults, with studies estimating that 69 to 86 percent meet diagnostic criteria for at least one substance use disorder (Baer, Ginzler, & Peterson, 2003; Kipke, Montgomery, Simon, & Iverson, 1997). In addition to the direct negative effects of substance use, there are significant social, legal and physical health consequences (Edidin, Ganim, Hunter, & Karnik, 2012). For example, substance use is associated with other mental health disorders (Johnson, Whitbeck, & Hoyt, 2005) and increases adolescent's and young adult's risk of victimization on the streets (Greene, Ennett, & Ringwalt, 1997; Whitbeck, Hoyt, & Yoder, 1999). Substance use can inhibit one's exit from homelessness and increases the potential for chronic homelessness into adulthood (Greene et al., 1997; Robertson & Toro, 1999). Overall, treatment for substance use disorders is a priority when intervening with homeless adolescents and young adults, not only because of the high prevalence of substance use disorders in this population, but also because of the multitude of negative consequences associated with it.

Furthermore, the problems experienced by homeless youth are interrelated, and the treatment of substance use problems has been associated with improvements in other affected domains including depressive symptoms, internalizing and externalizing problems, coping and victimization experiences (Slesnick, Prestopnik, Meyers, & Glassman, 2007; Williams & Chang, 2000). Despite the challenges experienced by these youth, current research offers limited guidance regarding how to intervene and treat this population (Edidin et al., 2012; Robertson & Toro, 1999). Homeless youth present with challenges not faced by those who are not experiencing homelessness. In particular, they are less connected to familial, institutional or other supports, and rarely enter substance use treatment on a voluntary basis, though they can be engaged in treatment through outreach (Fisk, Rakfeldt, & McCormack, 2006). Because of the range of difficulties, providing substance use treatment for people who are homeless cannot be separated from the larger needs for assistance with housing, employment and income (Kertesz et al., 2007; Milby, Schumacher, Wallace, Freedman, & Vuchinich, 2005). For example, recovery outcomes can be enhanced, and social isolation diminished, through the use of advocates who assertively link

* Corresponding author at: Department of Human Sciences, The Ohio State University, 135 Campbell Hall, 1787 Neil Ave, Columbus, OH 43210. Tel.: +1 614 247 8469; fax: +1 614 292 4365.
E-mail address: slesnick.5@osu.edu (N. Slesnick).

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persons who are homeless to community-based support programs (National Alliance to End Homelessness, 2006).

Recent reviews of the adolescent substance use treatment literature identify several effective individual, group, and family interventions (Tanner-Smith, Wilson, & Lipsey, 2013; Waldron & Turner, 2008). Some evidence suggests that family therapy interventions outperform other interventions, but more research supporting this conclusion is needed (Tanner-Smith et al., 2013). Given the range of available effective treatment options, researchers suggest that cost effectiveness (Tanner-Smith et al., 2013) and response to treatment (Waldron & Turner, 2008) should be considered when selecting a treatment. However, as noted, very few intervention studies have been conducted with homeless youth, and those few studies targeted a wide range of outcomes using various interventions. In two recent literature reviews, Altena, Brilleslijper-Kater, and Wolf (2010) identified 11intervention studies while Slesnick, Dashora, Letcher, Erdem, and Serovich (2009) identified 14 studies. These few studies tested individual, family, group, and street-based interventions focused on substance use, mental health, sexual and HIV risk, and employment.

Identifying effective interventions is also complicated by the fact that subgroups of runaway and homeless adolescents and young adults exist, with different intervention needs among them (Chamberlain & MacKenzie, 2004; Haber & Toro, 2004). That is, presence on the streets is considered a marker of problem severity. Shelter-recruited adolescents tend to be younger, and often have never spent a night on the streets (Robertson & Toro, 1999). Family reunification is the primary goal of runaway shelters, with family therapy a recommended approach (Slesnick et al., 2009; Teare, Peterson, Furst, & Authier, 1994). In contrast, street-living homeless adolescents and young adults rarely access institutional settings (shelters, foster care) or family for assistance because these systems are no longer perceived to meet their needs (Marshall & Bhugra, 1996). Community-based interventions offered in low-demand settings such as drop-in centers are recommended for street-living adolescents and young adults (Chamberlain & MacKenzie, 2004). Drop-in centers offer youth a bridge from the streets to the mainstream, with few requirements placed upon youth (Slesnick et al., 2008). These centers usually address basic needs and seek to connect youth to more intensive services as trust develops. Promising interventions for street-living adolescents and young adults include case management, brief motivational interviewing, and behavioral interventions (Altena et al., 2010; Slesnick et al., 2009). Information on the relative performance of these promising interventions can offer evidence supporting intervention options for those seeking to serve this population.

1.1. Interventions

Traditionally, case management has been standard care for those experiencing homelessness (Zerger, 2002). Few studies have examined the effectiveness of case management as a standalone intervention for homeless adolescents and young adults. However, the Substance Abuse and Mental Health Services Administration (SAMHSA) identified brief strengths-based case management (Rapp et al., 2008) as an evidenced-based intervention for substance use. Both Altena et al. (2010) and Slesnick et al. (2009) note that only one randomized clinical trial has examined the efficacy of case management with homeless adolescents and young adults. Cauce et al. (1994) found no significant differences between an intensive and standard case management with both conditions showing reductions in internalizing and externalizing problems, depression, anxiety, substance use, and days spent homeless. Despite the limited research, case management continues to be a common approach used in community programs that serve homeless individuals (Zerger, 2002). However, given that case management does not provide targeted substance use treatment, it was expected to show inferior substance use outcomes to CRA and MET.

Three studies have tested MET with homeless youth (Baer, Garrett, Beadnell, Wells, & Peterson, 2007; Peterson, Baer, Wells, Ginzler, & Garrett, 2006) and shelter-residing youth (Slesnick, Erdem, Bartle-Haring, & Brigham, 2013). Peterson et al. (2006) found that MET had no impact on alcohol or marijuana use, though other illicit drug use was reduced at the 1 month follow-up in a sample of street-recruited homeless adolescents and young adults. Baer et al. (2007) sought to improve upon the findings of Peterson and colleagues by enhancing engagement strategies. However, few positive outcomes were observed. In contrast, utilizing a sample of substance using runaway adolescents recruited from a runaway shelter, Slesnick et al. (2013) found that substance use reductions were significant for those assigned to MET even to 2 years post-treatment. Few differences between MET, family systems therapy and the community reinforcement approach were observed; adolescents in MET showed a quicker decline in their substance use but a faster relapse compared with those receiving family therapy. The differences in outcomes may be due to the different samples utilized. That is, Baer and Peterson recruited street-living youth with higher problem severity, while Slesnick and colleagues worked with more stable shelter-recruited adolescents with relatively lower problem severity.

The community reinforcement approach (CRA, Meyers & Smith, 1995) is an operant-based behavioral intervention that has shown great success with homeless adults (Smith, Meyers, & Delaney, 1998), runaway and homeless youth (Slesnick et al., 2007, 2013) and adolescent marijuana abusers (Godley et al., 2010). Higgins and colleagues have conducted several trials of CRA plus contingent reinforcement with adults who abuse cocaine (e.g., Higgins et al., 1995, Higgins, Wong, Badger, Ogden, & Dantona, 2000). The CRA counseling portion of their intervention is similar to the CRA counseling provided in the current study, however, a major focus of their intervention is the addition of an incentive program which requires participants to participate in weekly urinalysis screenings in order to earn vouchers. Also, Azrin and colleagues developed a family behavioral therapy intervention using operant-based procedures (Azrin et al., 2001). Similar to CRA used in the current study, their behavioral intervention helps youth identify aspects of their environment that reinforce negative behaviors, and helps youth and families develop alternative reinforcing behaviors and plans to avoid negative environmental situations. Unlike CRA used in the current study, their intervention focuses largely on the youth's family and also utilizes contingency management.

Research indicates that outcomes of treatment for substance use disorders are moderated by age, sex, ethnicity and history of childhood abuse. For example, Winters (1999) suggests that substance use treatments for adolescents need to be aware of the influence of age on treatment. When sex differences are observed on treatment outcomes, females tend to have better outcomes compared to males (Greenfield et al., 2007). While African Americans tend to report lower treatment completion compared to Whites (Milligan, Nich, & Carroll, 2004), Slesnick et al. (2013) found that among runaway adolescents, minority youth reported more reductions in substance use, but also relapsed sooner compared to White youth. Although some studies report similar treatment outcomes among those who report childhood abuse compared to those who do not (Oviedo-Joekes et al., 2011; Slesnick, Bartle-Haring, & Gangamma, 2006), other studies report that individuals with a childhood abuse history have less positive treatment outcomes compared to individuals without an abuse history (Sacks, McKendrick, & Banks, 2008).

1.2. Current study

The current study compared treatment outcomes for homeless youth evidencing substance use disorder assigned to CM, CRA or MET provided through a local drop-in center. It was hypothesized that adolescents and young adults receiving each treatment would show significant improvements in the primary outcome, alcohol and drug use, as well as the secondary outcomes including depressive symptoms, internalizing/externalizing problems, victimization, homelessness, and coping from baseline to the 12-month follow-up. This study follows