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A pilot test of a motivational interviewing social network intervention to reduce substance use among housing first residents

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ABSTRACT

This article presents findings of a pilot test of a Motivational Interviewing social network intervention (MI-SNI) to enhance motivation to reduce high risk alcohol and other drug (AOD) use among formerly homeless individuals transitioning to housing. Delivered in-person by a facilitator trained in MI, this four-session computer-assisted intervention provides personalized social network visualization feedback to help participants understand the people in their network who trigger their alcohol and other drug (AOD) use and those who support abstinence. If ready, participants are encouraged to make changes to their social network to help reduce their own high-risk behavior. Participants were 41 individuals (33 male, 7 female, 1 other; 23 African-American, 5 non-Latino White, 6 Latino, 7 other, mean age 48) who were transitioning from homelessness to permanent supportive housing. They were randomly assigned to either the MI-SNI condition or usual care. Readiness to change AOD use, AOD abstinence self-efficacy, and AOD use were assessed at baseline and shortly after the final intervention session for the MI-SNI arm and around 3-months after baseline for the control arm. Acceptability of the intervention was also evaluated. MI-SNI participants reported increased readiness to change AOD use compared to control participants. We also conducted a subsample analysis for participants at one housing program and found a significant intervention effect on readiness to change AOD use, AOD abstinence self-efficacy, and alcohol use compared to control participants. Participants rated the intervention as highly acceptable. We conclude that a brief computer-assisted Motivational Interviewing social network intervention has potential to efficaciously impact readiness to change AOD use, AOD abstinence self-efficacy, and AOD use among formerly homeless individuals transitioning to permanent supportive housing, and warrants future study in larger clinical trials.

1. Introduction

Homelessness has a significant negative impact on a variety of health-related consequences (Fazel, Khosla, Doll, & Geddes, 2008; Geddes & Fazel, 2011; Wolitski, Kidder, & Fenton, 2007), including harmful alcohol and other drug (AOD) use (Booth, Sullivan, Koegel, & Burnam, 2002; Rhoades et al., 2011). AOD use is both a cause and consequence of homelessness (Booth et al., 2002), in part due to continued exposure to AOD use in the social networks of homeless people (Rhoades et al., 2011; Tucker et al., 2009; Wenzel et al., 2009). Interrupting the cycle of homelessness through the provision of stable housing is often seen as the most effective homeless health intervention (Kidder et al., 2007). "Housing First" (HF) approaches (Kertesz, Crouch, Milby, Cusimano, & Schumacher, 2009; Padgett, 2007; Padgett, Stanhope, Henwood, & Stefancic, 2011) aim to meet the homelessness health challenge by providing housing without the requirement to participate in AOD treatment. There is evidence that residents of HF programs have similar (Padgett, Gulcur, & Tsemberis, 2006) or improved (Padgett et al., 2011; Tsemberis, Kent, & Respress, 2012) AOD outcomes compared to programs that require abstinence and treatment (Milby et al., 2008; Milby et al., 2010; Milby, Schumacher, Wallace, Freedman, & Vuchinich, 2005).

The current study describes the results of a pilot test of a novel intervention to reduce AOD use among new housing first residents. The intervention supplements usual HF case management with additional sessions that provide HF residents with personalized, visual information about their social networks. One challenge in the implementation of HF programs is that residents attempting to abstain from AOD use are inadvertently exposed to high-risk behavior through their HF-based social networks (Kertesz et al., 2009). Studies have shown that HF programs by themselves do not reduce substance use compared to treatment as usual (Somers, Moniruzzaman, & Palepu, 2015) but they provide an

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improved platform for recovery that can be enhanced with specific interventions targeting substance use (Henwood, 2015; Padgett, 2007). HF residents may require support to face the challenge of their changing social environments that include an evolving mixture of AOD users and non-users (Henwood et al., 2015). A large and growing body of research demonstrates both the positive and negative influences of social networks on the lives of homeless individuals (Reitzes, Crimmins, Yarbrough, & Parker, 2011; Stablein, 2011; Wolch, Rahimian, & Koegel, 1993), as well as the benefits of targeting social networks in health interventions (Valente, 2012). Therefore, providing support to HF residents to motivate them to make positive changes in their AOD use and social networks may enhance HF program benefits.

There is a need to develop social network based AOD interventions customized for HF resident populations because most existing network-based AOD interventions may not be appropriate for HF residents. Many network-based interventions are based on abstinence and/or focus on limiting social network contacts to abstaining network members (Bond, Kaskutas, & Weisner, 2003; Copello et al., 2002; Groh, Jason, & Keys, 2008; Kaskutas, Bond, & Humphreys, 2002; Kelly, Stout, Magill, & Tonigan, 2011; Litt, Kadden, Kabela-Cormier, & Petry, 2007; Litt, Kadden, Kabela-Cormier, & Petry, 2009), which may not be desirable or possible for many HF residents. Also, most network based health interventions target defined social groups rather than the personal networks of individuals who are transitioning from one social environment to another (Valente, 2012). Personal networks refer to the network of contacts most closely tied to a focal individual (Chung et al., 2015; Domínguez & Hollstein, 2014; McCarty, 2002) and can be visualized with intuitive diagrams (Eddens, Fagan, & Collins, 2017; Kennedy et al., 2016; Kennedy, Green, McCarty, & Tucker, 2011; Osilla, Kennedy, Hunter, & Maksabedian, 2016; Tubaro, Ryan, & D'Angelo, 2016). Personal network visualizations can be presented in different ways to highlight different network characteristics. Network visualizations based on responses to a personal network interview can provide individualized feedback to HF residents as they transition from homelessness to living in HF settings. HF residents who have been shown visualizations of their personal networks found them easy to understand, relevant for better understanding their social environments, and potentially useful for making changes in their AOD use and network interactions that influence AOD use (Osilla et al., 2016).

The intervention tested in this study combines visual information about HF residents' social networks with Motivational Interviewing (MI), which is an evidence-based intervention style (Miller & Rose, 2009) that can enhance motivation to change AOD behavior (Lundahl, Kunz, Brownell, Tollefson, & Burke, 2010; Miller, Benefield, & Tonigan, 1993; Miller, Zweben, DiClemente, & Rychtarik, 1994). MI facilitators lead conversational sessions that are collaborative, nonjudgmental, and focus on strengthening clients' own motivation and commitment to change. MI emphasizes client engagement (establishing a helpful relationship, understanding barriers and reasons to change), focusing (identifying change area, and setting an agenda), evocation (eliciting the client's motivation to change and building their self-efficacy), and planning (developing a commitment to change and formulating an action plan). MI has been successfully coupled with a focus on social networks (Mason, Pate, Drapkin, & Sozinho, 2011) but without the use of network visualizations and with non-homeless populations. Addressing motivation to change among HF residents is important because there is evidence that motivation to change is a strong predictor of AOD use outcomes among HF residents (Collins et al., 2012). Combining MI with a focus on social networks for new HF residents is also important because of the well-known social influence on AOD use, the challenging social environmental changes that new HF residents experience, and the likelihood of exposure to AOD use among other HF residents who are not abstaining from drugs and alcohol because it is not a requirement for housing. This combination of factors suggests that the transition into HF programs is a critical time for providing support to new residents to address these social challenges and avoid future risk.

Beta tests that coupled network visualizations with MI for HF residents provided evidence that this intervention approach was feasible and acceptable by residents and staff (Osilla et al., 2016). Residents who tested the intervention reacted positively to the experience, reporting that the intervention helped them understand and discuss their social networks better than just having a conversation with a case manager. They also commented that seeing the visualization was powerful because it was based on answers they provided. They also reported that the intervention prompted them to think about how their social networks were influencing their AOD use and made them think about changing their social networks in order to change their AOD use.

The purpose of this study is to test if personalized, visual social network feedback delivered with MI to new HF residents receiving usual case management impacts their AOD use and motivation to change. We present findings of a Stage 1b pilot study (Rounsaville, Carroll, & Onken, 2001) of a MI social network intervention (MI-SNI) to enhance motivation to reduce high risk alcohol and other drug (AOD) use among formerly homeless individuals transitioning to permanent supportive housing. The goal of this Stage 1b pilot was to determine promise of this novel intervention approach for use in a larger Stage 2 RCT. We hypothesized that MI-SNI participants would show increased readiness to change AOD use and AOD abstinence self-efficacy and more positive changes in their AOD use between baseline and 3-months after baseline compared to control participants.

2. Material and methods

2.1. Setting and participants

Participants were new residents of either Skid Row Housing Trust (SRHT) or Single Room Occupancy Housing Corporation (SRO), two providers of permanent supportive housing (PSH) in Los Angeles County. Our initial design was to conduct the entire pilot test with SRHT residents. We designed the pilot test collaboratively with SRHT staff to meet the needs of their program (Kennedy et al., 2016) and conducted beta tests with SRHT residents (Osilla et al., 2016). SRHT residents were recruited between May 2015 and August 2016, with data collection completed in Fall 2016. In February 2016, after eight months of recruiting exclusively with SRHT residents, we began recruiting a smaller number of SRO residents as a supplement to the SRHT participants. This additional recruitment was in response to slower than expected monthly recruitment rates from SRHT and a projected shortfall in our targeted recruitment sample size. Like SRHT, SRO Housing provides rapid housing with minimal preconditions to many of their residents.

Recruitment was done through SRHT and SRO leasing office staff, who introduced the study to residents who had just received a housing unit assignment. Staff asked the resident's permission to be contacted via phone by the research team to complete a short screening interview. Eligible participants were: (a) housed within 1 month; (b) English speaking; (c) aged 18 or older; and (d) screened positive for past-year harmful alcohol use (Alcohol Use Disorders Identification Test (AUDIT-C) score > 4 for men and >3 for women) (Bradley, McDonell, Kivlahan, Diehr, & Fihn, 1998) or drug use (Drug Abuse Screen Test (DAST) score >2) (Cocco & Carey, 1998; Maisto, Carey, Carey, Gordon, & Gleason, 2000; Skinner, 1982).

Of the 126 residents who were screened, 49 met the eligibility criteria, provided consent to participate, completed a baseline interview and were paid $30. Participants were randomly assigned to the MI-SNI intervention ($n = 25$) or usual care ($n = 24$). All participants were given a second assessment interview and paid $40. This “follow-up” assessment was given roughly 3 months after baseline for all participants, which was shortly after the last intervention session for those who received the intervention. All procedures were approved by the authors' Institutional Review Board. A Federal Certificate of Confidentiality was obtained for this study, which provided additional privacy protection from legal requests.