



Is the quality of brief motivational interventions for drug use in primary care associated with subsequent drug use?☆



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HIGHLIGHTS

- Examined associations between quality of brief motivational interventions and drug use outcomes among primary care patients
- Higher quality motivational interviewing skills in the brief interventions were not associated with better drug use outcomes for these patients.
- Results have implications for understanding factors that may influence the efficacy of brief interventions for drug use

ARTICLE INFO

Article history:

Received 14 September 2015

Received in revised form 23 December 2015

Accepted 31 December 2015

Available online 6 January 2016

Keywords:

Motivational interviewing

Mechanisms

Drugs

Substance use

Primary care

Brief intervention

ABSTRACT

Background: Although a number of brief intervention approaches for drug use are based on motivational interviewing (MI), relatively little is known about whether the quality of motivational interviewing skills is associated with intervention outcomes.

Method: The current study examined whether indices of motivational interviewing skill were associated with subsequent drug use outcomes following two different MI-based brief interventions delivered in primary care; a 15 min Brief Negotiated Interview (BNI) and a 45 min adaptation of motivational interviewing (MOTIV). Audio recordings from 351 participants in a randomized controlled trial for drug use in primary care were coded using the Motivational Interviewing Treatment Integrity Scale, (MITI Version 3.1.1). Separate negative binomial regression analyses, stratified by intervention condition, were used to examine the associations between six MITI skill variables and the number of days that the participant used his/her main drug 6 weeks after study entry.

Results: Only one of the MITI variables (% reflections to questions) was significantly associated with the frequency of drug use in the MOTIV condition and this was opposite to the hypothesized direction (global $p = 0.01$, adjusted IRR 1.50, 95%CI: 1.03–2.20 for middle vs. lowest tertile [higher skill, more drug use]). None were significantly associated with drug use in the BNI condition. Secondary analyses similarly failed to find consistent predictors of better drug outcomes.

Conclusion: Overall, this study provides little evidence to suggest that the level of MI intervention skills are linked with better drug use outcomes among people who use drugs and receive brief interventions in primary care. Findings should be considered in light of the fact that data from the study are from negative trial of SBI and was limited to primary care patients. Future work should consider alternative ways of examining these process variables (i.e., comparing thresholds of proficient versus non-proficient skills) or considering alternative methods of coding intervention skills.

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☆ The ASPIRE study was funded by an award from the National Institute on Drug Abuse (R01 DA025068), a portion of which was funded by the Center for Substance Abuse Treatment, Substance Abuse and Mental Health Services Administration (SAMHSA). BNI counselors, training, and supervision were supported by a contract from the SAMHSA (#T1018311) to the Massachusetts Department of Public Health (MADPH) Bureau of Substance Abuse Services which contracted with Boston Medical Center to deliver BNI services (contract #INTF2330M04W76112076). The study was also supported in part by the National Center for Research Resources, award number UL1RR025771. Neither the National Institutes of Health (NIH) nor SAMHSA nor MADPH contributed to the design and conduct of the study; collection, management, analysis, and interpretation of the data; and preparation, review, or approval of the manuscript; or the decision to submit the manuscript for publication.

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1. Introduction

Despite the costs and consequences associated with substance use, the majority of individuals who use substances do not seek treatment (Compton, Thomas, Stinson, & Grant, 2007). This has led to efforts to identify approaches that may be delivered in non-specialty “opportunistic” settings. Drawing from the success of SBI in addressing hazardous alcohol use in primary care settings (e.g., Solberg, Maciosek, & Edwards, 2008), a number of agencies have now recommended the use of screening and brief intervention (SBI) in primary care as a strategy for reducing the use of drugs (e.g., SAMHSA, 2013).

A variety of SBI approaches have been developed for drug use in health care settings (e.g., Bernstein et al., 2005; Bogenschutz et al., 2014; D’Amico, Miles, Stern, & Meredith, 2008; Humeniuk et al., 2012; Roy-Byrne et al., 2014; Saitz et al., 2014). Many of them have been based on motivational interviewing (MI), a client-centered method for developing and exploring ambivalence about change and enhancing self-efficacy to enact change (Miller & Rollnick, 2002). These adaptations of motivational interviewing (Burke, Arkowitz, & Menchola, 2003; Dunn, Deroo, & Rivara, 2001) have typically been implemented as brief, single session, directive interventions delivered by a variety of health care educators/providers in emergency departments (Bernstein et al., 2009) walk-in outpatient clinics (Bernstein et al., 2005) and primary care settings (D’Amico et al., 2008; Humeniuk et al., 2012; Roy-Byrne et al., 2014; Saitz et al., 2014). However, there have been relatively few randomized controlled trials for these interventions for drug use and evidence for the efficacy of these approaches in primary care has been limited (Humeniuk et al., 2012; Roy-Byrne et al., 2014; Saitz et al., 2014).

Even less is known about how intervention processes utilized in SBIs for drug use may be associated with outcomes. In particular, developing an understanding of how intervention skills in SBIs are associated with outcomes and for which patients is critical for improving the efficacy of these interventions and identifying potentially important factors for tailoring intervention strategies (Apodaca & Longabaugh, 2009; Kazdin & Nock, 2003). Small effect sizes at best suggest that improved understanding of the mechanisms of action is essential to enhance impact. Moreover, given the costs and effort required to deliver high quality MI-based interventions over time, better understanding of the essential and most prognostic intervention elements is important.

Based on the promising findings on the association between MI skills and proximal patient outcomes during the interview (e.g., patient statements in favor of change) (Moyers et al., 2007; Moyers, Martin, Houck, Christopher, & Tonigan, 2009), investigators have begun to explore the question of whether the quality of motivational interviewing skills in brief interventions for alcohol and other drugs is associated with distal outcomes such as subsequent substance use (e.g., McCambridge, Day, Thomas, & Strang, 2011). Motivational interviewing skills have been operationalized as the integration of a general therapeutic stance toward the patient (i.e. motivational interviewing spirit) and a set of specific interventionist behaviors. Motivational interviewing spirit includes the degree to which the interventionist collaborates with the patient, evokes the client’s perspective and ideas about change, and supports patient autonomy. This style of interacting with the patient is facilitated by the use of specific strategies and therapist behaviors that include simple and complex reflections, open questions, and affirmation of client strengths among others. Investigators have used both the Motivational Interviewing Skills Code [MISC] (Moyers, Martin, Catley, Harris, & Ahluwalia, 2003) and the Motivational Interviewing Treatment Integrity [MITI] (Moyers, Martin, Manuel, Hendrickson, & Miller, 2005) coding measures to systematically explore the association between the quality of motivational interviewing skills demonstrated in brief interventions and proximal (i.e., within session patient behavior) and distal (i.e., substance use-related change) outcomes.

Recent studies of brief alcohol interventions suggest that MI skills may be linked with patient “change talk” (e.g., Gaume, Bertholet,

Fauzi, Gmel, & Daepfen, 2010; Magill et al., 2014). There has been relatively little support, however, for the view that quality of MI-consistent skills in brief interventions are directly associated with better outcomes, such as reduced use or consequences (Bertholet, Palfai, Gaume, Daepfen, & Saitz, 2014; Gaume, Gmel, & Daepfen, 2008; Gaume, Gmel, Fauzi, & Daepfen, 2009). Gaume et al. (2009) suggested that an overall “MI attitude” (based on the combined effect of global interventionist ratings and MI-techniques), rather than specific MI-consistent behaviors, may be most important for producing better outcomes. Indeed, in one of the few studies of brief intervention processes for drug use, McCambridge et al. (2011) found that level of MI Spirit and complex reflections were the only MI variables that predicted cessation of marijuana use among adolescents recruited in non-traditional educational and training institutes.

Although MI-based brief interventions are hypothesized to work through specific therapeutic mechanisms, there is an absence of research exploring whether motivational interviewing skills are related to drug use outcomes, particularly among primary care patients. The goal of this study was to examine whether the quality of motivational interviewing skills were related to drug use outcomes following two distinct interventions, both based on motivational interviewing. Data for this study come from a randomized controlled trial that tested the efficacy of two brief intervention approaches for illicit drug use and prescription drug misuse among primary care patients identified by screening (Saitz et al., 2014). One intervention approach was a Brief Negotiated Interview (BNI, Bernstein et al., 2005), which was a 15-min intervention based on motivational interviewing that was delivered by health educators in primary care as part of a government funded program supporting its real-world dissemination. The other approach was a more intensive intervention (MOTIV) that adapted motivational interviewing for the primary care context and was delivered by Masters level counselors under weekly supervision. The primary aim of the study was to examine whether higher quality motivational interviewing skills within each of these distinct MI-based interventions were associated with fewer days of drug use at 6 weeks, controlling for relevant baseline measures. Because the intervention content and emphasis on MI skills was different by intervention condition, analyses were stratified by intervention condition. The primary hypothesis was that MI skills would be positively associated with drug use outcomes in both MOTIV and BNI conditions. In addition to analyses for the overall sample, a separate set of analyses were stratified by whether marijuana was the main drug of concern to the patient (i.e., marijuana versus other drugs). Stratification by marijuana use was based on the higher frequency of marijuana use as a drug of concern, the different set of treatment considerations for patients who used marijuana versus other drugs such as cocaine and heroin, and patient perceptions of marijuana use that differ substantially from those of other drugs. Secondary aims were to examine the association between MI skill ratings and other indices of drug involvement such as drug-related consequences and abstinence status and to explore associations between MI skills and 6-month drug outcomes.

2. Methods

2.1. Overview of the randomized controlled trial

Data for this study come from the Assessing Screening Plus brief Intervention’s Resulting Efficacy to stop drug use (ASPIRE) study (Saitz et al., 2014), which was a 3-arm randomized trial that tested the efficacy of two brief interventions for drug use in primary care clinics at an urban hospital among patients identified by routine screening. Patients were enrolled based on inclusion criteria that included age ≥ 18 years and a drug-specific Alcohol, Smoking and Substance Involvement Screening Test (ASSIST) score ≥ 2 (Humeniuk et al., 2008). The main RCT as described in Saitz et al. (2014) used an inclusion criterion of an ASSIST score ≥ 4 . Those who were pregnant, unable to interview

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