Brief article

Does mental status impact therapist and patient communication in emergency department brief interventions addressing alcohol use?

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ARTICLE INFO

ABSTRACT

Motivational interviewing (MI) is often incorporated into screening, brief intervention, and referral to treatment (SBIRT) interventions in critical care settings to address alcohol and other drug use. However, cognitive status has been linked to differential response to MI sessions in emergency department (ED) settings. The current study examined one possible explanation for this differential response: whether higher versus lower mental status impacts patient response to clinician statements during MI sessions conducted in an ED. Participants were 126 patients receiving an MI-based single-session alcohol brief intervention, and 13 therapists who provided treatment. Participants completed a mental status exam (MSE) as part of the screening process. Intervention sessions were audio-taped, and transcribed and coded using the Motivational Interviewing Skills Code (MISC 2.0; Miller, Moyers, Ernst, & Amrhein, 2003). The MISC 2.0 coded therapist behaviors that are related to the use of motivational interviewing, and patient language reflecting movement toward (change talk) or away from (sustain talk) changing personal alcohol use. Overall, patients responded in a similar manner to therapist MI behaviors regardless of high versus low level of mental functioning at the time of the intervention. Group differences emerged on patient response to only three specific therapist skills: giving information, open questions, and complex reflection. Thus, the differential effects of SBIRT in critical care settings do not appear to be a result of differences in the therapist and patient communication process.

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1. Introduction

Although nearly 18 million adults have been diagnosed as having a current alcohol use disorder, only 1 in 7 reports ever having received any kind of alcohol treatment (Cohen, Feinn, Arias, & Kranzler, 2007; Grant et al., 2004). At the same time, people with alcohol use problems are likely to be treated in trauma care centers and emergency departments (EDs; Cohen et al., 2007) for problems related or unrelated to their alcohol use. People with alcohol-related problems are overrepresented in ED and primary care settings compared with those in the general population (Cherpitel, 1994) and alcohol-related ED visits have increased significantly over the period from 1995 to 2010 (Cherpitel & Ye, 2012). Therefore, EDs provide an opportunity for screening, brief intervention, and referral to treatment (SBIRT) interventions for problematic alcohol use (Lundahl et al., 2013; Monti et al., 1999; 2007). Since 2005, the American College of Surgeons has required screening and brief interventions to be administered to patients who test positive for alcohol use in all level I trauma centers (American College of Surgeons, 2010).

Research has consistently indicated the value of conducting brief interventions in the ED setting. Brief interventions can be conducted using a variety of therapeutic techniques, but often are administered using motivational interviewing (MI; Miller & Rollnick, 2013). A review (Nilsen et al., 2008) of 14 studies of brief intervention in EDs for alcohol indicates that the majority of studies (65%) found that brief intervention reduced alcohol consumption, hazardous use of alcohol, and alcohol-related injuries (compared to usual ED care). However, concerns have been recently raised regarding the efficacy of alcohol screening and brief intervention ED settings and potential patient-level moderators of intervention efficacy such as readiness to change, severity of alcohol use, and the type of injury and whether it was directly related to drinking (Field, Baird, Saitz, Caetano, & Monti, 2010). Therefore, although the implementation of brief interventions in the ED shows promise, it is less clear whether or how they may or may not work with individuals with impairment in cognitive function.

The advanced process coding methodology for MI provides the opportunity to examine possible in-session processes that may impact efficacy of MI in the ED setting. Recently, attention has focused on identifying the

mechanisms by which MI exerts its therapeutic effects, namely the interplay between therapist techniques and patient language (Apodaca & Longabaugh, 2009). Regarding patient language, Miller and Rollnick (2013) define change talk as "any self-expressed language that is an argument for change" (p. 159) and sustain talk as "the person's own arguments for *not* changing, for sustaining the status quo" (p. 7). Amrhein, Miller, Yahne, Palmer, and Fulcher (2003) first identified patient language during MI was predictive of substance use outcomes, and a recent meta-analysis of 16 trials implementing MI (Magill et al., 2014) found that a composite measure of change talk and sustain talk predicts improved outcomes while sustain talk predicts poorer outcomes. This study also found that therapist use of MI-consistent (MICO; e.g., reflections, affirmations, advice with permission) or MI-inconsistent (MIIN; e.g., confronting, directing) skills can elicit change talk or sustain talk, respectively, findings that were replicated in a subsequent and larger (37 studies) meta-analysis (Romano & Peters, 2016).

Although it has been suggested that cognitive impairment does not lead to a differential response to MI, perhaps due to its brief and focused nature (see Miller & Rollnick, 2013, pp. 346–348), we posit that MI encourages a variety of therapist techniques that may have differential effects in individuals with and without cognitive impairment. MI emphasizes the use of reflections, which are the therapist's "reasonable guess as to what the person means, and gives voice to this guess in the form of a statement" (Miller & Rollnick, 2013, p. 53). Reflections can be simple (e.g., repeating the words or content of what the patient has stated) or more complex (e.g., reflecting on emotions, use of metaphors). Thus, complex reflections that reflect the patient's ambivalence about drinking are likely to require more cognitive capacity for the patient to understand and respond to with change talk that represents self-relevant statements of an intrinsic consideration of changing a problematic behavior (Feldstein Ewing, Yezhuvath, Houck, & Filbey, 2014; Houck, Moyers, & Tesche, 2013). Another therapist behavior encouraged in MI is the use of open-ended questions, which cannot be answered with a brief or yes/no response, and thus require the individual to think and develop a more detailed response than a close-ended question (which can be answered yes/no). In contrast, more concrete and directive statements such as close ended questions and giving information may result in more patient change language in individuals with cognitive deficits. Indeed, in their work adapting MI with dually diagnosed patients (substance use and psychotic disorders), Martino, Carroll, Kostas, Perkins, and Rounsaville (2002) recommended that clinicians should use simple and concise language, reflect often, and use summary statements and metaphors that use the client's own language and statements in order to reduce confusion and enhance motivation to change substance use. Whether these recommendations from dual-diagnosis MI (or DDMI) have a differential impact on client change talk and sustain talk has not been formally evaluated. However, an increased focus and appreciation of client change language as an important mediator of MI efficacy in the past 15 years combined with significant advances in coding and analytic techniques now permit the examination of specific therapist behaviors on client language. For example, examining sequential relationships between therapist behaviors and client language, only affirmations (a compliment or positive comment about the client) has been found to both significantly increase client change talk and significantly decrease client sustain talk the differential impact of (Apodaca et al., 2016).

Taking these considerations regarding which therapist behaviors are most effective in different contexts a step further, it has recently been hypothesized that three neural networks influence the relationship between therapist MI skills and within-session client change (Feldstein Ewing, Filbey, Hendershot, McEachern, & Hutchison, 2011), and subsequent research has implicated the functioning of the left inferior frontal gyrus/anterior insula and superior frontal gyri of self-generated and personal change talk and sustain talk (Feldstein Ewing et al., 2014; Houck et al., 2013). In work with adolescents, increases in activity in the posterior cingulate gyrus and precuneous have been observed when participants listen to personal change talk from a previous session (Feldstein Ewing et al., 2013), and greater brain response in the bilateral anterior cingulate gyrus has observed when presented with complex reflections versus closed questions (Feldstein Ewing et al., 2016). Therefore, we propose that neuropsychological impairment in any or all of these networks may behaviorally manifest itself in confusion and/or distress during the session, even following the use of skillful MI techniques which reflect the patient's self-stated reasons for change or consequences of drinking, which in turn will behaviorally manifest itself as sustain talk (preserving the status quo, "I don't desire/want/need to quit drinking").

The aim of the current study was to examine whether the patient's metal status influences the link between specific therapist behaviors (or micro-skills) and patient language. Participants in a study administering a brief intervention utilizing MI in an ED setting completed a mental status exam (MSE) as part of the screening process, and we compared individuals in the lower (low MSE) and upper (high-MSE) quartiles of MSE scores. First, we sought to explore whether low-MSE individuals would have worse drinking outcomes at follow up than high-MSE individuals. Second, as present research on in-session therapist and client behaviors have focused on composites, or groups, of therapist behaviors (MIIN, MICO) hypothesized to facilitate change talk and sustain talk, we hypothesized general classifications of therapist utterances that were MI-consistent (MICO), MI-Inconsistent (MIIN) would not be responded to differentially by the two groups. Third, given the possible link between impaired brain function related to the numerous processes involved in goal-directed behavior change and in-session client language, we hypothesized that differences would emerge in the likelihood of specific, individual therapist behaviors to elicit different types of patient language. Therefore, we hypothesized that more complex (and potentially more confusing and/or psychologically distressing by cognitively impaired patients) therapist micro-skills (specifically complex reflections and open-ended questions) would be followed by less change talk and more sustain talk in low-MSE than in high-MSE participants. In contrast, we hypothesized that more basic (and more concrete and easy to follow by cognitively impaired patients) therapist behaviors (giving information, simple reflections, close-ended questions) would be followed by more change talk in low-MSE than in high-MSE patients. The goal of this line of work is to help clinicians identify the relative importance of choosing among the various therapist behaviors utilized in MI to enact in order to increase patient change talk and reduce patient sustain talk in a manner that is responsive to patient level of cognitive functioning at the time of the intervention.

2. Materials and methods

Audiotapes of MI sessions ($N = 126$) came from a previously completed study that delivered a single individual motivational interviewing session (MI) to address heavy drinking in emergency care (Monti et al., 2014).

2.1. Patients and recruitment

Adult patients (≥18 years) in the ED or trauma service were deemed eligible for study inclusion if they met one of three inclusion criteria: a) scored an 8 or higher on the Alcohol Use Disorders Identification Test (AUDIT; Saunders, Aasland, Babor, De La Fuente, & Grant, 1993); b) had a measured blood alcohol concentration (BAC) > 0.01% according to a biochemical test (completed as part of standard care), or c) if they reported consuming alcohol in the 6 hours prior to the injury resulting in their hospital admission. Patients who did not speak English, had a self-inflicted injury, or were in police custody were excluded. Patients were approached and screened by trained masters-level interventionists. After establishing eligibility, interventionists conducted a mini-mental status examination (described further below), on which the highest possible score was 26. Patients who scored under 18 were not enrolled.