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Prospective associations among approach coping, alcohol misuse and psychiatric symptoms among veterans receiving a brief alcohol intervention

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ABSTRACT

Brief alcohol interventions (BAIs) target alcohol consumption and may exert secondary benefits including reduced depression and posttraumatic stress disorder (PTSD) symptoms among non-veteran and veteran populations. This study examined whether approach coping, alcohol misuse, and an interaction of these two factors prior to the administration of a BAI (i.e., baseline) would predict depression and PTSD symptoms 6-months post BAI (i.e., follow-up). Veterans ($N = 166$) received a BAI after screening positive for alcohol misuse during a primary care visit and completed assessments of alcohol misuse, approach coping, and depression and PTSD symptoms at baseline and follow-up. Baseline substance misuse, but not approach coping, significantly predicted depression and PTSD symptoms at follow-up. Approach coping moderated associations between baseline alcohol misuse and psychiatric symptoms: Veterans reporting more alcohol misuse and more (relative to less) approach coping at baseline evidenced fewer psychiatric symptoms at follow-up after accounting for symptoms assessed at baseline.

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1. Introduction

As many as 22% of veterans screen positive for alcohol misuse in primary care settings using the Alcohol Use Disorders Identification Test–consumption (AUDIT-C) screening tool (Hawkins, Lapham, Kivlahan, & Bradley, 2010). Brief alcohol interventions (BAIs) are effective frontline interventions for reducing alcohol misuse that are typically delivered in a brief (e.g. 10–30 minute) single dose, which makes them ideally suited for use in primary care settings (Jonas et al., 2012; Kaner et al., 2009; Kypri, Langley, Saunders, Cashell-Smith, & Herbison, 2008; Rooke, Thorsteinsson, Karpin, Copeland, & Allsop, 2010). Recent data reveal that in addition to reducing alcohol misuse, BAIs can lead to improvements in psychiatric symptoms (Cucciare, Boden, & Weingardt, 2013; Kay-Lambkin, Baker, Lewin, & Carr, 2009; Wilton, Moberg, & Fleming, 2009), and this may be especially important for veterans, who present with higher lifetime rates of depression and PTSD than non-veterans (Dohrenwend et al., 2006; Jordan et al., 1992; Kulka et al., 1990; Terhakopian, Sinaii, Engel, Schnurr, & Hoge, 2008). We know little, however, about for whom BAIs exert these improvements in psychiatric symptoms.

More severe alcohol misuse (e.g., frequent use, heavy daily use, and alcohol dependence) at SUD treatment intake prospectively predicts more alcohol-related problems across health, legal, monetary, occupational, intrapersonal, interpersonal, and residential domains in US military veterans (Adamson, Sellman, & Frampton, 2009; McKellar, Harris, & Moos, 2006). Additionally, increases in alcohol misuse predict increases in psychiatric symptoms for people with and without SUD (Fergusson, Boden, & Horwood, 2009; Kuo, Gardner, Kendler, & Prescott, 2006; Wang & Patten, 2001a). To our knowledge, scant data speak to whether alcohol misuse at treatment intake predicts changes in depression and PTSD symptoms among individuals who receive briefer substance misuse treatment, such as BAIs. In this study, we therefore explored whether the frequency and quantity of alcohol use are prospectively associated with depression and PTSD symptoms among veterans presenting to primary care with alcohol misuse who received a BAI.

Researchers focusing on substance misuse and psychological disorders have devoted much attention to coping strategies, as data point to inverse associations between approach-oriented coping strategies and both substance misuse and psychiatric symptoms over time (e.g., Holahan & Moos, 1991; Sherbourne, Hays, & Wells, 1995; Southwick, Vythilingam, & Charney, 2005; Swindle, Cronkite, & Moos, 1989). Approach coping strategies are active and oriented toward confronting a stressor, and can be behavioral, cognitive, or emotional (e.g., overt behavioral attempts to deal directly with a problem, efforts to manage the cognitive appraisal of the stressfulness of a problem, or attempts to regulate emotional distress; see Billings & Moos, 1981; Holahan & Moos, 1987; Stanton, Kirk, Cameron, & Danoff-Burg, 2000). Routine use of approach-oriented coping skills has been examined as a predictor of substance misuse and depression and PTSD

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symptoms (e.g., Hassija, Luterek, Naragon-Gainey, Moore, & Simpson, 2012; Tiet et al., 2006) and also as a target for potential change in an effort to reduce these psychiatric symptoms (e.g., Conrod et al., 2000; Litt, Kadden, Cooney, & Kabela, 2003).

A number of studies have uncovered associations between approach coping and both psychiatric- and alcohol-related outcomes following multi-session treatments for alcohol misuse (Boden & Moos, 2009; Forys, McKellar, & Moos, 2007; Moos, Finney, & Cronkite, 1990; Moser & Annis, 1996; Vollrath, Alnaes, & Torgersen, 1996). For example, Boden and Moos (2009) found that after completing a 3- to 4-week SUD residential treatment program, male veterans carrying dual psychiatric and substance misuse diagnoses who reported greater reliance on approach coping skills also reported consuming less alcohol, decreased psychiatric symptoms, and decreased alcohol-related problems at 1-year follow-up. Moos et al. (1990) found that among individuals treated for alcohol abuse, those who relied more on approach coping skills evidenced better treatment outcomes at a 2-year follow-up. Forys et al. (2007) found that patients carrying SUD diagnoses who entered SUD community residential treatment reporting larger general approach coping repertoires also reported fewer SUD-related problems at 12-month follow-up. To our knowledge, little data speak to whether approach coping may correlate with improvements in psychiatric symptoms post-BAI. In this study, we therefore explored whether approach coping relates to changes in depression and PTSD symptoms among veterans who received a BAI.

Based on previous literature, we predicted that alcohol misuse and approach coping at baseline would account for unique variance in depression and PTSD symptoms assessed at 6-month follow-up. Specifically, we predicted that (1) more severe alcohol misuse at baseline (both frequency and quantity of use per day) would predict greater depression and PTSD symptoms at follow-up, and (2) greater reliance on approach coping at baseline would predict fewer depression and PTSD symptoms at 6-month follow-up. Furthermore, we predicted that these associations would hold after accounting for baseline depression and PTSD symptoms as well as socio-demographic variables including gender, age, relationship status, and ethnicity.

We further explored a potential moderation effect of approach coping on associations between severity of alcohol misuse and changes in psychiatric symptoms following receipt of a BAI. We based this exploration on prior data showing that SUD treatment is more effective in reducing alcohol misuse among individuals reporting greater use of approach coping skills (Boden & Moos, 2009; Forys et al., 2007; Moos et al., 1990) and that individuals' level of substance misuse predicts subsequent psychiatric symptoms. We speculated that, among this sample of veterans screening positive for alcohol misuse, this interactive effect might highlight greater psychiatric symptoms among veterans reporting more severe alcohol misuse at baseline and less use of approach coping skills at baseline.

In addition, we accounted for baseline depression and PTSD symptoms and socio-demographic variables in all analyses. We did so based on epidemiological data implicating socio-demographic and person-level correlates of depression and PTSD (see Kessler & Bromet, 2013, for a review), such as biological sex (Brewin, Andrews, & Valentine, 2000; Mirowsky & Ross, 1992; Piccinelli & Wilkinson, 2000), age (Kessler et al., 2010; Magruder et al., 2004), romantic relationship status (Kessler, McGonagle, Swartz, Blazer, & Nelson, 1993; Kessler, Sonnega, Bromet, Hughes, & Nelson, 1995; Weissman et al., 1993; Whisman & Uebelacker, 2009), and ethnicity (Alcántara, Casement, & Lewis-Fernández, 2013; Alegria et al., 2008; Williams et al., 2007). Additionally, prior depression symptoms strongly predict subsequent depression symptoms (e.g. Hartka et al., 1991; Kessler & Bromet, 2013). We accounted for these variables to ensure that findings were not attributable to variance shared with prior experience of depression or PTSD symptoms or correlates of depression and PTSD. Examining the effects of baseline alcohol misuse and approach coping on subsequent psychiatric symptoms above and beyond baseline assessments of psychiatric symptoms and covariates will sharpen our understanding of the impacts of alcohol misuse and approach coping, both individually and interactively, on subsequent psychiatric symptoms. Exploring these associations among the growing veteran population, which tends to report more alcohol misuse than civilians (e.g., Jordan et al., 1991), and in the context of primary care, where veterans increasingly receive treatment for psychiatric problems and substance misuse (Hoge, Auchterlonie, & Milliken, 2006), will be increasingly useful in clarifying which factors lead to successful care.

2. Materials and methods

2.1. Sample, recruitment, and study design

2.1.1. Sample

This study was a secondary analysis of data collected between January, 2010 and September, 2011 as part of a randomized controlled trial exploring the incremental effectiveness of a Web-delivered BAI to standard care for veterans screening positive for alcohol misuse (see Cucciare et al., 2013a). Participants were 166 (146 men; 88.0% of sample) veterans of the U.S. Military who presented to primary care at the VA Palo Alto Health Care System. All participants had screened positive for alcohol misuse as measured by the Alcohol Use Disorders Identification Test – Consumption Items (AUDIT-C) cut off score of 4 or more for men and 3 or more for women (see Bradley et al., 2006). On average, participants were 59.4 years old ($SD = 15.1$ years), 47.0% ($n = 78$) were in a romantic relationship or married, and 53.0% ($n = 88$) were divorced, widowed, or single. Sixty-nine percent ($n = 115$) of the sample described themselves as White (non-Hispanic), 12.0% ($n = 20$) as Black, 7.8% ($n = 13$) as Hispanic, 4.8% ($n = 8$) as Asian/Pacific Islander, and 1.2% ($n = 2$) as Native American; with the remainder of the sample (4.8%, $n = 8$) identifying as "other."

2.1.2. Recruitment and study design

Participants were recruited via direct referral from a primary care provider ($n = 33$), contacting the study team through a flyer located in the clinic waiting or exam room ($n = 62$), or by letter sent by the study team to eligible veterans with documentation in their medical chart indicating a positive screen within the last 2 weeks ($n = 72$). Eligible participants were randomized to one of two study conditions: Treatment as usual (TAU) or TAU plus a Web-delivered brief alcohol intervention (BAI). Participants in the TAU condition ($n = 78$) received counseling on per the National Institute on Alcohol Abuse and Alcoholism (NIAAA) recommended safe drinking limits and potential health effects of alcohol misuse (Lapham et al., 2012) within 14 days of the baseline assessment. Participants randomized to the experimental group ($n = 89$) received TAU plus a Web-delivered BAI comprised of 10–15 minute assessment that taps (a) typical alcohol use, (b) lifetime negative consequences of alcohol or other substance misuse, (c) risk factors for alcohol misuse, such as combat experience or PTSD symptoms, (d) lifetime use of illicit substances, and (e) motivation and confidence to change substance misuse. Veterans received personalized feedback in each of these domains following completion of the assessment that included (a) summarized weekly alcohol use, (b) gender-matched normative feedback on typical alcohol use among age-matched peers from the general population, (c) a summary of financial, social, and health-related consequences of alcohol misuse, (d) education on the concepts of tolerance and peak blood alcohol concentration, (e) a summary of risk factors for alcohol misuse, and (f) self-reported motivation to change substance use. See Cucciare, Weingardt, Ghaus, Boden, and Frayne (2013), for full descriptions of participant recruitment, randomization, interventions,