

HHS Public Access

Author manuscript

Prof Psychol Res Pr. Author manuscript; available in PMC 2016 April 01.

Published in final edited form as:

Prof Psychol Res Pr. 2015 April; 46(2): 83–89. doi:10.1037/a0036771.

Brief Intervention to Reduce Hazardous Drinking and Enhance Coping among OEF/OIF/OND Veterans

Meghan E. McDevitt-Murphy, Ph.D., James G. Murphy, PhD, Joah L. Williams, PhD, Christopher J. Monahan, PhD, and Katherine L. Bracken-Minor, PhD Department of Psychology, The University of Memphis, Memphis, TN, USA, and, Memphis Veterans' Affairs Medical Center, Memphis, TN, USA

Abstract

Hazardous drinking among US Military combat veterans is an important public health issue. Because recent combat veterans are difficult to engage in specialty mental health and substance abuse care, there is a need for opportunistic interventions administered in settings visited by recent combat veterans such as primary care. This paper describes a brief (single-session) intervention that was recently developed and tested in a sample of veterans of Operations Enduring Freedom, Iraqi Freedom and New Dawn (OEF/OIF/OND). The intervention consists of a counseling session delivered in a Motivational Interviewing style using a packet of personalized feedback about alcohol misuse, symptoms of PTSD and depression, as well as coping skills. The treatment is described and data from a single case treated with this intervention are presented.

Risky drinking among veterans is a public health problem with research suggesting combat deployed personnel are at increased risk for alcohol misuse and alcohol-related problems post-deployment (Jacobson et al., 2008). Only a small proportion of heavy-drinking veterans will receive specialized professional help for substance misuse (Burnett-Ziegler et al., 2011), thus the development of opportunistically delivered interventions is important. The Veterans Health Administration has made efforts to provide brief advice about drinking to patients screening positive for risky drinking in primary care, although some data suggest that not all veterans who screen positive for risky drinking receive this advice (Calhoun, Elter, Jones, Kudler, & Straits-Troster, 2008). Risky drinking among recent combat veterans is likely the result of a confluence of factors, including stress and boredom associated with readjustment to civilian life and symptoms of PTSD and/or depression. In this paper, we will discuss some of these factors and describe a brief intervention we recently developed to reduce hazardous drinking among veterans of Operations Enduring Freedom, Iraqi Freedom, and New Dawn (OEF/OIF/OND), illustrated by the case of a veteran treated by this intervention in the context of an outcome study. In another manuscript, we described the outcome of this trial (McDevitt-Murphy et al., in press). The focus of the present work is to provide a detailed description of the intervention.

Factors Contributing to Heavy Drinking among Veterans

Research suggests that there are a multitude of influences on drinking among military personnel and veterans. First, despite the military's explicit prohibition of alcohol under certain conditions (e.g., basic military training, combat-deployed troops), there is a culture supporting excessive drinking (Institute of Medicine, 2012; Stahre, Brewer, Fonseca, & Naimi, 2009). Social activity is often intertwined with heavy drinking among military personnel, with one study suggesting the average active-duty military member who drinks engages in 38.9 binge drinking episodes per year (Stahre et al., 2009). Military veterans who are transitioning to civilian life may continue a similar drinking pattern and may be relatively inexperienced in engaging in social activity without alcohol. It is possible that a further contribution to social drinking in this population is the fact that as a result of combatrelated deployments, these veterans have been separated from their social support networks for months – if not years – at a time. Thus, when re-engaging with friends and family, veterans may use alcohol to facilitate these interactions although this has not been examined empirically. Finally, many recent combat veterans are men in the 18-30 age range, the highest drinking demographic group in the US (Chan, Neighbors, Gilson, Larimer, & Marlatt, 2007).

Posttraumatic stress disorder (PTSD) is another significant factor contributing to alcohol misuse among combat veterans. A large body of research shows very high rates of comorbidity between PTSD and substance use disorders, perhaps because alcohol use provides temporary relief for PTSD symptoms via a pattern of self-medication (see review by Jacobsen, Southwick, & Kosten, 2001). Indeed, a large epidemiological survey of Vietnam veterans suggests that as many as 75% of veterans with a lifetime diagnosis of PTSD also met criteria for a substance use disorder (Kulka et al., 1990). Studies of the current generation of combat veterans have similarly found elevated rates of substance misuse. Burnett-Zeigler and colleagues (2011) reported that 36% of their sample of National Guardsmen met criteria for alcohol misuse. A study of 336 OEF/OIF veterans recruited from a VA clinic found that those who screened positive for PTSD were twice as likely to endorse alcohol misuse, relative to those without a positive screen Jakupcak et al. (2010).

Why Intervene in Primary Care?

There is a strong rationale for intervening with heavy drinkers in the primary care setting. First, from a public health perspective, primary care is an ideal setting for an "opportunistic" intervention. That is, the primary care provider is typically a trusted medical professional with whom a patient has an ongoing relationship. Additionally, patients who are drinking heavily may be experiencing some adverse health consequences of their drinking, and this could lead to a "teachable moment," wherein the primary care provider can make the link between the pattern of hazardous drinking and the health consequences. Indeed many studies support the use of brief alcohol interventions (BAIs) in primary care (Ballesteros, Duffy, Querejeta, Arino, & Gonzalez-Pinto, 2004).

For OEF/OIF/OND veterans, the Veterans Affairs Medical Center (VAMC) is a logical setting in which to administer brief alcohol interventions (BAIs). All veterans are entitled to

VAMC care for up to 5 years after their combat deployment (and longer if a service-connected illness or injury is identified), and providers in VAMC settings are well trained and experienced to help with the specific medical and mental health sequelae of combat deployments (Department of Veterans Affairs, 2012). Additionally, while many veterans may show significant symptoms of mental health disorders, warranting specialty care, the reality is that many will not seek such care (Erbes, Curry, & Leskela, 2009). Brief interventions can circumvent the barriers associated with specialty care, given that they are typically administered in the course of a routine medical appointment.

In the VAMC system, providers are expected to screen all patients for alcohol misuse every year, and to administer brief advice, an approach that has shown some efficacy in prior studies (Ballesteros et al., 2004). For OEF/OIF/OND veterans, it is possible that a more elaborate, though still brief (single session), intervention may be necessary, given the many medical and psychosocial stressors they are experiencing. We aimed to develop an intervention for OEF/OIF/OND veterans seeking health care in the VA system.

Project STRIVE: Helping Veterans Reduce Heavy Drinking

We launched Project STRIVE (Successful Transition and Readjustment for Iraq/ Afghanistan Veterans) to develop a BAI specifically for OEF/OIF/OND veterans presenting to VAMC primary care. Reviewing studies of BAIs that had been developed for different populations, we noted that BAIs used with adult medical patients tended to be shorter, often only 15 to 20 minutes in duration and to make only limited use of personal feedback (Ballesteros et al., 2004). However, in the literature on BAIs for college students, the interventions were typically longer (often around 60 minutes) and used detailed personalized feedback (e.g., Murphy et al., 2004). In fact personalized feedback has been potent enough that several studies of college students have shown significant reductions in hazardous drinking following interventions that used feedback-only, with no clinician contact (Elliot et al., 2008). However, a carefully conducted trial that evaluated independent versus combined feedback and MI with college drinkers indicated that the combination of feedback and MI was associated with greater drinking reductions than either feedback or MI delivered independently (Walters et al., 2009).

Although the experiences of combat veterans and college students are vastly different in a multitude of ways, there are a couple of parallels between these groups that led us to consider the use of a similar brief intervention to reduce hazardous drinking among combat veterans. In both populations, individuals are going through an important transition period, and alcohol use may increase in response to psychosocial stressors, and as a method for alleviating negative affect, or enhancing social situations. Although veterans tend to be older than college students, many are still in the young adult age range that is characterized by elevated sensation seeking and strong motives to develop/sustain friendships and romantic relationships (Borsari, Murphy, & Barnett, 2007). In both populations, social drinking is culturally accepted, if not encouraged (Sayette et al., 2012; Institute of Medicine, 2012), and episodic binge drinking may lead to adverse consequences even in the absence of alcohol dependence. Brief interventions that target the hazardous aspects of alcohol use without suggesting abstinence as a goal for all participants (a *harm reduction* approach) have been

well-received by college students and we believed this approach would be suitable for combat veterans given that they show elevated alcohol misuse (Jacobsen et al., 2008) but do not often seek specialty substance abuse care (Burnett-Ziegler et al., 2011).

A substantial proportion of returning war veterans are experiencing symptoms of PTSD (Seal, Bertenthal, Miner, Saunak, & Marmar, 2007; McDevitt-Murphy, Williams, et al., 2010). PTSD is associated with high rates of alcohol misuse (Jakupcak et al. 2010; McDevitt-Murphy, Murphy, Monahan, Flood, & Weathers, 2010), and individuals who have both PTSD and alcohol use disorders tend to have a more severe clinical presentation (Ouimette, Wolfe, & Chrestman, 1996; McDevitt-Murphy, Murphy, et al., 2010). Prior research has suggested that individuals with PTSD tend to have worse outcomes in formal substance abuse treatment, (Brown, Stout, & Mueller, 1996; Ouimette, Ahrens, Moos, & Finney, 1997), but one small pilot trial of college students suggests that those with PTSD symptoms may respond well to brief alcohol intervention approaches (Monahan et al., 2013). Given that a high rate of OEF/OIF/OND veterans who engage in hazardous drinking are likely also showing symptoms of PTSD, we reasoned that a BAI developed for this population should include some information about PTSD and coping.

We designed an intervention that resembled the slightly more intensive BAIs that have been successfully used with college students, as opposed to those used with adult medical samples, in light of the complex physical and mental health needs of this population. Specifically, we expected that the reasons for drinking might be heterogeneous, even within individuals, as they may engage in social drinking as a way to reconnect with family members or friends from whom they have been separated during deployment, in addition to drinking for drinking "self-medication" motives in the context of PTSD symptoms. Additionally, we reasoned that heavy-drinking veterans might benefit from suggestions for how to manage PTSD-related distress without drinking, as well as information on treatment options for PTSD.

Given that we expected a high base rate of PTSD, and potentially mild Traumatic Brain Injury (mTBI; although this was not a focus of the intervention), we sought to design the intervention with these issues in mind. Both PTSD and mTBI are associated with impaired attention and concentration so we thought it important to provide the information verbally but also in the form of printed documents that participants could take with them. This anticipated prevalence of PTSD also influenced the content of the intervention, with respect to information about PTSD and coping. This resulted in the inclusion of a detailed packet of personalized feedback for each participant as a key part of the intervention ¹.

Project STRIVE Method

Veterans were recruited from a large VAMC, primarily through appointments in the "Combat Clinic," a specialized primary care clinic for veterans of OEF/OIF/OND combat deployments. Veterans were eligible for the project if they screened positive for alcohol misuse with a score of 8 or higher on the Alcohol Use Disorders Identification Test (AUDIT; Saunders, Aasland, Babor, de la Fuente, & Grant, 1993). Eligible veterans who

¹The intervention manual and examples of personalized feedback packets are available from the first author.

elected to participate in the project then attended an initial baseline appointment with Project STRIVE staff, where they completed a comprehensive assessment battery that included measures of PTSD, alcohol use, and other measures used to derive information for the personalized feedback packets.

During the assessment session, the interventionist would administer the Clinician-Administered PTSD Scale (CAPS; Blake et al., 1995), a structured interview measure of PTSD as well as the Time Line Follow Back (TLFB; Sobell & Sobell, 1996), a detailed assessment of past-month alcohol consumption. Participants then completed a set of questionnaire-based assessment measures which included the Drinker Inventory of Consequences (Miller, Tonigan, & Longabaugh, 1995), the Deployment Risk and Resilience Inventory (King, King, Vogt, Knight, & Samper, 2006), the Beck Depression Inventory, revised (Beck, Steer & Brown, 1996), the Coping Responses Inventory (Moos, 1993), and the Modified Drinking Motives Questionnaire, Revised (Grant et al., 2007).

Following the assessment appointment, participants were randomized to one of two intervention conditions. The target intervention described in this paper included personalized drinking feedback (PDF) + motivational interviewing (MI). The comparison condition was a control condition of PDF only (in light of prior research suggesting PDF had been sufficient to evoke meaningful changes in drinking in some populations). The feedback packets were identical in both conditions. Participants returned to our offices approximately one week following their assessment session for the intervention session. Participants were then reassessed using the same assessment battery at two follow-up time points spanning the course of 6 months.

Interventionist characteristics and training—Assessments and interventions were conducted by doctoral students in a clinical psychology program. All interventionists had completed at least one year of coursework in the doctoral program and then completed project-specific training, which included training and education about working within the VAMC setting and about the experiences of OEF/OIF veterans. Interventionists were trained in all assessment procedures using a combination of didactic (videos, training sessions with the PI and Co-I of the project who are both licensed clinical psychologists with at least 10 years of prior experience) and experiential training (role plays). All interventionists also completed training in Motivational Interviewing using a combination of readings, training DVDs, and role plays, conducted by the PI and the co-I.

Components of the Target Intervention

The BAI we designed for OEF/OIF veterans included 2 primary components: (1) Motivational Interviewing (Miller & Rollnick, 2012), and (2) a packet of detailed personalized feedback. These elements were combined in a single individual session (typically 60 minutes in duration). The interventionist guided the veteran through the pages of the written feedback and introduced each topic with an MI-consistent style. It was our expectation at the outset that this single-session intervention might be a sufficient catalyst for change among the less-severe heavy drinkers we encountered, but that it may not be sufficient for more severe drinkers (particularly those who were dependent on alcohol). The

interventionists were trained to be familiar with available resources so that they might encourage appropriate help-seeking among veterans in need of formal substance abuse or mental health treatment. All participants received psychoeducational information that included a list of local and online resources. Although the intervention was structured and manualized, we placed emphasis on the MI value of "meeting the client where he/she is at" and conducting the session in an MI-consistent style, recognizing the participant's level of readiness to change.

The personalized feedback packet was primarily designed to provide information related to hazardous drinking, but we also included feedback about deployment/readjustment experiences, symptoms of PTSD and depression, coping, alcohol use/misuse, and the often vicious cycle of PTSD and hazardous drinking. Here we provide a description of each component of the intervention.

- 1) Deployment and Postdeployment Contextual Factors—The goal of this segment is to establish rapport with the veteran and to develop an understanding of the veteran's experiences with deployment-related and post-deployment stressors. This segment corresponds to the first page of the personalized feedback packet, which includes information gleaned from the Deployment Risk and Resiliency Inventory (King et al., 2006). This page included sections titled "Your military service," "During your deployment," "Your homecoming," and "Your readjustment." Each of these areas included the stem "You told us..." followed by a series of statements (both positively and negatively valenced) from DRRI items. For example, in the section on "During your deployment," statements might include "You felt comfortable living in the culture where you were deployed," or "You were not adequately trained to work the shifts required of you." In the "Your homecoming" section, some example statements include: "The reception you received when you returned made you feel appreciated," or "People at home don't understand what you have been through while deployed." This page was designed to provide some material to start the dialogue between the veteran and the interventionist. We deliberately kept this feedback page free from any mention of alcohol so as not to activate defensiveness on the part of the veteran. This segment of the intervention is helpful for understanding the key issues facing a given veteran (e.g., unemployment, marital conflict). During this segment, the clinician should be listening for examples of adaptive coping strategies and providing affirmation to the veteran. The clinician should also be using reflective listening to highlight the veteran's values, and any change talk that may emerge.
- **2. Symptoms of PTSD and Depression**—Whereas the first segment focuses on the aspects of post-deployment readjustment that are going relatively well and those that have been challenging, this second segment introduces information about PTSD and depression. The feedback packet includes personalized feedback about symptoms endorsed by the veteran (derived from the CAPS; Blake et al., 1995; and the BDI, Beck et al., 1996). The goal of this segment is to increase awareness of these symptoms, and to begin a dialogue about adaptive coping, and seeking professional help for these symptoms.
- **3. Coping Styles**—The goal of this segment is to enhance positive coping strategies and to diminish the reliance on drinking-related coping. Participants receive personalized

feedback on the coping behaviors they endorsed on the Coping Responses Inventory (Moos, 1993). This section provides general information about approach and avoidance coping, noting that approach coping tends to be associated with better outcomes. Participants are then provided with personalized feedback about their primary coping styles/behaviors (Geisner et al., 2006). The clinician then engages the veteran in a conversation about which strategies seem to be most helpful and which have been less helpful in promoting post-deployment adjustment.

- **4. Alcohol and other substance use—**The goal of this segment is to provide personalized feedback about the participant's alcohol use in a manner that highlights risk and places the individual's drinking in the context of typical or normative (population) drinking levels. This segment is accompanied by a section of the feedback packet that includes normative feedback (i.e., a statement comparing the participants' drinking to that of a demographically similar group), followed by generic information about blood alcohol content (that is, information about factors influencing BAC, such as gender, weight, and speed of drinking). Veterans are provided with information about their estimated BAC on 2 days from the past month: a "typical" drinking occasion, and the "heaviest" drinking occasion. This information is used to draw the participant's attention to the fact that most negative consequences are more likely to happen during heavier drinking occasions, as opposed to more moderate drinking occasions. Following the material on BAC, the clinician presents information on risks and consequences associated with the participant's drinking (e.g., drinking and driving, hangovers, arguments, symptoms of alcohol dependence). While primarily focused on alcohol, this section also included feedback about other substance use when relevant.
- **5. PTSD and substances**—The next segment of the intervention corresponds to the final section of the written feedback packet, and addresses generic and personalized information about the relationship between PTSD and substance misuse. The information includes a graphic showing the "vicious cycle" of how substance abuse can exacerbate PTSD symptoms, despite providing short-term symptom relief (which reinforces substance use). The personalized information included in this section was derived from the Drinking Motives Questionnaire, Revised (Grant et al., 2007), and highlights veterans' own reasons for drinking. The clinician then engages the veteran in a discussion of about the ways that mood and anxiety symptoms may influence drinking for that veteran and helps to brainstorm around other ways to cope with PTSD symptoms.
- **6. Looking ahead: Goal setting**—The intervention concludes with a segment focused on processing and integrating the information presented in the session and discussing how this information might shape the veterans' future behavior. The clinician asks open ended questions like "Where do you go from here?" or "How do you see yourself making use of all of this information?" and then proceeds to ask about specific goals the veteran would like to set. During this segment, the clinician uses MI techniques to enhance motivation for change. The clinician then helps the client brainstorm specific strategies for reducing hazardous drinking, if the veteran raises this as a goal. The clinician makes suggestions for using protective, harm-reduction strategies in an MI-consistent style. The clinician also provides

information related to professional help-seeking for PTSD, alcohol misuse, or other psychological concerns. The veteran leaves the session with a folder that includes the personalized feedback packet as well as some psychoeducational information and a list of local resources.

Illustrative Case Example: Angela

Here we present a brief description of an individual who participated in Project STRIVE. This case was selected because she exemplifies many typical characteristics of OEF/OIF veterans with respect to her deployment history and presenting symptoms. Additionally, although she qualified for the study by engaging in hazardous drinking, she was not alcohol dependent; thus hers is a drinking profile that may be best suited to these types of intervention, and a profile observed more often in primary care settings, relative to specialty addiction care. Angela (a pseudonym; all potentially identifiable characteristics were changed to protect the participant's privacy), an African American female veteran in her mid-thirties, was approached about Project STRIVE at her first VAMC medical appointment approximately 8 months after returning from her most recent OIF deployment. She was deployed twice as part of OIF and spent a total of 25 months in a combat zone where she experienced several traumatic events. Angela identified her most distressing combat-related event as the death of her cousin in combat. Angela and her cousin were deployed together, and her cousin was killed as their convoy was hit by an improvised explosive device (IED). When she came in for her initial baseline assessment, Angela's total CAPS score was 56, indicating a moderate level of PTSD symptoms. In terms of alcohol use, Angela drank alcohol an average of 1 day per week and consumed approximately 6 drinks per week. She reported 2 binge drinking days (more than 4 standard drinks during one drinking episode for females) in the month preceding the interview.

After completing her baseline assessment, Angela returned the following week for the intervention session. The session began with an overview of the session goals and an invitation from the interventionist to discuss how Angela was readjusting to civilian life after deployment. Angela explained that ongoing family problems made readjustment difficult, but she also noted that her church community was an important source of support for her in terms of readjusting to civilian life. Angela felt, however, that many people in her primary support network could not understand her experiences as a combat veteran and she felt a sense of distance between herself and many of her non-veteran friends. As Angela described the process of post-deployment readjustment, the interventionist sensitively listened to Angela's story using reflective listening strategies and summarizing key points in her narrative. Consistent with the MI emphasis on affirmation, the interventionist listened for and highlighted examples of adaptive coping.

The interventionist then introduced Angela's personalized feedback, and the first page summarized some of the assets and challenges that helped and hindered her readjustment, many of which were discussed during the open-ended conversation about readjustment during the first part of the session. Next, Angela and the interventionist reviewed some of the primary mental health symptoms she reported during the baseline appointment. Angela

stated that she had initiated the process of seeking mental health treatment at the local VA medical center.

Angela and the interventionist then reviewed her current drinking patterns, and Angela commented that her drinking had increased since returning from deployment. In reviewing the feedback, she seemed especially surprised to find out that her current drinking pattern placed her in the 94th percentile of drinkers among women her age. Angela explained that her surprise, in part, was because these drinking norms seemed inconsistent with the drinking norms she perceived among other women in the military. The interventionist attempted to non-judgmentally validate her observation that perceived drinking norms can be shaped by individuals in our immediate social networks, and Angela spontaneously explained that, for her, drinking sometimes functioned as a strategy for managing unwanted memories associated with Iraq. She revisited this topic later during the feedback on a page summarizing her drinking motives. After reviewing the feedback, Angela evidenced readiness to change her drinking behaviors, stating that she did not wish to continue drinking at her current level and that she hoped to find new ways to cope with stress. The interventionist then helped Angela build on her readiness to change by asking open-ended questions about how her current level of drinking might impact her ability to achieve her future goals and offering suggestions about how she might change her drinking behavior in the future. One particular strategy that Angela supported as a strategy for behavior change was to offer to be a designated driver for her friends when they go out together to drink.

When she returned for her first follow-up appointment 6-weeks later (which was conducted by a different research staff member who was blind to intervention condition), Angela reported drinking less alcohol, approximately 3 drinks per week. She reported 2 binge drinking days in the month preceding the 6-week follow-up. When she returned for a second follow-up appointment, 6 months post-intervention, Angela reported drinking an average of only 1 drink per week and had no past-month binge drinking days. On a post-participation feedback questionnaire, Angela reflected that she enjoyed working with the project staff, particularly the interventionist – a notable observation given that only 6-months earlier she had a pervasive sense of feeling distant from others because of her combat experiences.

Discussion

This paper describes a brief alcohol intervention (BAI) that was developed and tailored specifically for OEF/OIF/OND veterans who are seeking primary care in VAMC settings. The intervention includes personalized feedback about the veteran's drinking pattern, alcohol-related consequences, PTSD symptoms, and coping pattern. The intervention was designed to be brief (a single session) and to be administered in a Motivational Interviewing (MI; Miller & Rollnick, 2012) style. In this intervention, the clinician strives to make a genuine connection with the veteran and to discuss the post-deployment transition as a whole, and then to focus on what the veteran's post-deployment drinking pattern has looked like. The intervention touches on several possible motives for drinking, including social drinking as well as coping drinking. Consistent with MI, participants are not provided with advice or strategies to change unless they express a desire for such information. Because these veterans are not necessarily seeking treatment for alcohol-related issues, many

approach the intervention with some reluctance. We have found that the MI approach, characterized by a non-judgmental, open, attentive style allows veterans to acknowledge ambivalence they might have about their drinking.

Prior research on feedback-based interventions has suggested that receiving information about both peer-referenced norms of drinking and about personal consequences and risk factors has a beneficial effect (Martens, Smith, & Murphy, 2013; Worden, & McCrady, 2013). The VAMC system does provide brief advice in primary care for veterans who screen positive on the AUDIT although this is not typically presented with detailed personalized feedback. The intervention described in this manuscript is more in-depth, and provides several pages of written feedback that the veteran may review even after the intervention is over.

Interestingly, in our outcome study of this intervention (McDevitt-Murphy et al., in press), PTSD diagnosis was not associated with worse outcomes in this intervention, despite prior research suggesting that PTSD confers risk for worse outcome in substance abuse treatment (Brown, Stout, & Mueller, 1996; Ouimette, Ahrens, Moos, & Finney, 1997). It is possible that in this sort of intervention, the distress associated with PTSD symptoms provide motivation to reduce drinking. It is also possible that this population of returning combat veterans differs in important ways from other samples of comorbid PTSD-SUD patients that have been studied in prior research of treatment-seeking substance abusers. The fact that these veterans were recruited from a primary care setting would suggest that they reflect a broader spectrum of alcohol misuse than we might find in a sample of treatment-seeking heavy drinkers which would reflect the more extreme end of the spectrum.

Project STRIVE included an extensive baseline assessment that included several structured interview measures. Of particular note, participants were asked to describe one or more particularly traumatic aspects of their deployment and were then administered a structured interview assessing symptoms of PTSD. Anecdotally, many participants made comments to the effect of "I've never talked about this before..." with respect to either the traumatic event, or the PTSD symptoms. It is possible that discussing these intimate details with the interviewer contributed to the alliance formed between the two. In clinical practice, perhaps this type of intervention will have the greatest effect when it is preceded by an assessment characterized by non-judgmental listening and validation on the part of the interviewer. While such a style is characteristic of mental health care providers, this type of detailed interview-based assessment is more rare in primary care settings. If this intervention were to be administered within primary care, by primary care medical providers, we would encourage the adoption of a rapport-building interview about the veterans' military experiences, PTSD symptoms, and substance use prior to the MI intervention.

In conclusion, brief interventions may be a promising clinical tool for clinicians working with combat veterans who are struggling with hazardous alcohol use. The use of personalized feedback related to alcohol use, psychosocial adjustment, psychological symptoms, and coping style, delivered in an empathic, non-judgmental style may be a promising intervention to reduce substance misuse, that easily lends itself to dissemination in primary care clinics.

Acknowledgments

This work was supported by the National Institute on Alcohol Abuse and Alcoholism (Grant #AA016120 to MEM) and by the Department of Veterans Affairs Office of Research and Development.

References

Ballesteros J, Duffy JC, Querejeta I, Arino J, Gonzalez-Pinto A. Efficacy of brief interventions for hazardous drinkers in primary care: Systematic review and meta-analyses. Alcoholism: Clinical and Experimental Research. 2004; 28:608–618.

- Beck, AT.; Steer, RA.; Brown, GK. Manual for the Beck Depression Inventory–II. San Antonio, TX: Psychological Corporation; 1996.
- Blake DD, Weathers FW, Nagy LM, Kaloupek DG, Gusman FD, Charney DS, et al. The development of a clinician-administered PTSD scale. Journal of Traumatic Stress. 1995; 8:75–90. [PubMed: 7712061]
- Borsari B, Murphy JG, Barnett NP. Predictors of alcohol use during the first year of college: implications for prevention. Addictive Behaviors. 2007; 32:2062–2086. [PubMed: 17321059]
- Brown PJ, Stout RL, Mueller T. Posttraumatic stress disorder and substance abuse relapse among women: a pilot study. Psychology of Addictive Behaviors. 1996; 10:124–128.
- Burnett-Zeigler I, Ilgen M, Valenstein M, Zivin K, Gorman L, Blow A, Duffy S, Chermack S. Prevalence and correlates of alcohol misuse among returning Afghanistan and Iraq veterans. Addictive Behaviors. 2011; 36:801–806. [PubMed: 21482030]
- Calhoun PS, Elter JR, Jones ER, Kudler H, Straits-Troster K. Hazardous alcohol use and receipt of risk-reduction counseling among veterans of the wars in Iraq and Afghanistan. Journal of Clinical Psychiatry. 2008; 69:1686–1693. [PubMed: 19012816]
- Chan KK, Neighbors C, Gilson M, Larimer ME, Marlatt GA. Epidemiological trends in drinking by age and gender: Providing normative feedback to adults. Addictive Behaviors. 2007; 32:967–976. [PubMed: 16938410]
- Department of Veterans Affairs. Guide to VA Mental Health Services for Veterans & Families. Washington, DC: Department of Veterans Affairs; 2012.
- Elliott JC, Carey KB, Bolles JR. Computer-based interventions for college drinking: A qualitative review. Addictive Behaviors. 2008; 33:994–1005. [PubMed: 18538484]
- Erbes CR, Curry KT, Leskela J. Treatment presentation and adherence of Iraq/Afghanistan era veterans in outpatient care for posttraumatic stress disorder. Psychiatric Services. 2009; 6:175–183.
- Geisner IM, Neighbors C, Larimer ME. A randomized clinical trial of a brief, mailed intervention for symptoms of depression. Journal of Consulting and Clinical Psychology. 2006; 74:393–399. [PubMed: 16649884]
- Grant VV, Stewart SH, O'Connor RM, Blackwell E, Conrod PJ. Psychometric evaluation of the five-factor modified drinking motives questionnaire revised in undergraduates. Addictive Behaviors. 2007; 32:2611–2632. [PubMed: 17716823]
- Institute of Medicine. Substance use disorders in the U.S. armed forces. Washington, DC: The National Academies Press; 2012.
- Jacobsen IG, Ryan MA, Hooper TI, Smith TC, Amoroso PJ, Boyko EJ, Bell NS. Alcohol use and alcohol related-problems before and after military combat deployment. Journal of the American Medical Association. 2008; 300:663–675. [PubMed: 18698065]
- Jakupcak M, Tull MT, McDermott MJ, Kaysen D, Hunt S, Simpson T. PTSD symptom clusters in relation to alcohol misuse among Iraq and Afghanistan war veterans seeking post-deployment VA health care. Addictive Behaviors. 2010; 35:840–843. [PubMed: 20471180]
- King LA, King DW, Vogt DS, Knight J, Samper RE. Deployment risk and resilience inventory: A collection of measures for studying deployment-related experiences of military personnel and veterans. Military Psychology. 2006; 18:89–120.

Kulka, RA.; Schlenger, WE.; Fairbank, JA.; Hough, RL.; Jordan, BK.; Marmar, CR., et al. Trauma and the Vietnam War generation: Report of findings from the National Vietnam Veterans Readjustment Study. New York: Brunner/Mazel; 1990.

- Martens MP, Smith AE, Murphy JG. The efficacy of single-component brief motivational interventions among at-risk college drinkers. Journal of Consulting and Clinical Psychology. 2013; 81:691–701. [PubMed: 23506464]
- McDevitt-Murphy ME, Murphy JG, Monahan CJ, Flood AM, Weathers FW. Unique patterns of substance misuse associated with PTSD, depression, and social phobia. Journal of Dual Diagnosis. 2010; 6:94–110. [PubMed: 20582229]
- McDevitt-Murphy ME, Murphy JG, Williams JL, Monahan CJ, Bracken-Minor KL, Fields JA. Randomized Controlled Trial of Two Brief Alcohol Interventions for OEF/OIF Veterans. Journal of Consulting and Clinical Psychology. (in press).
- McDevitt-Murphy ME, Williams JL, Bracken KL, Fields JA, Monahan CJ, Murphy JG. PTSD symptoms, hazardous drinking, and health functioning among U.S. OEF and OIF veterans presenting to primary care. Journal of Traumatic Stress. 2010; 23(1):108–111. [PubMed: 20104586]
- Miller, WR.; Rollnick, S. Motivational interviewing: Preparing people for change (3rd ed.). New York, NY US: Guilford Press; 2012.
- Miller, WR.; Tonigan, JS.; Longabaugh, R. The Drinker Inventory of Consequences (DrInC): An instrument for assessing adverse consequences of alcohol abuse. Rockville, MD: National Institute on Alcohol Abuse and Alcoholism; 1995.
- Monahan CJ, McDevitt-Murphy ME, Dennhardt AA, Skidmore JR, Martens MP, Murphy JG. The impact of PTSD symptoms on the efficacy of alcohol interventions for heavy drinking college students. Addictive Behaviors. 2013; 38:1719–1725. [PubMed: 23261489]
- Moos, RH. Coping Responses Inventory Adult Form: Professional Manual. Odessa, FL: Psychological Assessment Resources; 1993.
- Murphy JG, Benson T, Vuchinich RE, Deskins M, Eakin D, Flood AM, McDevitt-Murphy ME, Torrealday O. A comparison of personalized feedback for college student drinkers delivered with and without a motivational interview. Journal of Studies on Alcohol. 2004; 65:200–204. [PubMed: 15151350]
- Ouimette PC, Ahrens C, Moos RH, Finney JW. Posttraumatic stress disorder in substance abuse patients: Relationship to 1-year posttreatment outcomes. Psychology of Addictive Behaviors. 1997; 11:34–47.
- Ouimette PC, Wolfe J, Chrestman KR. Characteristics of posttraumatic stress disorder-alcohol abuse comorbidity in women. Journal of Substance Abuse. 1996; 8:335–346. [PubMed: 8934438]
- Saunders JB, Aasland OG, Babor TF, de la Fuente JR, Grant M. Development of the Alcohol Use Disorders Identification Test (AUDIT): WHO collaborative project on early detection of persons with harmful alcohol consumption: II. Addiction. 1993; 88:791–804. [PubMed: 8329970]
- Sayette MA, Creswell KG, Dimoff JD, Fairbairn CE, Cohn JF, Heckman BW, Moreland RL. Alcohol and group formation: A multimodal investigation of the effects of alcohol on emotion and social bonding. Psychological Science. 2012; 23(8):869–878. [PubMed: 22760882]
- Seal KH, Bertenthal D, Miner CR, Saunak S, Marmar C. Bringing the war back home: Mental health disorders among 103,788 US veterans returning from Iraq and Afghanistan seen at Department of Veterans Affairs facilities. Archives of Internal Medicine. 2007; 167(5):476–482. [PubMed: 17353495]
- Stahre MA, Brewer RD, Fonseca VP, Naimi TS. Binge Drinking among U.S. active-duty military personnel. American Journal of Preventive Medicine. 2009; 36:208–217. [PubMed: 19215846]
- Sobell, LC.; Sobell, MB. Timeline Followback user's guide: A calendar method for assessing alcohol and drug use. Toronto, Canada: Addiction Research Foundation; 1996.
- Walters ST, Vader AM, Harris TR, Field CA, Jouriles EN. Dismantling motivational interviewing and feedback for college drinkers: A randomized clinical trial. Journal of Consulting and Clinical Psychology. 2009; 77:64–73. [PubMed: 19170454]

Worden BL, McCrady BS. Effectiveness of a feedback-based brief intervention to reduce alcohol use in community substance abusers. Alcoholism Treatment Quarterly. 2013; 31:186–205. [PubMed: 23794786]