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Affect regulation training (ART) for alcohol use disorders: Development of a novel intervention for negative affect drinkers

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ABSTRACT

Although negative affect is a common precipitant of alcohol relapse, there are few interventions for alcohol dependence that specifically target negative affect. In this stage 1a/1b treatment development study, several affect regulation strategies (e.g., mindfulness, prolonged exposure, distress tolerance) were combined to create a new treatment supplement called affect regulation training (ART), which could be added to enhance cognitive–behavioral therapy (CBT) for alcohol dependence. A draft therapy manual was given to therapists and treatment experts before being administered to several patients who also provided input. After two rounds of manual development (stage 1a), a pilot randomized clinical trial ($N = 77$) of alcohol-dependent outpatients who reported drinking often in negative affect situations was conducted (stage 1b). Participants received 12-weekly, 90-minute sessions of either CBT for alcohol dependence plus ART (CBT + ART) or CBT plus a healthy lifestyles control condition (CBT + HLS). Baseline, end-of-treatment, and 3- and 6-month posttreatment interviews were conducted. For both treatment conditions, participant ratings of treatment satisfaction were high, with CBT + ART rated significantly higher. Drinking outcome results indicated greater reductions in alcohol use for CBT + ART when compared to CBT + HLS, with moderate effect sizes for percent days abstinent, drinks per day, drinks per drinking day, and percent heavy drinking days. Overall, findings support further research on affect regulation interventions for negative affect drinkers.

1. Introduction

Both theory and research suggest that the desire to regulate one's affective experience is an important motive underlying alcohol use (e.g., Baker, Piper, McCarthy, Majeskie, & Fiore, 2004; Cooper, Skinner, Russell, Frone, & Mudar, 1992). Negative affect in particular has been commonly cited as a reason for alcohol use among alcohol abusers in treatment (e.g., Annis & Graham, 1995; Bradizza & Stasiewicz, 2003) as well as relapse among recovering alcoholics (e.g., Connors, Maisto, & Zwyiak, 1998). Although the use of alcohol to regulate negative affective states may be viewed by the individual as adaptive in the short term, in the long term, drinking to regulate negative affect can prove to be a maladaptive response. Specifically, using alcohol to manage negative affect has been shown to be a risk factor for developing an alcohol use disorder (Carpenter & Hasin, 1999), including greater alcohol consumption and more drinking problems (Holahan, Moos, Holahan, Cronkite, & Randall, 2001; 2003). Despite the strong links between negative affect and drinking, very few studies have directly assessed whether interventions that target negative affect positively impact emotional states or drinking outcomes among alcohol dependent men and women (e.g., Berking et al., 2008; Berking et al., 2011; Monti et al., 1990). The current study was designed to address this gap in the literature and reports on the development and evaluation of a novel treatment designed to address the issue of negative affect drinking. Importantly, treatment development followed the stage model of behavioral therapies research (Rounsaville, Carroll, & Onken, 2001).

Negative affect has been proposed as a central mechanism in the development and maintenance of substance use and substance use disorders (e.g., Baker et al., 2004; Stasiewicz & Maisto, 1993; Pandina, Johnson, & Labouvie, 1992). Theories such as the tension–reduction hypothesis (Greely & Oei, 1999) or stress–response dampening model (Sher, 1987) highlight alcohol's role in relieving negative affect. Similarly, conditioning models of addiction (Siegel, 1983; Stewart, de Wit, & Eikelboom, 1984; Wikler, 1965; Wise, 1988) posit that negative affect can either elicit alcohol and drug conditioned responses (albeit different types of conditioned responses) or enhance the incentive value of alcohol or other drugs. For example, Mowrer's (1947) two-factor avoidance theory, as applied to alcohol and other substance use disorders (c.f., Stasiewicz & Maisto, 1993), maintains that a conditioned emotional response is sufficient to elicit substance use, which

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is then maintained by the reinforcement (i.e., negative reinforcement) resulting from escape or avoidance of an unpleasant emotional stimulus. To varying degrees, these models point to negative affect as an important factor in the development and maintenance of drug use, and to negative reinforcement (through removal of negative affect) as a likely mechanism maintaining alcohol use among those who drink to reduce negative affect.

Negative affect is a natural part of everyday life requiring the capacity for effective self-regulation. Affect regulation, or the capacity to regulate affective states, generally refers to the cognitive and behavioral strategies that people use to keep emotions within tolerable levels (e.g., Gross, 1998; Westen, 1994). According to Gross and Thompson (2007), affect regulation is superordinate to emotion regulation and includes other constructs such as coping and distress tolerance. While these constructs may be similar in their function (i.e., to reduce negative affect), they may also be distinguished by the response they are meant to target. Emotion regulation targets characteristics of the emotional response itself (e.g., latency, magnitude, duration), coping targets cognitive and situational antecedents of the emotional response, and distress tolerance, according to Linehan, Bohus, and Lynch (2007), targets behavioral reactivity (e.g., impulsive acts, secondary emotions) to emotional responses.

Individuals who are less skilled at affect regulation may resort to a range of unhealthy behaviors, including excessive alcohol use, in an attempt to regulate negative affect that may be perceived as intolerable (Wiser & Telch, 1999). Furthermore, the association between negative affect and alcohol use disorders may be mediated by deficits in self-regulatory processes such as affect regulation (Wills, Sandy, & Shinar, 1999), as well as the perceived self-efficacy for affect regulation (Bandura, Caprara, Barbaranelli, Gerbino, & Pastorelli, 2003). There also is evidence that coping skills, a subset of affect regulation strategies, moderate the relationship between stress or negative affect and alcohol use (Holahan et al., 2001; 2003) and that poor affect regulation skills may increase risk for relapse in situations involving negative affect (Berking et al., 2011). Thus, the combination of negative affect and deficits in the ability to regulate it has implications for the development of, as well as the recovery from, alcohol problems. However, few studies have attempted to assess and treat affect regulation difficulties in alcoholic samples (e.g., Berking et al., 2011). An affect regulation perspective proposes adding treatment components to help clients become more comfortable with arousing emotional experience, more able to access and utilize emotional information in adaptive problem solving, and better able to modulate emotional experience and expression according to situational demands. Although there is evidence that standard treatments for alcohol dependence are associated with reductions in negative affect (e.g., Brown & Schuckit, 1988; Brown, Irwin, & Schuckit, 1991; Witkiewitz, Bowen, & Donovan, 2011), the addition of the aforementioned treatment components to a standard treatment for alcohol dependence may lead to greater reductions in negative affect and better alcohol treatment outcomes for alcohol dependent clients. Better outcomes may result both from greater reductions in negative affect and perhaps additional benefit from weakening the link between negative affect and alcohol and/or alcohol cues. The notion of directly targeting negative affect in the treatment of alcohol use disorders (AUD), especially those individuals who report drinking often and heavily in negative affect situations, has received supported in a recent clinical trial (Kushner et al., 2012) and in a meta analysis examining supplemental treatments for depressive and anxiety disorders in AUD patients (Hobbs, Kushner, Lee, Reardon, & Maurer, 2011).

1.1. Affect regulation training (ART) for negative affect drinkers

Affect regulation training (ART) was developed following a stage model of behavioral therapies research (Rounsaville et al., 2001), which recommends a focus on therapy development and manual writing (stage 1a) prior to initial evaluation of the treatment in a pilot trial (stage 1b). The emphasis of these studies is less on statistical significance and more on iteratively developing a treatment manual based on provider and client feedback and generating effect size estimates to assist researchers and funding agencies in determining whether additional research is warranted. Accordingly, the focus of stage 1a was on the development of a treatment manual for alcohol dependence that could be administered as a treatment supplement to enhance standard cognitive behavioral therapy (CBT) for alcohol dependence. More specifically, ART was developed to address the needs of alcohol dependent men and women who reported frequent heavy drinking in negative emotional situations (i.e., negative affect drinkers). Based upon the literature linking negative affect and drinking, including the associations between deficits in affect regulation and problematic use, ART was designed to include cognitive and behavioral strategies addressing (a) prolonged direct experiencing of emotion (utilizing guided imagery techniques), (b) mindfulness skills and (c) distress tolerance skills. These affect-regulation strategies were derived from interventions that address a range of mental health disorders (e.g., panic, PTSD, depression, borderline personality disorder), including substance use disorders, and differ from traditional cognitive–behavioral skills-based interventions by placing greater emphasis on increasing the patient's ability to experience and regulate the subjective, physiological and behavioral components of negative emotion and less emphasis on teaching the patient how to "change" the emotion or the situational and cognitive antecedents of the emotion. Specifically, mindfulness and prolonged direct experiencing instruct the patient to focus on the emotional response itself, and to let thoughts, feelings, and sensations come and go, rise and fall away, without attempting to exert control (e.g., Breslin, Zack, & McCain, 2002).

Based on the theoretical and empirical literature reviewed above, a treatment approach for alcohol dependence that incorporates several affect regulation techniques may have unique value. The affect regulation training (ART) intervention described herein takes an important step towards developing a treatment approach that can be added to enhance existing behavioral treatments for alcohol dependence. The current study reports on a randomized clinical pilot study (stage 1b) designed to evaluate the effectiveness of ART to address the problem of negative affect drinking. Specifically, individuals diagnosed with alcohol dependence and endorsing a negative affect drinking profile were randomized to receive either standard CBT plus ART (i.e., experimental treatment condition) or CBT plus a health and lifestyle intervention (HLS; active control condition). The study was designed to determine if those receiving ART would (a) show greater improvement on drinking outcomes and (b) a greater reduction in negative affect and greater improvements in affect regulation skills when compared to those receiving HLS.

2. Materials and methods

2.1. Participants

Participants were 77 individuals (female $n = 38$) seeking outpatient treatment for alcohol-related problems and reporting a negative affect drinking profile. Inclusion criteria were: (a) seeking outpatient alcohol treatment services, (b) current *DSM-IV* diagnosis of alcohol dependence, (c) meeting criteria for a negative affect drinking profile (defined in Section 2.2.4 below), and (d) living within commuting distance of the program site. Exclusion criteria were: (a) acute psychosis, (b) use of medications (i.e., disulfiram, naltrexone) that may modify alcohol use, (c) made changes in past 3 months in dose or type of prescription medication that affects mood (e.g., antidepressants, anxiolytics), (d) any drug use diagnosis other than for nicotine and cannabis, and (e) legally mandated to attend treatment.

Participants were predominantly Caucasian (84.4%; 14.3% African American and 1.3% other), married or living with a partner (42.9%;