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Negative Mood, Craving, and Alcohol Relapse: Can Treatment Interrupt the Process?

James R. McKay

University of Pennsylvania and Philadelphia VA Medical Center, 3900 Chestnut Street,
Philadelphia, PA 19104, USA

James R. McKay: mckay_j@mail.trc.upenn.edu

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Introduction

Emotions, particularly negative affect such as depression and anxiety, play important roles in the etiology and maintenance of substance use disorders, as well as in response to treatment. For example, studies with alcohol-dependent patients have shown that ongoing depression increases the risk of relapse during and after treatment [1–3], and sudden increases in negative affect have been shown to immediately precede nicotine relapse [4].

One of the ways in which negative mood may lead to substance use is through its effect on craving for alcohol and other drugs. Several current models of substance use disorder etiology or relapse have offered explanations for the interplay among negative mood, craving, and substance use. For example, learning-based models postulate that substance abusers learn that use of alcohol and drugs can temporarily alleviate painful emotions. After such learning has occurred, negative emotions trigger the desire for alcohol or drugs, which in the immediate absence of alcohol or drugs is experienced as craving. The craving in turn then drives the substance abuser to seek out and use alcohol or drugs in an effort to reduce the negative affect [5].

Aims

The current study had several goals. The first was to examine the relation between negative mood and frequency of heavy alcohol use during a 16-week trial of treatments for alcohol dependence [6]. The second goal was to determine whether receipt of a treatment module that focuses on improving skills for coping with craving—which some patients received while others did not—would moderate the relation between negative mood and drinking. The third goal was to determine whether this moderation effect, if present, was mediated or explained by decreases in craving. Finally, whether the effects of the coping with craving module would persist for a full year after treatment was also examined.

Trial

Witkiewitz K, Bowen S, Donovan DM: Moderating effects of a craving intervention on the relation between negative mood and heavy drinking following treatment for alcohol dependence. *J Consult Clin Psychol* 2011, 79(1):54–63.

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Methods

The study made use of data yielded by the COMBINE (Combined Pharmacotherapies and Behavioral Interventions for Alcohol Dependence) study, a multisite study of nine combinations of two pharmacologic agents and two behavioral interventions for alcohol dependence [6]. Data were included from the 776 participants who received the COMBINE behavioral intervention (CBI), which featured both motivational interviewing (MI) and cognitive-behavioral therapy (CBT) sessions. The CBI intervention has several optional modules, including a coping with craving module, which the therapist could include to individualize the treatment to best fit the patient's situation and needs. Analyses contrasted the 432 patients who received between 1 and 5 sessions of the coping with craving module with the 344 who did not receive any sessions. Outcomes were frequency of heavy drinking days assessed over the 16-week trial and at the 1-year post-treatment follow-up. Mood was assessed with the Profile of Mood States, and craving was assessed with the Obsessive Compulsive Drinking Scale. Mood and craving were assessed at six points during treatment.

Results

Preliminary analyses indicated that patients who received the craving module were more likely to be white and were older and had more years of education than those who did not. Those who received the craving module also had lower scores on baseline measures of drinking severity but drank alcohol more frequently. These measures were all included as covariates in the analyses.

Analyses demonstrated that greater decreases in negative mood during the 16-week treatment phase predicted lower frequency of heavy drinking. Moderation analyses indicated that the relation between negative mood and heavy drinking was much stronger in patients who did not receive the craving module than in those who did receive the module. Dose-response analyses showed that the moderation effect increased with each session of the craving module that was received. Specifically, the correlation between negative mood and heavy drinking was strongest in those who did not receive the module, and became progressively smaller as the number of module sessions received increased from one to five. Patients who received the craving module had lower craving scores over time than those who did not receive the module. Furthermore, mediation analyses indicated that the moderating effect of the craving module on the relation between negative mood and heavy drinking was mediated, or explained, by reductions in craving. The moderating effect of the craving module on the relation of negative mood to heavy drinking was still significant at the 1-year follow-up, although the magnitude of the effect had diminished.

Discussion

The authors concluded that the results of the study support neurobiological and learning-based models of relapse in substance abusers that link negative moods or emotional states with stronger craving responses and increased likelihood of relapse. The results indicate that it is possible to break this cycle, so to speak, by providing behavioral treatment designed to reduce craving. The limitations of the study and importance of further work to identify treatments that address craving in response to negative moods were also stressed.

Comments

Although behavioral treatments for alcohol use disorders are clearly effective, it is becoming increasingly evident that we really do not understand how they work. Studies conducted over the past decade have consistently failed to support the purported mechanisms of action

of evidence-based treatments such as MI and CBT for alcoholism [7, 8]. To improve the efficacy of such treatments, we need to know more about the processes that actually bring about changes in drinking behavior.

The article by Witkiewitz and colleagues is noteworthy because it tests the validity of a model that seeks to explain the relation among negative mood, craving, and alcohol relapse. Moreover, the article demonstrates that a particular component of CBT designed to decrease craving moderates the connection between negative mood and alcohol use, and that it works by decreasing craving. Another major strength of this article is that it makes use of data from a very large study that was conducted carefully and featured state-of-the-art methods to implement and monitor the psychotherapy interventions.

The primary limitation of the study is that participants were not randomly assigned to receive or not receive the coping with craving module, or to different numbers of craving module sessions. Therefore, the effects that were observed, including the dose–response relation between the number of craving sessions received and the degree of moderation, could reflect other factors that were not assessed and controlled for in the study. The effect of the coping with craving module was shown to be mediated by decreases in craving, as was hypothesized. However, the study did not address whether this was accomplished through increases in coping skills, or whether some other therapeutic process yielded reductions in craving. Therefore, further work is needed to help us more fully understand how the coping with craving module exerts a therapeutic effect.

References

1. Greenfield SF, Weiss RD, Muenz LR, et al. The effect of depression on return to drinking: a prospective study. *Archives of General Psychiatry*. 1998; 55:259–265. [PubMed: 9510220]
2. Lowman C, Allen J, Stout RL. Replication and extension of Marlatt's taxonomy of relapse precipitants: overview of procedures and results. The Relapse Research Group. *Addiction*. 1996; 91:S51–S71. [PubMed: 8997781]
3. Witkiewitz K, Villarroel NA. Dynamic association between negative affect and alcohol lapses following alcohol treatment. *Journal of Consulting and Clinical Psychology*. 2009; 77:633–644. [PubMed: 19634957]
4. Shiffman S, Waters AJ. Negative affect and smoking lapses: a prospective analysis. *Journal of Consulting and Clinical Psychology*. 2004; 72:192–201. [PubMed: 15065954]
5. Stasiewicz PR, Maisto SA. Two-factor avoidance theory: the role of negative effect in the maintenance of substance use in substance use disorder. *Behavior Therapy*. 1993; 24:337–356.
6. COMBINE Study Research Group. Testing combined pharmacotherapies and behavioral interventions in alcohol dependence: rationale and methods. *Alcoholism: Clinical and Experimental Research*. 2003; 27:1107–1122.
7. Morgenstern J, McKay JR. Rethinking the paradigms that inform behavioral treatment research for substance use disorders. *Addiction*. 2007; 102:1377–1389. [PubMed: 17610541]
8. Longabaugh, R.; Wirtz, PW. Substantive review and critique. In: Longabaugh, R.; Wirtz, PW., editors. *Project MATCH Hypotheses: Results and Causal Chain Analyses*. Bethesda, MD: US Department of Health and Human Services: National Institutes of Health; 2001. p. 305-325.