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An intervention to increase alcohol treatment engagement: a pilot trial

Tracy Stecker, PhD^{1,2}, Mark P. McGovern, PhD¹, and Beverly Herr³

¹Psychiatric Research Center, Dartmouth Medical School, Lebanon, NH

²VA Health Services Research and Development, White River Junction Veterans Administration, White River Junction, VT

³Children's Hospital Boston, Boston, MA

Abstract

Objectives—Previous research has documented the difficulty individuals with alcohol use disorders have initiating alcohol treatment. This study assessed the feasibility of a brief, cognitive behavioral intervention designed to increase treatment initiation among individuals with alcohol use disorders.

Methods—This randomized controlled trial included one hundred and ninety six participants who screened positive for a possible alcohol use disorder on the AUDIT. Randomly assigned intervention participants were administered a brief cognitive-behaviorally-based intervention by phone designed to modify beliefs that may interfere with treatment-seeking behavior. Beliefs about treatment and treatment-seeking behavior were assessed post-intervention.

Results—Participants receiving the intervention had significantly improved their attitudes toward addiction treatment ($p < 0.002$) and increased their reported intention to seek treatment ($p < 0.000$) post-intervention. Further, intervention participants were almost three times more likely to attend treatment within a three-month period ($OR = 2.60$, $p < 0.025$) than participants in the control group.

Conclusions—A brief, cognitive-behavioral intervention delivered by phone and focused on modifying treatment interfering beliefs holds promise for increasing alcohol treatment-seeking among individuals in need.

Introduction

Results of the most recent large-scale national mental health epidemiological research, the National Comorbidity Study-Replication (NCS-R), identified high community prevalence of substance use disorders. The NCS-R, conducted from 2001–2003 using structured psychiatric diagnostic interviews, found a twelve-month prevalence of any substance abuse/dependence disorder of 3.8%, with a twelve-month prevalence of alcohol abuse of 3.1% (Kessler et al., 2005b). Lifetime prevalence of an alcohol use disorder has been found to be between 20–22% (Regier et al., 1993; Kessler et al., 1994; Grant et al., 2004).

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Correspondence Address: Tracy Stecker, Psychiatric Research Center, 85 Mechanic Street Suite B4-1, Lebanon, NH 03766; phone: 603.448.0263; tracy.stecker@dartmouth.edu.

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While the prevalence of alcohol use disorders is high, most do not receive treatment (Kessler et al., 2005b; Weisner et al., 1995; Sobell et al., 1996). In fact, less than half (38%) of the patients with substance use disorders receive any mental health treatment in a 12-month period, and substantially fewer receive minimally adequate treatment (28%) based on evidence-based guidelines (Wang et al., 2005). Since most mental health providers do not address alcohol problems in treatment, the numbers of persons with alcohol problems who actually receive alcohol treatment is even lower (Harris and Edlund, 2005; Margules and Zweben, 1998). While many individuals with alcohol problems recover without treatment (Weisner et al., 1995; de Bruijn et al., 2006), remission rates are highest for individuals who participate in both specialized treatment and Alcoholics Anonymous (AA) (Moos et al., 2006; Moos and Moos, 2005).

In order to understand why the majority of individuals do not seek treatment, several investigators have studied barriers to treatment among individuals with alcohol problems (Grant, 1997; Tucker et al., 2004; Saunders et al., 2006; Rapp et al., 2006). These studies find that individuals with alcohol use disorders are more likely to report doubts about treatment (person-related barriers) versus concerns about cost or affordability (treatment-related barriers) (Grant, 1997; Saunders et al., 2006). However, by far the most frequently endorsed barriers involve not believing that the problem was serious enough for treatment, believing that they should be able to handle the problem on their own, and believing the problem would get better on its own (Grant, 1997; Tucker et al., 2004; Saunders et al., 2006; Rapp et al., 2006).

Brief interventions for alcohol problems in primary care settings have generally been found to be effective for persons with non-dependent level disorders (Fleming et al., 2004). Miller and Wilbourne, (2002) reviewed 361 controlled studies designed to treat alcohol use disorders, and found strong efficacy for brief interventions, as well as for two pharmacotherapy approaches that could be applied in primary care. In order to intervene with individuals with more serious alcohol use disorders, research is needed that goes beyond addressing structural barriers to treatment or developing brief interventions for individuals with mild to moderately severe alcohol problems. We applied previous empirical research and behavioral theory to assess cognitive mechanisms underlying the decision to seek alcohol treatment. Specifically, we applied principles of cognitive-behavioral therapy (CBT) to modify beliefs about treatment in order to increase the intention to seek alcohol treatment.

CBT has been widely demonstrated to be effective for treating a wide variety of disorders including depression and anxiety disorders (Calvert and Palmer, 2003; Merrill et al., 2003; Blackburn and Moore, 1997; Richards et al., 2003; Blackburn et al., 1981; Simon, 2004; Proudfoot et al., 2004; DeRubeis et al., 2005; Vittengl et al., 2005). The mechanism behind CBT's efficacy comes from its demonstrated ability to change an individual's beliefs (Blackburn et al., 1986; Blackburn and Eunson, 1989; Kwon and Oei, 2003; Griffiths et al., 2004; Tang et al., 2005; Beck, 2005), which serves to change behavior (Beck, 2005; Brown et al., 2005; Butler et al., 2005). Consider, for example, an individual believes that alcohol treatment is "only for real alcoholics", "wouldn't work for me", and "would hurt my career". Overall these beliefs tend to produce a negative attitude toward treatment and little intention to initiate treatment. CBT could be used to help the individual modify their beliefs to "I don't think of myself as a 'real' alcoholic, but I am having problems because of my drinking so maybe I should seek help"; "Treatment might not work for me, but it might"; and "I could hurt my career just by continuing on the path I am on". Such changes in beliefs would alter attitudes, intention and potentially treatment-seeking behavior. CBT has been shown to be efficacious in both computer and telephone formats (Simon, 2004; Proudfoot et al., 2004; Mohr et al., 2005; Tutty et al., 2005); as well as when administered by individuals other than

highly trained mental health professionals (Reilly and McDanel, 2005), so it is well suited to application in an engagement intervention. CBT may be more effective than other strategies such as psychoeducation or motivational interviewing because of its demonstrated efficacy to modify beliefs and change behavior. The purpose of this study was to assess the feasibility of an intervention designed to modify personal or attitudinal barriers to alcohol treatment.

Methods

Sample

Individuals who screened positive for an alcohol use disorder on the Alcohol Use Disorders Identification Test (AUDIT), and who indicated that they had never been to treatment for alcohol problems were recruited for this study. Participants were recruited during visits to local emergency departments (n=2) and through general community advertisements (n=196). Eligibility was determined by having a score of 16 or higher on the AUDIT. A score of 8 or higher generally indicates that the individual engages in harmful or hazardous alcohol use. Scores between 16 and 19 indicate a need for counseling and monitoring (Babor, 1989). Individuals were excluded from participation if they had already been in treatment or if they scored below a 15 on the AUDIT.

Procedure

One hundred and ninety eight participants determined to be eligible and agreeing to participate were consented and randomly assigned to either the control or intervention group. All participants who called for the baseline were deemed eligible based upon their AUDIT scores, and none refused to enroll in the study. A baseline assessment was conducted to assess beliefs about treatment and readiness to change. Intervention participants were scheduled a time to complete the intervention by phone. Participants in the control group were read a pamphlet about the dangers of alcohol abuse published by the National Institute for Alcohol Abuse and Alcoholism (ASP, 2007), which took approximately 30–35 minutes to administer. During the scheduled intervention appointment, participants were administered the brief, individualized cognitive-behavioral (CB) intervention, requiring about 45–60 minutes. The interventionist was a PhD-level, CBT-trained psychologist. A follow-up telephone interview was administered to assess changes in beliefs and intent to enter alcohol treatment three months subsequent to their participation. A research assistant other than the interventionist conducted the post-intervention follow-up interview in order to avoid biasing participant responses to please the interventionist. Participants received \$50 for the baseline interview and \$25 for the follow-up interview. This study was approved by the Dartmouth College Institutional Review Board.

Measures

Modifying Perceptions of Services Scale (iMPASse)—This measure is a 40-item scale designed to assess beliefs about alcohol treatment modeled from the Theory of Planned Behavior. Beliefs were organized into four groups corresponding to attitudes toward treatment, subjective norm, perceived behavioral control over treatment and the intention to seek treatment. Respondents were asked to rate each belief on a 7-point likert scale ranging from strongly disagree to strongly agree. The scale has been found to have good test-retest reliability and internal validity (Stecker, 2010).

The Readiness for Change Scale—The Readiness to Change Scale consists of a 12-item scale to assess which stage an individual is at according to the Transtheoretical Model (Rollnick, 1992; Heather, 1993). Participants were asked to answer each item on a five-point rating scale, with points from strongly agree to strongly disagree. Responses are categorized

into four groups including: pre-contemplation (not considering change), contemplation (thinking about change), action (in the process of making changes), and maintenance (made changes) phases of readiness to change.

The Treatment Services Review—The Treatment Services Review (TSR) has been adapted for the follow-up interview (McLellan et al., 1992). Participants were asked the number of outpatient visits and/or inpatient days of alcohol treatment received in the past 90 days. They were asked about residential detoxification services as well as participation in Alcoholics Anonymous.

Intervention

Brief CB intervention—The CB intervention is a manualized, tailored, brief, structured, one-on-one single session lasting 45–60 minutes and administered by phone from a PhD-level CBT-trained psychologist. The intervention targeted change in the beliefs that influence whether or not someone enters alcohol treatment. During the session, participants were given a brief introduction to cognitive-behavioral therapy (CBT) and informed that CBT is based on the theory that cognitions (i.e., thoughts/beliefs), feelings and behaviors all interact with each other (Beck, 1995; Yankura and Dryden, 1990). Therefore, thoughts about certain situations or things influence behavior. Since thoughts are modifiable, changing thoughts about situations may change behavior. During the intervention, participants were trained on the types of thinking styles that often predict behavior, as well as constructive versus destructive thinking. Constructive thoughts are often helpful and positive while destructive thoughts represent negative patterns. An example of a constructive thought may include “I can learn more about myself from talking to others” while an example of a destructive thought may include “Nothing will ever change so why bother even trying”. Categories of destructive thoughts were presented to participants including such thoughts as “all or nothing thinking” and “overgeneralization” and “mind reading”.

After the brief introduction to CBT, participants were asked to identify or elaborate on their thoughts about beginning alcohol treatment through a three-step process. During the three-step process, participants were asked about their stated beliefs, whether the belief was 100% true, whether there were any alternative beliefs, and whether anything could change the accuracy of the belief (how realistic is this belief). For example, if a participant indicated that he/she believed that going to alcohol treatment meant they couldn't handle their problems on their own, he/she was asked to estimate the accuracy of the belief (0–100% of the truth). He/she would be asked about other thoughts that come to mind in terms of handling problems completely on their own, what this would mean about them, and about the worst thing that could happen if they did ask for help. After participants discuss each elicited thought in more depth, they are asked to dispute these thoughts. For example, a thought such as “My problem isn't bad enough to seek alcohol treatment” might be altered to “It might be better to seek some guidance before this becomes too big of a problem” or “It is difficult to admit that this has gotten to be a problem in my life recently”. A maximum of three beliefs were discussed in this manner during the session. Beliefs discussed during the session were mutually agreed upon by the participant and interventionist, although they were chosen by the participant in response to which thoughts they believed were most influential in their treatment-seeking behavior.

All participants in the CB intervention were administered the same structured intervention; however, content discussed within the session differed for each participant based on their responses and thoughts surrounding the beliefs discussed within the session. While participants frequently endorsed similar beliefs (e.g., Going to treatment means that I can't

handle my problems on my own), their belief system surrounding that belief discussed in the session differed. Therefore, while the intervention was structured, it was not scripted.

Data Analysis

All data was processed and managed using SPSS Version 17.0. Descriptive statistics describe the sample in terms of demographic and diagnostic characteristics. Hypotheses were tested using two-tailed tests of significance with an alpha of .05. An alpha level of .05 was used to assess the significance of the change in beliefs. Pre-post differences on beliefs and the intention to attend alcohol treatment were assessed using paired t-tests. Logistic regression was used to determine whether the intervention increased the odds of seeking alcohol treatment. Independent variables included demographic information such as travel distance, insurance status and readiness to change.

Results

Table 1 presents characteristics of the sample in the two groups. Participants ranged in age from 19 to 81 with a mean age of 40.1 years. The intervention sample contained more Caucasians than the control sample. The majority of participants had some form of insurance, and lived within 30 minutes of their primary care physician. The mean AUDIT score of both groups was 26 suggesting that the sample was impaired and individuals were in need of addiction treatment. The intervention sample was more likely to indicate they had also been prescribed a psychotropic medication (31% versus 22%). Follow-up data was completed on 88% of the control group and 81% of the intervention group.

The majority of participants reported that they were in the “action” phase of readiness to change (72%; corresponding to 79% of the intervention group and 66% of the control group). The remaining scored primarily in the pre-contemplation category with only 3% of the sample falling in the contemplation category and none in maintenance. This would make sense considering that they had to be treatment naïve in order to be eligible for this study.

Changes in beliefs and the intention to enter alcohol treatment

Participants receiving the intervention had improved attitudes toward treatment ($t(95) = -3.23, p < 0.002$), had higher perceived behavioral control over seeking treatment ($t(96) = -3.51, p < 0.001$), and increased their intention to seek alcohol treatment ($t(94) = 4.8, p < 0.000$) post-intervention. No differences were found in participants' subjective norms. Participants in the control group had significantly higher intention ($t(98) = 2.05, p < 0.043$) post-intervention, but did not improve their attitudes, subjective norms, or perceived behavioral control scores regarding treatment.

Between-group differences on the subscales were also found post-intervention. Intervention participants had significantly higher intention scores ($p < 0.036$) and perceived behavioral control ($p < 0.005$) scores post-intervention than control participants (see Table 2).

Treatment entry post-intervention

Participants receiving the intervention were three times more likely to enter treatment than participants in the control group at the three-month follow-up ($OR = 3.14, p < 0.005$). Only 12% of participants in the control group sought treatment within that three-month time frame versus 31% of intervention participants. The odds of seeking treatment remained almost three times as high even when readiness to change scores, insurance status, and distance to care were entered into the regression model (see Table 3).

Type of treatment received post-intervention

The majority of participants that entered treatment, entered outpatient treatment (see Table 4). Only 11 participants in the control group entered treatment in the three months subsequent to participation. Of these, the majority entered outpatient treatment with visits ranging from 2–50. Additionally 13 participants in the control group went to Alcoholics Anonymous (AA) meetings during the follow-up period.

Twenty five participants in the intervention group entered treatment, with the majority of these seeking outpatient treatment ranging in visits from 1–27. Two intervention participants entered inpatient treatment, and one participated in methadone maintenance. Additionally, seventeen intervention participants went to AA meetings.

Themes discussed during intervention sessions

The most commonly discussed theme during intervention sessions involved the idea of discomfort in treatment, including both physical and psychological discomfort. For example, participants discussed the fear of dying from withdrawal, the discomfort involved in trusting someone else therapeutically, the discomfort of being around others, and the fear of old traumas emerging during treatment.

Other commonly held beliefs discussed during intervention sessions involved the idea that they didn't believe they need help or had a problem with alcohol (i.e., "I like drinking too much"). Participants also believed that they could control the problem on their own and had fears about admitting that they had a problem with alcohol (i.e., "Everyone would be surprised to learn that I had a drinking problem").

Conclusions

Summary of findings

The findings from this randomized controlled trial suggest that a brief, cognitive-behavioral intervention delivered by phone holds promise for increasing addiction treatment-seeking, even among individuals who have resisted treatment. Participants receiving the intervention were three times more likely to report entering treatment at the three-month follow-up than participants receiving the control. Further, participants receiving the intervention reported more perceived control over treatment-seeking and increased their intention to seek treatment post-intervention. These results remained even when *a priori* factors such as readiness to change were accounted for in the analysis.

Participants included in this study were those who had high levels of alcohol dependence and had been resisting treatment despite numerous consequences to their lives according to their AUDIT scores and statements made during interventions. Rates of treatment entry were low for both groups at the three-month follow-up although participants in the intervention group were significantly more likely to attend at the follow-up. We conservatively estimated engagement data on the overall sample, and assumed that individuals lost to follow-up in both groups were not in treatment. Had we reported engagement data on only those who completed the follow-up, treatment entry rates would be higher in both groups. Furthermore, the odds ratio of the intervention group would be even higher.

Although not an objective of this study, participants who received the intervention may adhere to treatment longer than individuals who did not receive the intervention but also initiated treatment. This was the pattern in this trial with one exception. The individual who reported the highest number of outpatient visits (50) was in the control group, which raised the overall mean visits for the control group substantially. Adherence to treatment is likely

to be influenced by preconceived expectations of what will occur in treatment, including the discomfort many anticipate. Intervention participants in this trial frequently reported fears about the discomfort involved in treatment. While this cognitive barrier (i.e., “I can’t go to treatment because I will be too uncomfortable trusting others”) prevents many from seeking treatment, the opportunity to explore this barrier with a trained interventionist prior to treatment may be the difference between deciding to go or not. This discussion may also influence whether one stays in treatment or not.

Limitations

This study was limited in our measurement of treatment attendance and substance use outcomes for study participants. Measures of substance use relied exclusively on self-report. Also we did not explore the impact of actual barriers, such as cost of treatment. We focused instead on the perceptions of these barriers. While these actual barriers are important in the decision to seek addiction treatment, they were not widely endorsed as beliefs about treatment. Future research should monitor actual treatment attendance (versus report of treatment attendance), have a wider range of CBT interventionists and monitor adherence and competence in delivering the intervention, and attempt to obtain a sample in other settings (e.g. medical, workplace, academic, etc) or media (e.g. television; Facebook). An alternative comparison intervention could be a brief motivational intervention, such as Motivational Interviewing or Motivational Enhancement Therapy. Although MI or MET are designed for delivery to persons who have already presented in the treatment setting. Future trials may also want to take into consideration covariates (such as race and medication prescription) that may influence treatment seeking. The value of the intervention presented in this study may be its utility for persons several steps back in the decision-making process—those who have not even entered the treatment setting.

Future research

Future research should explore the impact of the intervention on individuals with other drug use disorders and co-morbid conditions, such as mood disorders and posttraumatic stress disorder. Studies with larger and more diverse populations and under different circumstances (e.g. mandated populations; military personnel) are also needed. In addition to treatment access, investigating the impact of a brief intervention on substance use may also be warranted. Nonetheless, the findings from this research offer a behavioral intervention option for persons who have otherwise not sought treatment despite having significant problems with substance use. This intervention holds promise for improving access to care for those who need it.

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Table 1

Characteristics of the Sample (N=198)

		Control (n=99)	Intervention (n=99)	P
Age (mean)		38.5 (19–76)	41.5 (19–81)	0.26
Gender	Male	58%	51%	0.10
	Female	41%	49%	
Race/Ethnicity	African Am.	17%	6%	0.01
	Asian	1%	0%	
	Caucasian	68%	86%	
	Native Am.	0%	3%	
	Latino/a	10%	5%	
	Other	12%	4%	
Health Insurance	Private	51%	53%	0.83
	Uninsured	28%	27%	
	Medicare/caid	12%	11%	
Travel Distance to Provider	0–30 mins	65%	65%	0.56
	31–60 mins	13%	7%	
	60+ mins	2%	5%	
	No Provider	16%	17%	
Mean Audit Score		26.1 (16–39)	25.6 (16–39)	0.23
On psychotropic medication		22%	31%	0.01
Follow-up conducted		88%	81%	0.11

Table 2

Between-group differences post-intervention on the intention to seek treatment

	Control		Intervention		t	P
	Mean	SD	Mean	SD		
Scales of iMPASse						
Attitude	5.64	1.4	5.87	1.1	-1.13	0.262
Subjective Norm	5.85	1.3	5.62	1.4	1.03	0.305
Perceived Behavioral Control	5.40	1.4	5.98	1.0	-2.88	0.005
Intention	4.15	1.8	3.50	2.1	2.11	0.036

Table 3

Logistic regression predicting treatment engagement

Predictor Variables	Wald	p	OR
Group (Intv vs.Control)	5.027	0.025	2.597
Insurance	2.953	0.086	2.743
RCQ Status	1.232	0.267	1.844
Travel Distance	0.595	0.440	1.430

Table 4

Treatment visit data

		Control	Intervention
Entered Treatment		11 (12%)	25 (31%)
Program Type of Maintenance	Detox	1	1
	Outpatient	7	19
	Inpatient	0	2
	Methadone	0	1
Outpatient Visits (mean)		11 (2–50)	6.8 (1–27)
Inpatient Days (mean)		0	52 (30–74)
Alcoholics Anonymous		13 (13%)	17 (18%)