Published in final edited form as:

J Psychosoc Nurs Ment Health Serv. 2008 September ; 46(9): 46–53.

Web Based Treatment of Alcohol Problems Among Rural Women: Results of a Randomized Pilot Investigation

Deborah Finfgeld-Connett, PhD, PMHCNS-BC [Associate Professor] and
S321 Sinclair School of Nursing; University of Missouri Columbia, Missouri, USA, 65211
finfgeldD@missouri.edu

Richard Madsen, PhD [Professor (Emeritus)]
Department of Statistics; University of Missouri Columbia, Missouri, USA

Abstract

It is estimated that six million women in the United States misuse alcohol. Of that number, many live in rural areas and face numerous barriers to treatment. The world wide web has the potential to overcome these barriers. In light of emergent findings supporting the effectiveness of online alcohol treatment services for women, a randomized pilot study was conducted to evaluate a web based self-guided alcohol treatment program. Eligible women were randomized to standard care or an online treatment program. Web based treatment components included gender-specific reference modules and decision-making modules, an asynchronous bulletin board, and a synchronous chat feature. The average age of the participants ($N = 44$) was 50 ($SD = 11$), and their baseline AUDIT score was 18 ($SD = 6$), with 8 being the cutoff for problem drinking. At 3-month follow-up, both treatment groups decreased their drinking, however, there were no significant differences between them.

INTRODUCTION

Women with substance abuse problems have traditionally been an underserved segment of society (Westermeyer & Boedicker, 2000), and those in rural areas face an increased number of treatment barriers. Due to local economics, alcohol treatment programs are difficult to support in remote locations, and specialized programs for women are generally not available. Many health care plans only support treatment in programs that are distant from the women needing them, and women from rural communities may not have access to reliable transportation (Finfgeld, 2002).

It is also highly likely that health care providers in rural locations have not been trained to deal with the unique needs of women, and lay-led support groups are usually oriented towards the needs of men. Rural communities are thought to offer less privacy than urban areas, and women who misuse alcohol in these locations are more highly stigmatized than men. Even when treatment options exist, women in rural locations may be reluctant to pursue them due to community norms that support patriarchal mindsets. (Finfgeld, 2002).

BACKGROUND

Within the United States, six million women are estimated to misuse alcohol (National Center on Addiction and Substance Abuse at Columbia University, 2006). Among non-pregnant women, approximately 23.3% admit to binge drinking, and 6.4% are thought to have substance abuse or dependence problems (Substance Abuse and Mental Health Services Administration [SAMHSA], 2006). Of those who are pregnant, 12.1% are estimated to drink alcohol, and 3.9% binge (SAMHSA, 2006). These rates of misuse are similar across geographic locations

(SAMHSA, 2007), and the world wide web (web) may offer women in rural locations a treatment delivery option.

The web is quickly becoming a major source of health information, especially for women. Sixty-six percent of adult women currently use the web, and 74% of those have searched the Internet for health or medical related information. Twenty-six percent have specifically looked for information about mental health issues, and 9% have relied on the web for insight into alcohol or drug problems (Fallows, 2005). Research evidence suggests that women, in particular, favor online alcohol treatment services over more traditional options (Cunningham, Humphreys, Kypri, & van Mierlo, 2006; Huang & Lieberman, 2006; Koski-Jännes, Cunningham, Tolonen, & Bothas, 2007; Linke, Murray, Butler, & Wallace, 2007).

Results from a randomized controlled study in the Netherlands support the potential usefulness of online alcohol treatment programs. Self-referred men and women from the general population (N = 261) were randomized to a web-based self-help intervention or an online psychoeducational brochure (i.e., control condition). The experimental intervention offered web-based information relating to goal setting, changing behaviors, maintaining change, and avoiding relapse. A peer-to-peer discussion forum was also available. At six month follow-up, 17.2% of subjects in the experimental group were drinking within normative limits compared 5.4% in the control group (Riper et al., 2007).

Early results from several other online alcohol treatment programs suggest that individuals benefit from web based treatment at 3-month follow-up (Cunningham et al., 2006; Koski-Jännes et al., 2007; Matano et al., 2007). Limited inferences can be drawn from these results, however, since standard care or no-treatment control groups were not part of the study designs.

Based on the apparent need for treatment options that are specifically developed for women in rural areas, and emergent findings supporting the effectiveness of online services, the primary aim of this randomized pilot investigation was to evaluate the effectiveness of a web based self-guided treatment program for women with problem drinking habits who live in rural areas of Missouri.

METHODS

Recruitment and Sample Selection

Women living in Missouri counties that are classified as 25 to 100% rural by the United States Census Bureau (USCB) (2000) were eligible to participate in this study. Using these parameters, subjects were recruited from 104 out of 114 counties. In addition, one densely populated independent city was excluded from the sampling pool.

To participate, individuals were required to have access to an up-to-date computer system that they currently used to connect to the web. In keeping with National Institute on Alcohol Abuse and Alcoholism (2005) guidelines for problem drinking, women 18 years of age or older qualified to enroll if they had maintained a drinking pattern of more than 3 drinks per day or 7 drinks per week for at least a year. Participants were excluded if they were participating in any alcohol abuse treatment program, had severe alcohol withdrawal symptoms in the past (e.g., hallucinations or seizures), felt suicidal, or were currently abusing prescription or illegal drugs. This program was not designed to treat those problems.

Two high-intensity recruitment campaigns were carried out between January 2006 and February 2007. Participants were recruited primarily via newspaper and radio advertising. Interested individuals contacted the researcher by telephone, and they were screened to determine their enrollment eligibility. Women who met the inclusion criteria were randomized

to standard or web based treatment. For ethical reasons, a no-treatment control or waitlist group was not used.

In adherence with Institutional Review Board guidelines, all qualified individuals were sent two hardcopy consent forms (1 to retain, and 1 to sign and return) via ground mail. Upon return receipt of their signed consent forms, web based participants received a letter that provided instructions for accessing the secure treatment website. Follow-up e-mail reminders were sent to individuals who did not access the website within a few days after receiving their letters.

With the exception of one assessment instrument that was not compatible with the software selected for this project, web based participants completed all baseline assessments on the treatment website. Participants did not have access to the treatment components of the website until after they had submitted their baseline data. Women in the standard care group completed baseline assessment instruments in hard-copy format.

Intervention

Treatment components were developed based on the harm reduction paradigm (Marlatt, 1998), self-efficacy theory (Bandura, 1997), the Transtheoretical Model of Change (DiClemente, 2003), motivational interviewing (Miller, 1999), and cognitive behavioral skills therapy (Kadden et al. 1995; Monti, Abrams, Kadden, & Cooney, 1989). The research model used to conduct this investigation is illustrated in Figure 1.

The treatment components were delivered within WebCT software and consisted of 8 reference modules and 15 decision-making modules (see Table 1). Women in the standard care group were mailed the same treatment materials in a 48-page bound treatment booklet along with instructions for contacting the researcher by telephone if they had questions. In keeping with the harm reduction perspective (Marlatt, 1998) and the Transtheoretical Model of Change (DiClemente, 2003), participants were encouraged to freely explore the treatment materials.

Web based participants had access to an asynchronous bulletin board and a synchronous chat feature, both of which they could use to interact with the researcher and other participants. In addition, they were able to send private messages to the researcher and other enrollees. An expanded discussion of these communication features can be found elsewhere (Finfgeld-Connett, in press). Participants in the standard care condition, could not interact with other participants, however, they were encouraged to contact the researcher by telephone when they had questions.

Hardcopy follow-up assessment instruments were mailed 90 days after participants accessed the treatment website or received their materials by mail. These mailings included a list of active treatment websites and suggestions for finding help locally in case anyone felt a need for ongoing assistance. Web based participants were not asked to complete follow-up assessments online due to limited use of the website near the end of the treatment period. Participants were compensated \$10 when their follow-up assessments were returned. Additional information relating to recruitment, sample selection, and treatment components are available elsewhere (Finfgeld-Connett, in press).

Instruments

Baseline—Demographic information was collected using an instrument that was patterned after the Addiction Severity Index (ASI) (Allen & Columbus, 1995). The ASI was adapted for use among individuals with alcohol problems versus polydrug problems and in non face-to-face settings.

The Readiness to Change Questionnaire (RTCQ) (Rollnick, Heather, Gold, & Hall, 1992) was used to assess readiness to change problem drinking habits. The RTCQ measures the precontemplation, contemplation, and action stages of change. Low self-efficacy is associated with earlier stages of change, and higher self-efficacy is associated with later stages (Joseph, Breslin, & Skinner, 1999). Among individuals with low levels of alcohol dependence who are not seeking formal treatment, the RTCQ has been demonstrated to have good psychometric properties (Heather, Rollnick, & Bell, 1993; Rollnick et al., 1992).

Three instruments were used to assess baseline alcohol problems. The 39-item Situational Confidence Questionnaire (SCQ-39) (Annis, 1987) measures self-efficacy to resist heavy drinking in alcohol-related situations and is used to evaluate changes over the course of treatment. Paper-and-pencil and computerized versions have demonstrated good reliability and validity (Annis & Graham, 1988).

The ten-question Alcohol Use Disorders Identification Test (AUDIT) (Saunders, Aasland, Babor, de la Fuente, & Grant, 1993) is designed to provide an estimate of drinking problem severity (Bohn, Babor, & Kranzler, 1995). This instrument has been demonstrated to avoid cultural biases (Seppa, Makela, & Sillanaukee, 1995) and correlates well with generally accepted alcohol screening tests, biochemical markers, hypothetical vulnerability factors, alcohol problem severity measures, and drinking attitudes (Bohn et al., 1995). The AUDIT has also been shown to correlate well with mean weekly alcohol consumption (Seppa et al., 1995).

Finally, the Timeline Followback (TLFB) (Sobell & Sobell, 1992) was used to assess drinking for the previous 90 days. Participants were presented with a calendar and memory aids to assist them in providing retrospective estimates of daily drinking. The TLFB has been extensively evaluated among diverse populations, and it has been shown to have good psychometric properties. Studies demonstrate high correlations between subject and collateral reports of key information, and concurrent validity has been demonstrated when compared with established measures of alcohol-related disabilities (Sobell, & Sobell, 1992).

Follow-up—Follow-up data was collected 3 months after entry into the treatment program. Participants were asked to record their drinking for the past 30 days using the TLFB (Sobell, & Sobell, 1992). They were also asked to complete the SCQ-39 (Annis, 1987) and a researcher-designed satisfaction questionnaire.

Data analysis—Simple descriptive statistics were used to analyze demographic data. Since the data were not normally distributed, primary analyses were carried out using non-parametric methods. Spearman's rank correlation was used as a measure of association. The Wilcoxon rank sum test was selected to compare the treatment and standard care groups, and the Wilcoxon signed rank test was used to look at changes within individuals pre- and post-treatment. Since group differences in the amount of change pre- and post-intervention were not significant, treatment assignments were ignored, and the groups were combined to test significance over time. Outcome drinking was analyzed using three measures: mean percentage of drinking days, mean number of drinks per drinking day, and overall mean number of drinks per day.

FINDINGS

Enrollment, Baseline Demographics, and Attrition

Recruitment efforts led to the identification of 67 women who met the study inclusion criteria and were randomized to the web condition (n = 34) or standard treatment (n = 33). Forty-four women (20 web based; 24 standard care) returned their signed consent forms, completed all baseline assessment instruments, and gained full access to treatment. In a few instances,

participants did not complete all of the assessment instruments and total numbers do not add to 44.

Participants averaged 50 (SD = 11) years of age. In keeping with the demographic composition of rural Missouri, all of the women were White and of non Hispanic or Latino descent. In terms of problem severity, the average AUDIT score was 18 (SD = 6) (instrument range 0-40), with 8 being the cutoff for problem drinking. This score did not significantly differ between groups. Additional demographic information can be found in Table 2.

Predictors of Change

Several variables were analyzed to determine their potential to predict changes in drinking. As measured by the AUDIT, problem severity was not a significant predictor of change ($p > 0.12$), nor was self-efficacy ($p > 0.51$). Participants' satisfaction with their group assignment to web based treatment or standard care was also not a predictor of change ($p > 0.15$).

Before treatment, most consented respondents who completed the RTCQ ($n = 44$) were in the pre-contemplation ($n = 12$; 27%) or contemplation ($n = 32$; 73%) stages of change. Since only 1 woman was in the action stage of change, the contemplation and action stages were collapsed. Using the Wilcoxon rank sum test, readiness to change did not predict levels of drinking over time ($p > 0.16$).

Treatment Outcomes

Twenty-nine participants (13 web based; 16 standard care) (66%) returned 3-month follow-up data. The mean change in self-efficacy pre- to post-treatment was positive, (9.9, SD = 18), but it was not significantly different between the web and standard care groups ($p > 0.24$). Although mean levels of drinking were reduced in both the web based (mean percentage of drinking days -0.18; mean drinks per drinking day -1.5; mean number of drinks per day -1.5) and standard care groups (mean percent of drinking days -0.060; mean drinks per drinking day -1.5; mean number of drinks per day -1.0), there were no significant differences between the groups ($p > 0.14$).

DISCUSSION

In summary, there were no significant differences between the web and standard care groups pre-treatment, and significant predictors of change were not identified. Although there were positive changes in self-efficacy pre- to post-treatment, a significant difference between the groups was not detected.

The web based and standard care treatment groups both demonstrated improved drinking post-treatment. That said, there were no significant differences between the groups based on mean percentage of days drinking, mean drinks per drinking day, and overall mean number of drinks per day.

The findings suggest that web based treatment for middle-aged women in rural areas is as effective in reducing problem drinking as a more traditional treatment approach. The fact that the participants were 50 years of age on average deserves attention, particularly in light of the recent popularity of web based alcohol treatment programs for college-aged individuals (e.g., Bersamin, Paschall, Fearnow-Kenney, & Wyrick, 2007; Saitz, et., 2007; Walters, Vader, & Harris, 2007). Although college students may be more computer savvy, middle-aged women might find the privacy and ease of accessing the web quite appealing.

Given the potential that the web has to increase access to alcohol treatment, this delivery system deserves further investigation (Cunningham et al., 2006; Koski-Jännes et al., 2007). In

particular, its effectiveness among community based women and men in urban populations and community based men in rural areas needs to be evaluated. In conjunction with substantiating its treatment efficacy, the cost effectiveness of web based treatment delivery also needs to be examined. Except for the researchers' time and the cost of a desktop computer, the expense of offering this treatment program was minimal. The server and WebCT software that were needed to run the program were free for use through the University's educational technology services unit.

The fact that only one participant was in the action stage of change at baseline and the rest were in the pre-contemplation or contemplation stages of change is noteworthy. This finding suggests that easily accessible web based treatment options have the potential to move individuals with mild to moderate drinking problems from the preliminary stages of change to the action stage, presumably at a relatively low cost.

Limitations

In keeping with the nature of a pilot investigation, the sample size was small. To increase generalizability, larger-scale randomized investigations are needed. Consideration should also be given to cautiously expanding enrollment to individuals with a history of more severe drinking problems and those who might benefit from online services following acute in- or out-patient treatment.

Findings from this study are limited due to reliance on self-report data. That said, the anonymity provided by this web based treatment program should have offset inclinations to under-report drinking. In addition, participants were volunteers, and they did not have legal or other underlying mandates that may have biased their self-report data.

The 3-month follow-up period that was used in this investigation was relatively short, and it is unknown whether changes in drinking were maintained for longer periods of time. In the future, researchers are urged to follow participants for longer periods post-treatment.

Despite a short follow-up period, the attrition rate was less than ideal (34%). Researchers suggest, however, that relatively high dropout rates may be the norm for web based treatment programs due to the ease involved in enrolling and withdrawing (Eysenbach, 2005; Saitz et al., 2007). Moreover, given the barriers to accessibility that could be overcome and the large number of individuals that might benefit from low-cost online treatment options; the potential value of such programs remains high (Link et al., 2007). For many mild to moderate problems drinkers, web based treatment may be the only easily accessible option available.

In regard to future investigations, the study design could be improved by insuring that participants are blinded to the treatment and standard care conditions. This could be accomplished by referring interested individuals to a website where they could read about the study, consent to participate, and submit information to verify their eligibility. Once eligibility was confirmed and consent was secured, enrollees in the experimental condition could be electronically directed to the treatment portion of the website. Those in the standard care group would receive a message indicating that their treatment materials were being delivered via ground mail.

Summary

Web based alcohol treatment that is designed for middle-aged rural women who have mild to moderate alcohol problems appears to work as well as a more traditional treatment delivery method. Given the apparent low cost and ease of accessing web based treatment, a large scale

randomized trial is needed to substantiate these findings. Studies involving community based men and individuals from urban areas should also be high priorities.

Acknowledgements

The investigation described was supported by grant number 1R15NR009198-01A1 from the National Institute of Nursing Research. The content is solely the responsibility of the authors and does not necessarily represent the official views of the National Institute of Nursing Research or the National Institutes of Health.

References

- Allen, JP.; Columbus, M. Assessing alcohol problems: A guide for clinicians and researchers. National Institute on Alcohol Abuse and Alcoholism; Bethesda: 1995. NIH Publication No. 95-3745
- Annis, HM. Situational Confidence Questionnaire (SCQ-39). Addictions Research Foundation; Toronto: 1987.
- Annis, HM.; Graham, JM. Situational Confidence Questionnaire (SCQ-39) user's guide. Addictions Research Foundation; Toronto: 1988.
- Finfgeld DL. Alcohol treatment for women in rural areas. *Journal of the American Psychiatric Nurses Association* 2002;8:37–43.
- Finfgeld-Connett D. Web-based treatment for rural women with alcohol problems: Preliminary findings. *CIN: Computers, Informatics, Nursing*. in press
- Bandura, A. Self-efficacy: The exercise of control. W. H. Freeman; New York: 1997.
- Bersamin M, Paschall MJ, Fearnow-Kenney M, Wyrick D. Effectiveness of a web-based alcohol-misuse and harm-prevention course among high- and low-risk students. *Journal of American College Health* 2007;55:247–254. [PubMed: 17319331]
- Bohn MJ, Babor TF, Kranzler HR. The Alcohol Use Disorders Identification Test (AUDIT): Validation of a screening instrument for use in medical settings. *Journal of Studies on Alcohol* 1995;56:423–432. [PubMed: 7674678]
- Cunningham, JA.; Humphreys, K.; Kypri, K.; van Mierlo, T. Formative evaluation and three-month follow-up of an online personalized assessment feedback intervention for problem drinkers; *Journal of Medical Internet Research*. 2006. p. e5 Retrieved August 17, 2007, from <http://www.jmir.org/2006/2/e5>
- DiClemente, CC. *Addiction and change: How addictions develop and addicted people recover*. Guilford; New York: 2003.
- Eysenbach, G. The law of attrition; *Journal of Medical Internet Research*. 2005. p. e11 Retrieved September 14, 2006, from <http://www.jmir.org/2005/1/e11/>
- Fallows, D. How women and men use the Internet. Pew Internet & American Life Project. 2005. Retrieved June 14, 2007, from http://www.pewinternet.org/pdfs/PIP_Women_and_Men_online.pdf
- Finfgeld DL. Alcohol treatment for women in rural areas. *Journal of American Psychiatric Nurses Association* 2002;8:37–43.
- Finfgeld-Connett D. Web-based treatment for rural women with alcohol problems: Preliminary findings. *Computers, Informatics, Nursing*. in press
- Heather N, Rollnick S, Bell A. Predictive validity of the Readiness to Change Questionnaire. *Addiction* 1993;88:1667–1677. [PubMed: 8130706]
- Huang SW, Lieberman DZ. Comparison of alcohol abusers who seek traditional versus those who use an online program. *American Medical Informatics Association Annual Symposium Proceedings* 2006:956.
- Joseph, J.; Breslin, C.; Skinner, H. Critical perspectives on the transtheoretical model and stages of change. In: Tucker, JA.; Donovan, DM.; Marlatt, GA., editors. *Changing addictive behavior: Bridging clinical and public health strategies*. Guilford; New York: 1999. p. 160-190.
- Kadden, R.; Carroll, K.; Donovan, D.; Cooney, N.; Monti, P.; Abrams, D., et al. *Cognitive-behavioral coping skills therapy manual: A clinical research guide for therapists treating individuals with alcohol abuse and dependence*. National Institute on Alcohol Abuse and Alcoholism; Rockville, MD: 1995. NIH Publication No. 94-3724

- Koski-Jännes A, Cunningham JA, Tolonen K, Bothas H. Internet-based self-assessment of drinking—3-month follow-up data. *Addictive Behaviors* 2007;32:533–542. [PubMed: 16822619]
- Linke, S.; Murray, E.; Butler, C.; Wallace, P. Internet-based interactive health intervention for the promotion of sensible drinking: Patterns of use and potential impact on members of the general public; *Journal of Medical Internet Research*. 2007. p. e10 Retrieved May 23, 2007, from <http://www.jmir.org/2007/2/e10>
- Marlatt, GA. Basic principles and strategies of harm reduction. In: Marlatt, GA., editor. *Harm reduction: Pragmatic strategies for managing high-risk behaviors*. Guilford; New York: 1998. p. 49-69.
- Matano RA, Koopman C, Wanat SF, Winzelberg AJ, Whitsell SD, Westrup D, et al. A pilot study of an interactive website in the workplace for reducing alcohol consumption. *Journal of Substance Abuse Treatment* 2007;32:71–80. [PubMed: 17175400]
- Miller, WR. Treatment Improvement Protocol (TIP). Substance Abuse and Mental Health Services Administration Center for Substance Abuse Treatment; Rockville, MD: 1999. Enhancing motivation for change in substance abuse treatment. Series 35 (DHHS Publication No. (SMA) 99-3354) Retrieved September 28, 2007, from the World Wide Web: <http://www.ncbi.nlm.nih.gov/books/bv.fcgi?rid=hstat5.chapter.61302>
- Monti, PM.; Abrams, DB.; Kadden, RM.; Cooney, NL. Treating alcohol dependence: A coping skills training guide. Guilford; New York: 1989.
- National Center on Addiction and Substance Abuse at Columbia University. *Women under the influence*. Johns Hopkins University; Baltimore: 2006.
- National Institute on Alcohol Abuse and Alcoholism. Helping patients who drink too much: A clinician's guide. 2005. NIH Publication No. 07-3769 Retrieved July 17, 2007, from <http://pubs.niaaa.nih.gov/publications/Practitioner/CliniciansGuide2005/guide.pdf>
- Riper H, Kramer J, Smit F, Conijn B, Schippers G, Cuijpers P. Web-based self-help for problem drinkers: A pragmatic randomized trial. *Addiction* 2007;103:218–227. [PubMed: 18199300]
- Rollnick S, Heather N, Gold R, Hall W. Development of a short 'readiness to change' questionnaire for use in brief, opportunistic interventions among excessive drinkers. *British Journal of Addiction* 1992;87:743–754. [PubMed: 1591525]
- Saitz R, Palfai TP, Freedner N, Winter MR, MacDonald A, Lu J, et al. Screening and brief intervention online for college students: The iHealth study. *Alcohol & Alcoholism* 2007;42:28–36. [PubMed: 17130139]
- Saunders JB, Aasland OG, Babor TF, de la Fuente JR, Grant M. Development of the Alcohol Use Disorders Test (AUDIT). WHO collaborative project on early detection of persons with harmful alcohol consumption II. *Addiction* 1993;88:791–804. [PubMed: 8329970]
- Seppa K, Makela R, Sillanaukee P. Effectiveness of the Alcohol Use Disorders Identification Test in occupational health screenings. *Alcoholism: Clinical and Experimental Research* 1995;19:999–1003.
- Sobell, LC.; Sobell, MB. Timeline follow-back. In: Litten, R.; Allen, J., editors. *Measuring alcohol consumption: Psychosocial and biological methods*. Humana Press; Totowa, NJ: 1992. p. 41-72.
- Substance Abuse and Mental Health Services Administration. Results from the 2005 national survey on drug use and health: National findings. 2006. DHHS Publication No. (SMA) 06-4194 Retrieved December 6, 2006, from <http://oas.samhsa.gov/2k5/2k5results.pdf>
- Substance Abuse and Mental Health Services Administration. Results from the 2006 national survey on drug use and health: National findings. 2007. DHHS Publication No. (SMA) 07-4293 Retrieved April 29, 2008, from <http://oas.samhsa.gov/2k6/2k6results.pdf>
- United States Census Bureau. Data set: Census 2000 summary file 3. 2000. Retrieved October 15, 2005, from http://factfinder.census.gov/servlet/DatasetMainPageServlet?_lang=en&ts=202740144843&dsname=DEC2000SF3U&program=
- Walters ST, Vader AM, Harris TR. A controlled trial of web-based feedback for heavy drinking college students. *Prevention Science* 2007;8:83–88. [PubMed: 17136461]
- Westermeyer J, Boedicker AE. Course, severity, and treatment of substance abuse among women versus men. *American Journal of Drug and Alcohol Abuse* 2000;26:523–535. [PubMed: 11097190]

Figure 1.
Research Model

Table 1

Reference and Decision-making Modules

1.	Reference Modules
	1.1. Stages of Change
	1.2. Alcoholism or Alcohol Abuse?
	1.3. Alcohol Withdrawal
	1.4. Health Problems
	1.5. Fetal Alcohol Syndrome
	1.6. Safe Drinking Guidelines
	1.7. Mixing Alcohol and Medications
	1.8. Useful Resources
2.	Decision-making Modules
	2.1. Why Change?
	2.2. Should I Moderate or Quit Drinking?
	2.3. Goal Setting
	2.4. How Do I Start?
	2.5. Ways to Start Cutting Back
	2.6. Slipups, Craving, and Triggers
	2.7. Managing Triggers
	2.8. Daily Alcohol Monitoring
	2.9. Turning Down a Drink
	2.10. Filling Time
	2.11. Should I Involve Others in My Change?
	2.12. Sleep Problems
	2.13. Dealing with Bad Moods
	2.14. Rewarding Yourself
	2.15. Balance

Table 2
Baseline Demographic Data of Consented Respondents (N = 46)

Average age	50 (SD = 11)
Race/ethnicity	White, non Hispanic or Latino descent = 100%
Highest Level of Education	Did not complete high school = 2% High school diploma or GED = 17% Post high school education = 22% Post high school diploma or degree(s) = 59%
Marital status	Married = 67%
Previous Treatment	Support Group = 17% Inpatient = 6% Outpatient = 15%
Employment	Full or part-time = 76%
Annual household income	• Range: ≤ \$20,000-- ≥ \$125,000 • ≥ \$50,000 = 48%
Average AUDIT score	18 (SD = 6)