



# Attitudes and Preferences Towards Exercise Training in Individuals with Alcohol Use Disorders in a Residential Treatment Setting<sup>☆</sup>



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## ABSTRACT

**Purpose:** Alcohol use disorders (AUD) are a major public health concern due to their association with several acute and chronic health conditions. Exercise training offers a myriad of physical and mental health benefits, and may be a promising adjunct intervention for those in AUD treatment. The purpose of this study was to explore the possible role of exercise training as a treatment strategy by examining the attitudes, beliefs, and preferences of individuals entering residential AUD treatment.

**Methods:** Surveys were administered to eligible individuals with AUD within 2 days of intake to one of two residential treatment centers. The survey asked respondents about their attitudes, beliefs, and preferences towards exercise training as a part of their residential treatment.

**Results:** Respondents were in favor of receiving exercise counseling as part of their treatment (70.6%), in a face-to-face format (90.0%), and from an exercise counselor at the treatment center (55.5%). The top reported benefits included: improved health, feeling good about oneself, and feeling more confident. The most commonly reported barriers to exercise training included transportation issues, lack of motivation, knowledge, and proper equipment, and cost. **Conclusion:** Our study supports previous work in individuals with substance abuse disorders and suggests that exercise training would be widely accepted as a part of residential treatment for AUD. This study also identified several strategies that can be used to individualize exercise training programs to better meet the needs of AUD patients and maximize their participation in future interventions.

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## 1. Introduction

More than 87,000 deaths annually can be attributed to excessive alcohol use in the United States [Alcohol & public health: Alcohol-related disease impact (ARDI)], ranking excessive alcohol consumption as the 3rd leading lifestyle-related cause of death in the nation (Mokdad, Marks, Stroup, & Gerberding, 2004). In a recent survey by the National Survey on Drug Use and Health, an estimated 130.6 million Americans, 51.9% of respondents, reported that they were current drinkers (Results from the, 2010 national survey on drug use and health: Summary of national findings, 2010 national survey on drug use and health: Summary of national findings, 2011). Of these, 9% of U.S. adults (or approximately 13% of those who consume alcohol) meet the criteria for an alcohol-use disorder (AUD) as defined by the DSM-IV-TR (National Institute on Alcohol Abuse & Alcoholism, 2007). Alcohol abuse and dependence are associated

with essential hypertension, liver cirrhosis, chronic pancreatitis, and, to a certain extent, injuries and violence (Mannelli & Pae, 2007) and as such, represent a major public health concern. Associations also exist with mood, anxiety, and personality disorders (Hasin, Stinson, Ogburn, & Grant, 2007). Given these concerns, the development of efficacious treatment programs has received increasing attention over the previous two decades (Huebner & Kantor, 2011). In a review of 361 controlled trials, the strongest evidence for the treatment of AUD was found to be psychosocial approaches: brief interventions, social skills training, community reinforcement, behavior contracting, and case management (Miller & Wilbourne, 2002). Yet, as many as 70% of individuals ultimately relapse after psychosocial treatment (Finney, Hahn, & Moos, 1996). Pharmacotherapies, such as naltrexone, nalmefene and acamprosate, are also commonly used in conjunction with psychosocial approaches (Miller & Wilbourne, 2002). With pharmacotherapy, alone or combined with psychosocial treatment approaches, overall relapse rates remain high (60–90%) in the first year following treatment (Brownell, Marlatt, Lichtenstein, & Wilson, 1986; Hunt, Barnett, & Branch, 1971; Xie, McHugo, Fox, & Drake, 2005). Therefore, the development of new and innovative treatments for AUD is necessary to further decrease persistent relapse rates.

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Several researchers have suggested a possible role of exercise training as a treatment strategy for AUD, either on its own or in combination with other psychosocial or pharmacological interventions (Brown et al., 2009; Tkachuk & Martin, 1999; Ussher, Sampuran, Doshi, West, & Drummond, 2004). They point to the numerous potential public health benefits of exercise training, including the inverse association between physical fitness and cardiovascular disease, hypertension, stroke, type 2 diabetes, obesity, anxiety, and depression (ACSM's guidelines for exercise testing, prescription, 2010). Exercise training programs can be easily incorporated to augment current best practices, individualized to the needs of those receiving AUD treatment, and can be completed concurrently with other treatment therapies. Moreover, exercise has limited side effects and is not likely to interact with pharmacotherapy (Trivedi, Greer, Grannemann, Chambliss, & Jordan, 2006). Evidence suggests moderate intensity exercise provides short-term relief from acute alcohol urges (Ussher et al., 2004) and that with patients completing inpatient alcohol rehabilitation, those who participated in exercise training during their treatment demonstrated increased abstinence rates (Sinyor, Brown, Rostant, & Seraganian, 1982). Pilot work by Brown et al. (2009) demonstrated a positive effect of a 12-week lifestyle behavioral modification intervention in individuals seeking out-patient treatment for alcohol dependence. Other large clinical trials, examining exercise training in the treatment of other addictions, such as smoking cessation (Smits et al., 2012) and stimulant use (Trivedi et al., 2011), are also ongoing.

Prior to engaging in costly intervention trials for residential AUD populations, it may be advisable to investigate the attitudes, beliefs, and behaviors towards exercise training of individuals embarking on intensive residential AUD treatment. To date, only two studies have specifically examined these factors in related populations (Abrantes et al., 2011; Read et al., 2001). Together, these studies established that exercise training might be well accepted as a part of AUD treatment. However, these studies were conducted with individuals in outpatient treatment settings that provide a more limited contact setting and lack a structured environment that would be conducive to the implementation of an exercise training program to supplement their treatment. Additionally, evidence suggests that inpatient treatment programs are often the setting for individuals with more severe alcohol problems and/or cognitive impairments (Rychtarik et al., 2000). Therefore, much can be gained from a better understanding of the specific needs and preferences of individuals seeking AUD treatment in an inpatient setting. Thus, our objective was to add to the current body of literature by examining the exercise attitudes, beliefs, and preferences of individuals seeking treatment for AUD in a residential setting.

## 2. Materials and methods

Research assistants (RA) at two different residential treatment programs accessed the intake records at their respective residential treatment centers to track incoming clients to the program. All participants were recruited based on a DSM-IV-TR (American Psychiatric Association, 2000) diagnosis of alcohol dependence or abuse. Self-report surveys were then administered to eligible clients within 2 days of admission.

### 2.1. Setting

This study was completed with individuals in two different residential treatment programs in the United States. The facilities can serve a maximum of 28 and 36 clients at any one time with an average length of stay of 28 and 30 days, respectively. Common facilities offered at both centers include: cafeterias, group rooms, basic gym facilities, and outdoor patios and open spaces for leisure time. Patients are admitted to the residential treatment facilities based on levels of care needed with some admissions including individuals who were involuntarily committed to treatment to fulfill court orders and probation orders. Admission to the inpatient treatment facilities typically occurs after a

detoxification period lasting 24–48 hours, depending on the severity of the detoxification from alcohol and/or other substances. Patient treatment programs take place in minimally restrictive settings with a focus on stabilizing and preparing patients for ongoing treatment at lower levels of care. In general, the programs are limited to individuals who do not require a locked environment and who do not have physical, emotional, or psychiatric impairments requiring the availability of 24-hour medical staff. Substance abuse treatment programs are primarily conducted in group settings that meet for varying lengths of time throughout the entire day.

### 2.2. Participant recruitment

Patients at each site were recruited by an RA who tracked eligible clients via an internal admitting systems, such as an intranet tracking system for new intakes, which identifies clients on their date of admission, as well as their DSM-IV-TR diagnosis. Participants were eligible to participate in the study based on a DSM-IV-TR diagnosis of alcohol abuse or dependence. Clients who were pregnant, were unable to read or write English, had a current diagnosis of anorexia or bulimia nervosa, had bipolar disorder, had history of or current psychotic disorder, were suicidal or homicidal, or who had any significant physical disabilities or medical problems were excluded from the study. Once identified, patients were approached to participate in the study within 1–2 working days of their admission to the residential treatment program. The RA provided an overview of the study to assess the patient's interest in participating. Interested patients were then asked to provide their informed consent. All study documents and procedures were approved by the Institutional Review Board at the University of Miami.

### 2.3. Study survey

Once enrolled in the study, participants were asked to complete the study survey. Completion of the informed consent process and the survey took approximately 20–25 minutes. Participants received a \$10 gift card for their participation. Following is a description of the components of the survey that was administered to the study participants.

#### 2.3.1. Exercise attitudes, beliefs, and behaviors

A modified version of previously used questionnaires (Abrantes et al., 2011; Read et al., 2001) was adapted for use by the research team to assess individual attitudes, beliefs, and preferences towards exercise training. This self-report questionnaire included sections that assessed the following: willingness to participate in exercise programs, exercise preferences, as well as perceived benefits and barriers to exercising, and is influenced by the transtheoretical model where the pros and cons (or the benefits and barriers) to exercise training affect an individual's decisional balance in making behavioral choices (Marcus, Rakowski, & Rossi, 1992). The Godin Leisure-Time Exercise questionnaire was included as a part of the testing battery to provide a measure of leisure time physical activity [PA; (Godin & Shephard, 1985)]. According to recommended guidelines, the following cut points were used to categorize the PA scores: insufficiently active <14; moderately active 14–23; and active  $\geq 24$ .

#### 2.3.2. Assessment of substance use and depression

The Fagerström Test for Nicotine Dependence (FTND) was used to assess smoking status, including average number of cigarettes smoked daily, and provide a continuous measure of nicotine dependence (Heatherton, Kozlowski, Frecker, & Fagerstrom, 1991). The FTND is considered to be a standard instrument for measuring nicotine dependence as it has shown good internal consistency, a single dimension factor structure, and positive relationships with degree of nicotine intake. Average scores on this measure have ranged from 5 to 7 in nicotine dependent populations (Heatherton et al., 1991; Payne, Smith, McCracken, McSherry, & Antony, 1994). The Center for Epidemiological Studies of Depression Scale (CES-D) was used to assess depressive symptomatology

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