Available online at www.sciencedirect.com
SCIENCE DIRECT
Drug and Alcohol Dependence 84 (2006) 93–101
DRUG and ALCOHOL DEPENDENCE
www.elsevier.com/locate/drugalcdep

Predictors of engagement in continuing care following residential substance use disorder treatment

Alex H.S. Harris *, John D. McKellar, Rudolf H. Moos, Jeanne A. Schaefer, Ruth C. Cronkite

Center for Health Care Evaluation, VA Palo Alto Health Care System, CA, United States

Received 28 September 2005; received in revised form 5 December 2005; accepted 19 December 2005

Abstract

Background: Patients in intensive SUD programs who subsequently participate in continuing care for a longer interval have better outcomes than those who participate for a shorter interval. We sought to identify patient and program factors associated with duration of engagement in SUD continuing care after residential/inpatient treatment.

Methods: Patients ($n = 3032$) at 15 geographically diverse SUD residential treatment programs provided data on demographics, symptom patterns, recovery resources, and perceptions of treatment environment. We identified patient characteristics associated with the number of consecutive months of engagement in continuing care. We then consolidated and classified risk factors into an integrated model.

Results: Being African American, having more SUD and psychiatric symptoms, more resources for recovery, and perceiving the treatment staff as being supportive were associated with longer engagement in continuing care. African Americans' engagement in continuing care was 17% longer than Caucasians'. The positive effect of being African American was partially mediated by having taken actions toward changing use, and by the presence of psychotic symptoms.

Conclusion: These results extend previous research on the predictors of continuing care engagement after residential SUD programs. Clinicians can use information about characteristics that put patients at risk for shorter engagement in continuing care to target patients who might benefit from interventions to increase engagement in continuing care.

Keywords: Continuing care; Residential SUD treatment; Racial differences

1. Introduction

The U.S. Department of Veterans' Affairs (VA), U.S. Department of Defense, and American Psychiatric Association's clinical practice guidelines for the management of substance use disorders (SUD) recommend that, following intensive treatment episodes, SUD patients should participate in less intensive outpatient treatment, termed continuing care (American Psychiatric Association, 1995; Department of Veterans Affairs Office of Quality and Performance 2004). These guidelines are based on accumulating evidence that SUD patients in intensive treatment programs who subsequently participate in continuing care of longer duration are more likely to abstain from drugs and alcohol, have fewer substance use problems, and have lower arrest rates at 1-year follow-up than those who either do not obtain continuing care or who participate in such care for a shorter duration (e.g., Gilbert, 1988; Ito and Donovan, 1990; Walker et al., 1983; Peterson et al., 1994; McKay et al., 1996; Sannibale et al., 2003; Ouimette et al., 1998; Moos et al., 2001a; Ritsher et al., 2002a,b; Moos and Moos, 2003).

The purpose of continuing care is to solidify and maintain progress achieved within intensive treatment and to prevent relapse. Engaging patients in continuing care after intensive treatment is an important goal, but it is difficult to achieve. For example, in the VA Health Care System, less than 10% of SUD patients treated in inpatient and residential programs have a continuing care visit within 3 days of discharge, and less than 50% of SUD patients have two or more outpatient SUD visits within 30 days of discharge from intensive outpatient treatment (Harris et al., 2005). However, there is substantial variability within and between programs in terms of the success in achieving these goals, suggesting that both patient and program

* Corresponding author. Tel.: +1 650 493 5000x23423; fax: +1 650 617 2690.
E-mail address: Alexander.HarrisZ@va.gov (A.H.S. Harris).

0376-8716/$ – see front matter © 2006 Elsevier Ireland Ltd. All rights reserved.
doi:10.1016/j.drugalcdep.2005.12.010

factors are important determinants of engagement in continuing care.

The primary goal of the present study is to identify patient and program characteristics that predict length of engagement in continuing care. Knowing more about the patient factors associated with continuing care engagement can help clinicians target retention efforts to patients who need it most. Information about the program factors associated with continuing care engagement can help managers and clinicians identify potential programmatic improvements.

1.1. Previous research

Prior research on SUD patients' continuing care has focused on the association between engagement in or duration of continuing care and patient outcomes. As already noted, evidence from observational studies indicates that longer duration of continuing care is associated with a variety of desirable outcomes. However, far fewer studies have focused on identifying the factors that predict engagement in or duration of continuing care.

In a study of VA patients who completed a 4-week intensive outpatient SUD treatment program and expressed interest in formal aftercare, McKay et al. (1996) found that only remission from cocaine and alcohol dependence during intensive treatment and higher AIDS risk behavior scores significantly predicted more engagement in continuing care in the 3 months after treatment. Patients were offered two continuing care sessions per week and 84% attended at least one session and 60% attended two sessions in the final week of the first month after discharge. These rates of continuing care attendance, which are on the high end of the spectrum within the VA system, may be partially explained by the eligibility criterion that patients needed to be interested in participating in continuing care.

In a study of continuing care after alcohol detoxification, Castaneda et al. (1992) found that 43% of patients engaged in either inpatient or outpatient continuing care after discharge. Better education and employment history prior to admission were associated with initiation of continuing care; higher cognitive flexibility was associated with greater frequency of continuing care attendance. Also, longer inpatient stays predicted continuing care completion.

Schaefer et al. (2005) examined whether patient factors (demographics, SUD severity, treatment history, motivation) and treatment practices thought to increase continuing care engagement (e.g., coordination of care, maintaining contact with patients, connecting patient to community resources, continuity of treatment providers) predicted length of engagement in continuing care, as measured by the number of consecutive months following intensive treatment in which a patient had two or more SUD or psychiatric continuing care clinic visits and no inpatient SUD or psychiatric readmissions. Predictors of length of engagement in continuing care varied depending on whether the index treatment episode was in an outpatient or inpatient/residential setting. This is not surprising given that the transition from inpatient treatment to outpatient continuing care often involves a change of treatment staff, location, and less-than-perfect coordination between these branches of treatment. Also, patients who receive inpatient care may differ in important ways from those receiving outpatient care, such as on severity of SUDs.

For SUD patients treated in intensive outpatient settings, more motivation for treatment, lower Addition Severity Index (ASI) Alcohol scores at entry into treatment, more SUD and psychiatric visits in the preceding year, and successful completion of treatment predicted more consecutive months of engagement in continuing care. Among inpatients, only older age and more motivation for treatment predicted longer engagement in continuing care. One explanation offered as to why continuing care was more difficult to predict in the inpatient sample was that there may have been a lack of statistical power due to the smaller sample sizes, both in terms of numbers of patients and numbers of programs. Also, observations were more highly correlated within the inpatient compared to the outpatient programs (intraclass correlation = 0.15 versus 0.04), further reducing the effective patient-level sample size for inpatient programs (Raudenbush and Bryk, 2001).

Overall, these studies highlight the challenges both of engaging patients in continuing care after SUD treatment and of identifying patient and program characteristics associated with engagement in continuing care. Especially for patients in inpatient and residential SUD programs, where rates of engagement in continuing care are low, we know very little about the characteristics of patients and programs associated with continuing care engagement.

The primary aims of the present study were to identify patient and program factors linked to SUD continuing care after residential/inpatient treatment and to begin to develop an integrated model of continuing care engagement. Such a model developed from observational data cannot establish or confirm causal relations, but can generate hypotheses about causal relationships that may be tested in randomized trials. In addition to re-examining many of the indexes previously shown to predict continuing care engagement, we examined patient factors such as race, coping, and social resources, and program factors such as treatment orientation and environment that have been relatively overlooked in previous research. We also had a specific interest in the influence of race on engagement in continuing care. Other studies have found differences between African Americans and Caucasians in the process and outcome of SUD treatment (e.g., Moos et al., 2001b); however, no research has examined racial differences in continuing care engagement.

Elaborating on Anderson's model of help seeking (Anderson and Newman, 1973, Andersen, 1995), we conceptualized candidate predictors in the following four categories: (a) predisposing characteristics, that is those existing prior to the onset of a disorder and influencing patients' propensities for service use (e.g., race, education), (b) need-related characteristics, such as disorder severity, (c) recovery resources and barriers, such as motivation for treatment, social support, and employment status, and (d) treatment characteristics, such as treatment orientation.