CLIENT CHARACTERISTICS AND TREATMENT RETENTION IN AN OUTPATIENT DRUG-FREE CHEMICAL DEPENDENCY PROGRAM

by

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ABSTRACT
CLIENT CHARACTERISTICS AND TREATMENT RETENTION IN AN OUTPATIENT DRUG-FREE CHEMICAL DEPENDENCY PROGRAM

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Substance abuse and dependence have detrimental effects at both micro and macro societal levels. Even so, these disorders appear to be amenable to treatment and persons who receive treatment for such problems generally achieve positive outcomes. However, reported substance abuse treatment dropout rates have varied greatly and no consistent "treatment dropout" profile has been detected. This study aimed to describe the characteristics of clients entering an intensive outpatient chemical dependency treatment program and to examine how these variables differed between clients who were retained in treatment to completion and clients who dropped out of treatment prematurely. Additionally, it explored whether meaningful subgroups of this sample could be identified. Results indicated that age, marital status, income, psychological comorbidity, substance(s) of use, and extent of substance use were related to treatment retention. Cluster analysis findings delineated four subgroups of clients based on age, negative consequences related to substance use, and ASI composite scores across medical, employment, alcohol and drug, legal, social, and psychiatric domains. Identified subgroups appeared to vary along two broad dimensions: degree of functional impairment and type(s) of substance use. Results are compared and contrasted with the existing substance abuse treatment literature. Study limitations are discussed, along with implications regarding theory building, assessment, and treatment interventions. Future investigations at the individual program level are recommended to guide the design, implementation, and evaluation of clinically-relevant and empirically-driven assessment procedures and treatment interventions to enhance substance abuse treatment retention and outcomes within a particular program.

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Definition of Substance Use Disorders

Substance use disorders have typically been defined as either symptom-based or diagnosis-based. Symptom-based conceptualizations focus on the types and severity of problems related to the use of a particular substance, while diagnosis-based descriptions are based on whether or not a person meets a specified set of criteria generally associated with the use of a particular substance (Sobell, Wagner, & Sobell, 2003). Practitioners and researchers have tended to utilize the diagnostic classification of substance use disorders to maintain consistency in their clinical nomenclature. This study will use the term substance use disorder when referring to one of the two categories of substance-related disorders delineated in the *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition, Text-Revision* (*DSM-IV-TR*): substance abuse and substance dependence (American Psychiatric Association, 2000).

The *DSM-IV* diagnostic criteria for substance abuse are:

> A. A maladaptive pattern of substance use leading to clinically significant impairment or distress, as manifested by one (or more) of the following, occurring within a 12 month period:
>
> (1) recurrent substance use resulting in a failure to fulfill major role obligations at work, school or home (e.g., repeated absences or poor work performance related to substance use; substance-related absences, suspensions, or expulsions from school; neglect of children or household)
> (2) recurrent substance use in situations in which it is physically hazardous (e.g., driving an automobile or operating a machine when impaired by substance use)
> (3) recurrent substance-related legal problems (e.g., arrests for substance-related disorderly conduct)
> (4) continued substance use despite having persistent or recurrent social or interpersonal problems caused or exacerbated by the effects of the

substance (e.g., arguments with spouse about consequences of intoxication, physical fights)

B. The symptoms have never met the criteria for Substance Dependence for this class of substance. (APA, 2000, p. 199)

The *DSM-IV* diagnostic criteria for substance dependence are:

A maladaptive pattern of substance use, leading to clinically significant impairment or distress, as manifested by three (or more) of the following, occurring at any time in the same 12-month period:

(1) tolerance, as defined by either of the following:

(a) a need for markedly increased amounts of the substance to achieve intoxication or desired effect

(b) markedly diminished effect with continued use of the same amount of the substance

(2) withdrawal, as manifested by either of the following:

(a) the characteristic withdrawal syndrome for the substance [For example, with alcohol withdrawal, two or more of the following symptoms are necessary: autonomic hyperactivity, increased hand tremor, insomnia, psychomotor agitation, anxiety, nausea or vomiting; and rarely, grand mal seizures or transient visual, tactile, or auditory hallucinations or illusions.]

(b) the same or closely related substance is taken to relieve or avoid withdrawal symptoms

(3) substance is often taken in larger amounts or over a longer period than intended

(4) there is persistent desire or unsuccessful efforts to cut down or control the substance use

(5) a great deal of time is spent in activities necessary to obtain the substance, use the substance, or recover from its effects

(6) important social, occupational, or recreational activities are given up or reduced because of substance use

(7) the substance use is continued despite knowledge of having a persistent or recurrent physical or psychological problem that is likely to have been caused or exacerbated by the substance (e.g., current cocaine use despite recognition of cocaine-induced depression, or continued drinking despite recognition that an ulcer was made worse by alcohol consumption). (APA, 2000, p. 197)

Prevalence of Substance Use Disorders

The annual National Survey on Drug Use and Health (NSDUH) is the primary source of statistical information on the use of alcohol and illicit drugs in the civilian, non-institutionalized population of the United States aged 12 years old or older (Substance

Abuse and Mental Health Services Administration [SAMHSA], 2007). The most recent NSDUH survey estimated that 22.6 million persons met criteria for a substance use disorder in the past year. Of these, 3.2 million were classified with dependence on or abuse of both alcohol and illicit drugs, 3.8 million were dependent on or abused illicit drugs but not alcohol, and 15.6 million were dependent on or abused alcohol but not illicit drugs. These estimates have remained relatively stable since 2002 (SAMHSA, 2007).

The Cost of Substance Use Disorders

Estimates of annual overall economic costs of substance abuse and dependence in the United States, including health- and crime-related costs as well as losses in productivity, approach approximately $185 billion for alcohol and $181 billion for illicit drugs (Harwood, 2000; Office of National Drug Policy, 2004). Detrimental societal consequences include, though are not limited to, the spread of infectious disease, deaths due to drug and alcohol use complications, effects of use on unborn children of pregnant substance users, child abuse and neglect, accidents, homelessness, diminished work productivity, and crime (Harwood, 2000; Office of National Drug Policy, 2004). Considering the extent of this burden, which permeates the lives of substance users, the family systems they are a part of, the communities they live in, the health care system, the criminal justice system, and the economy, substance use disorders are of great public concern (Fletcher, Tims, & Brown, 1997; Simpson, 1993).

The Value of Substance Abuse Treatment

An upside to this seemingly dim state of affairs is that substance abuse treatment evaluation studies conducted over the past 40 years have consistently found that treatment "works." In other words, when treatment is delivered to clients seeking services for substance use problems, alcohol and drug use decreases, engagement in crime is reduced, and other social functioning measures improve during and following treatment (Anton et al., 2006; Hubbard, Craddock, Flynn, Anderson, & Etheridge, 1997; Hubbard et al., 1989; Moyer & Finney, 2002; Project MATCH Research Group, 1998b; Simpson, 1993; Simpson & Sells, 1982; Weisner, Matzger, & Kaskutas, 2003). Furthermore, many of these studies and numerous others have reported a positive relationship between length of time spent in treatment and favorable outcomes, a finding that spans treatment modalities, programs, and treatment models (Hubbard et al., 1997; Hubbard et al., 1989; McLellan, Luborsky, Woody, O'Brien, & Duley, 1983; Moos & Moos, 2003; Simpson, 1981; Simpson & Sells, 1982).

Substance Abuse Treatment Dropout

At the same time, many clients do not remain in substance abuse treatment long enough to reap its benefits. Although the percentage of clients who do not complete substance abuse treatment due to dropout or expulsion varies widely and can be difficult to measure because treatment modalities have diverse treatment expectations, some general trends have been observed. Lower estimates of the dropout rates for inpatient alcohol and drug treatment programs are around 20%, while upper estimates can reach 70% (Rabinowitz & Marjefsky, 1998; Stark, 1992; Wickizer et al., 1994). Outpatient alcohol and drug treatments tend to fare much worse and often exhibit dropout rates exceeding 60% to 70% (Stark, 1992; Wickizer et al., 1994). Overall, approximately 50%

of clients involved in substance abuse treatment drop out within the first month (Stark, 1992). Despite these alarming statistics, they correspond to attrition rates in other health service sectors. In a meta-analysis of 125 studies on psychotherapy dropout, Wierzbicki and Pekarik (1993) found mean dropout rates of 47%. More recent studies conducted in mental health centers in various countries found dropout rates routinely fluctuate between 35% and 55% (Barkham et al., 2006; Berghofer, Schmidl, Rudas, Steiner, & Schmitz, 2002). Estimates for medical treatment are even higher with attrition rates ranging from 50% to 80% (Meichenbaum & Turk, 1987). Nevertheless, clients who drop out of treatment prematurely often incur high "front-end" costs due to the amount of program resources that need to be dedicated to initial assessments and the treatment planning process, and high attrition can reduce the operational efficiency and overall effectiveness of a treatment program (Simpson, Joe, et al., 1997, p. 280). In light of these observations, treatment retention has emerged as an important intermediate outcome measure in the study of substance abuse treatment (Chou, Hser, & Anglin, 1998).

Importance of Evaluating Substance Abuse Treatment Retention and Outcomes

The increased utilization of research methodologies, assessment procedures, and statistical analyses designed to evaluate the inherent complexities of treatment processes (i.e., engagement, participation, therapeutic relationship) and how they relate to treatment retention and outcomes is allowing researchers to expand areas of inquiry and to continue building the theoretical and applied knowledge base in the treatment for substance use disorders. Contemporary questions of interest have focused on identifying relationships amongst client-, counselor-, and program-level variables and investigating how they relate to treatment retention and outcomes; devising and evaluating innovative

interventions to improve retention and outcomes; determining if certain modalities or treatment philosophies are more appropriate for particular clients; ascertaining the amount of treatment needed to be effective for certain clients; determining if specific ingredients are necessary for treatment to be effective; and examining how treatment systems and the clients they serve have transformed over time (Fletcher et al., 1997; Moyer & Finney, 2002; Leshner, 1997; Simpson, 1993; Swearingen, Moyer, & Finney, 2003). It is the answers to these queries that have impacted and will continue to influence substance abuse policy and decisions regarding the development of treatment service components, evaluation methodologies, the allocation of funds, and third-party payer guidelines (Etheridge, Hubbard, Anderson, Craddock, & Flynn, 1997; Fletcher et al., 1997).

Importance of Program-Level Research

Despite these advances, uncertainties remain regarding the extent to which such empirical evidence can be applied to substance abuse treatment programs at the local level. Client attributes, problems, and treatment needs are highly diverse, leading to systematic variations in the respective clientele served by individual substance abuse treatment programs (Simpson, Joe et al., 1997). Additional programmatic heterogeneity exists with reference to treatment approaches and services offered. Not surprisingly, these inherent complexities of real-world clinical settings do not often correspond to the homogeneous samples and manual-driven treatment conditions in efficacy trials and controlled therapy research (Carroll & Rounsaville, 2003; Persons & Silberschatz, 1998; Tucker & Roth, 2006). Since data from large-scale randomized trials and naturalistic investigations are often collapsed across certain types of clients, sites, and even treatment

modalities, relevant between- and within-program differences that might be of value to a specific program are potentially masked. Consequently, individual substance abuse treatment programs need to deduce if and how assorted research findings regarding treatment effectiveness, retention, and outcomes pertain to their respective programs in order to make informed decisions regarding interventions, policies, and resource allocation (Etheridge et al., 1997). Ultimately, program-level investigations can help shape substance abuse treatment practices and contribute to the general knowledge base regarding the treatment of these disorders, both vital activities in trying to narrow the observed science-practice gap that exists within the substance abuse treatment field (Persons & Silberschatz, 1998; Tucker & Roth, 2006).

Importance of Group-Level Research

The characteristics of individuals participating in alcohol and drug treatment programs have dramatically changed over the past several decades (Anglin, Hser, & Grella, 1997). Considering the shifts in substances of abuse and demographic profiles of individuals participating in treatment, an initial step in determining the relevance of assorted research findings to a particular treatment program is to identify who is participating in that program. Traditionally, the examination of client characteristics and description of samples has remained at the individual level of analysis. However, Rapkin and Dumont (2000) suggest it may be more meaningful to study multiple dimensions of identity and behavior and to "discover the variables that define and delimit" meaningful groups within a heterogeneous set of individuals (p. S396). More specifically, "a deeper understanding of natural groupings would help us fine-tune questions about causes and treatment of problem behaviors" and identify groups that may be responsive to certain

types of treatment interventions, programs, or modalities (Rapkin & Dumont, 2000, p. S396). Moreover, exploring different patterns of variables and their prevalence within a certain population may also provide insight into potential complex relationships that exist amongst those variables.

Statement of the Problem

Substance abuse and dependence have detrimental effects at micro and macro societal levels, accruing both measurable economic costs (e.g., lost productivity, increased health care utilization, and criminal justice involvement) and immeasurable losses (e.g., premature death, child abuse, and relationship strain). Even so, these disorders appear to be amenable to treatment. Based on the wealth of the extant substance abuse treatment literature, when clients receive treatment for substance use problems, they generally achieve positive outcomes (i.e., reduced alcohol and drug use, decreased involvement in crime, improved social functioning). Although time spent in treatment is positively related to more favorable outcomes, clients often are not retained in treatment long enough to attain its benefits. Reported substance abuse treatment dropout rates have varied greatly (20% - 74%) depending on factors such as treatment modality, program philosophy, and clientele served, prompting researchers to examine how these components affect whether or not a client stays in treatment. Diverse methodological techniques have been employed across various programs serving assorted clients to investigate the relationships amongst client, program, and treatment attributes, treatment retention, and eventual outcomes. Unfortunately, no consistent “treatment dropout” profile has been detected, and the generalizability of these findings are often questioned

at the local level because of the stark differences that exist between particular treatment programs and their clientele and those studied.

Purpose of the Study

A primary purpose of this study is to describe the characteristics of clients entering an intensive outpatient chemical dependency treatment program and to examine how these variables differ between clients who complete treatment and clients who drop out of treatment prematurely. Additionally, in an effort to accurately depict this particular treatment program population, this study will explore whether a classification system can be used to categorize individuals into meaningful groups based on important pretreatment characteristics. From a clinical perspective, it is difficult for a program to examine treatment outcomes without first learning about who is entering treatment and who is staying in treatment. The identification of variables that positively and negatively relate to retention will further assist in the creation of an assessment procedure that allows clinicians to quickly and efficiently detect clients who may be at risk for dropout. Ultimately, such knowledge can begin to inform the design of interventions aimed at enhancing treatment retention, which can potentially improve treatment outcomes as the positive relationship between retention and outcomes is well-established in the literature. Furthermore, exploring whether meaningful client subgroups exist in this population is an initial step in determining if and how such information can be useful to the clinical staff. For example, if treatment completion status emerges as a distinguishing variable amongst subgroups, similarity to a particular profile may serve as a more comprehensive means to identify clients at risk of premature treatment dropout, as opposed the presence of one or more discrete variables associated with retention. Additionally, certain combinations of

variables may relate to whether or not a client completes treatment, thus retention-enhancing interventions should target multiple areas to address the inherent complexity of the presenting problems of clients engaging in substance abuse treatment.

From an empirical standpoint, this study will add to the existing literature that aims to describe the characteristics of clients who participate in intensive outpatient chemical dependency treatment programs at nonprofit, freestanding mental health hospitals and elucidate the extent to which current scientific evidence regarding client characteristics and their relationship to treatment retention applies to this particular program and the clients it serves. Moreover, if meaningful subgroups of clients can be identified, this study has the potential to provide insight into the complex relationships amongst the variables of interest and provide evidence in support of or in opposition to the existence of various subtypes of individuals with substance use disorders.

Research Questions

Considering the stated problem and purpose of this investigation, this study will address the following research questions:

(1) How do clients who complete an intensive outpatient chemical dependency treatment program at a nonprofit, freestanding mental health clinic differ from clients who do not complete treatment on pretreatment variables including:

a. Patient attributes: gender, age, ethnicity/race, education, income
b. Substance use severity
c. Psychiatric symptom severity
d. Motivation for treatment
e. General functioning: health, employment, social relationships, legal issues

(2) Can meaningful subgroups of this client population be identified based on important pretreatment characteristics and treatment variables?

Overview of the Remainder of the Study

Chapter II begins with a brief history of substance abuse treatment evaluation in the United States, and is followed by an overview and critique of large-scale drug and alcohol treatment research that has been carried out. Major findings and implications are reviewed, with an emphasis being placed on those related to pretreatment client characteristics, treatment retention, and the relationship between these factors and treatment outcomes. Focus then turns to the application of these large-scale research findings to small-scale settings, and the inherent benefits and challenges of this endeavor. A treatment model (The Texas Christian University Treatment Model) designed to assist researchers and practitioners conceptualize the complex components of substance abuse treatment is then described. Additional research related to this model is outlined according to identified factors related treatment retention and outcomes including patient attributes (e.g., gender, psychiatric symptoms, motivation) and treatment factors. An alternative approach to organizing and analyzing such data, the utilization of taxonomic methods, is then proposed, and then followed up with a review of research on typologies of addiction.

Chapter III describes the methodology of this study including a detailed description of the sample, assessment procedures, assessment instruments, and variables of interest. The proposed statistical analyses for use in this study, including descriptive statistics, comparative analyses, profile analysis, and cluster analysis, are also described. Chapter IV outlines results of the statistical procedures, while Chapter V discusses the

implications of these findings, limitations of the current study, and future research directions.

Definition of Terms

Chemical Dependency – This term is used interchangeably with the diagnostic category of substance dependence.

Dual Diagnosis – The presence of both a psychiatric disorder(s) and a substance use disorders.

Polysubstance Use History –This term will be used to describe the use of more than one substance (e.g., alcohol, illicit drugs). The use of this term in this study diverges from the *DSM-IV* definition: type of substance dependence disorder in which an individual uses at least three different classes of substances indiscriminately and does not have a favorite drug that qualifies for dependence on its own.

Retention – For the purposes of this study, a client was considered retained in treatment if s/he persisted to treatment completion.

Substance Use Disorder (SUD) – This term encompasses substance abuse and substance dependence diagnoses.

Treatment Completion – For the purposes of this study, a participant who is discharged from the treatment program due to the completion of treatment will be considered to have completed treatment. This determination was made by a combination of clinician report and chart review and will be described in detail in Chapter III.

Treatment Dropout – "A client who terminates treatment before it is completed"

(VandenBos, 2007, p. 302). For the purposes of this study, a participant was considered a *dropout* if s/he is discharged from the treatment program before completing treatment. This term is used interchangeably with *attrition*.

Treatment Repeater – For the purposes of this study, a participant was considered a *repeater* if s/he completed the treatment program and was subsequently admitted for at least one inpatient and/or outpatient treatment at the same facility.

Treatment Stopout – For the purposes of this study, a participant was considered a *stopout* if s/he was discharged from the treatment program before completing treatment and was subsequently admitted for at least one inpatient and/or outpatient treatment at the same facility.

Chapter II: Review of the Literature

Overview

This section begins with a brief history of substance abuse treatment research in the United States and descriptions of several large-scale drug and alcohol treatment research studies and meta-analyses. Major findings and implications are reviewed, with an emphasis on the relationship amongst pretreatment client characteristics, treatment retention, and treatment outcomes. The focus then shifts to how this large-scale research pertains to small-scale settings, and the inherent challenges of this endeavor. The Texas Christian University Treatment Model, a model designed to assist researchers and practitioners conceptualize the complex processes involved in substance abuse treatment, is described and evaluated. Research related to this model is outlined according to identified factors related treatment retention and outcomes including patient attributes, gender, psychiatric symptoms, motivation, and treatment factors. Lastly, arguments for more comprehensive descriptive and exploratory investigations regarding the patient attributes that contribute to treatment processes are elucidated.

Brief History of Substance Abuse Treatment Research

The establishment of the National Institute of Health (NIH), and its divisions of alcohol and drug abuse, can be traced back to the alarming rates of psychological disorders that were detected among service men and women and veterans following World War II. By the 1970s, it became apparent that the NIMH and its alcohol and drug divisions were not adequately dealing with the rampant alcohol and drug problems sweeping the nation. Multiple indicators of alcohol abuse and dependence, including

hepatic cirrhosis and violence-related mortality, had been increasing since World War II; moreover, relatively localized abuse of cocaine and heroin abuse transformed into an epidemic in the late 1960s and was followed by the emergence of hallucinogen and stimulant abuse (Westermeyer, 2005). In response, the National Institute of Alcohol Abuse and Alcoholism (NIAAA) and National Institute of Drug Abuse (NIDA) were formed under the Alcohol, Drug Abuse, and Mental Health Administration (ADAMHA) located within the Department of Health and Human Services. ADAMHA promoted the development of substance abuse research, training, clinical treatment services, and prevention. To a large extent, governmental support for these endeavors stemmed from elected officials who were personally affected by substance use disorders, through either first-hand or familial experiences (Westermeyer, 2005).

Collaborative research efforts of NIDA and NIAAA have addressed critical empirical and clinical questions regarding the treatment of substance use disorders including treatment outcomes and how they relate to program type, client characteristics, treatment received, therapeutic approaches, and aftercare. The components of effective treatment and treatment processes, including factors that engage and retain clients in programs, have also been explored (Fletcher et al., 1997; Project MATCH Research Group, 1997a; The COMBINE Study Research Group, 2003). At the same time, macro-level studies of alcohol and drug use disorders and their treatment have remained relatively separate endeavors, with each faction adopting distinct research programs, modes of inquiries, and questions of interest. Consequently, comprehensive substance abuse treatment research will be reviewed and critiqued separately below.