Journal of Substance Abuse Treatment 63 (2016) 25–33

Contents lists available at ScienceDirect

Journal of Substance Abuse Treatment

Racial and Ethnic Disparities in Outpatient Substance Use Disorder Treatment Episode Completion for Different Substances

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ARTICLE INFO

Article history:
Received 22 July 2015
Received in revised form 30 November 2015
Accepted 3 December 2015

Keywords:
Disparities
Treatment completion
Outpatient
African American
Hispanic
Minority

ABSTRACT

This study investigates how racial and ethnic disparities in treatment episode completion vary across different problem substances in an urban sample of 416,224 outpatient treatment discharges drawn from the 2011 U.S. Treatment Episode Dataset-Discharge (TEDS-D) data set. Fixed effects logistic regression is employed to test for the association of race and ethnicity with treatment episode completion for different substances of use while controlling for confounding demographic, socioeconomic, and geographic clustering factors. Results show that African Americans and Hispanics are less likely to complete a treatment episode than Whites, and that these disparities vary among users of different substances. For African Americans, this disparity is observed over all substances, but is particularly acute among users of alcohol and methamphetamine, substances for which African Americans generally have lower rates of use disorder as compared to Whites. For Hispanics, this disparity is driven primarily by users of heroin, for which Hispanics are only 75% as likely as Whites to complete a treatment episode. For users of cocaine and methamphetamine, there is no significant difference between Hispanics and Whites in the likelihood of treatment episode completion. These results contribute to emerging research on the mechanisms of substance use disorder treatment outcomes and highlight the need for culturally appropriate treatment programs to enhance treatment program retention and associated positive post-treatment outcomes.

1. Introduction

1.1. The problem

Racial and ethnic minorities have experienced disparities in healthcare across a broad range of diseases and health problems, including substance use disorder (Healthy People, 2020, 2010; NIDA, 2008; Smedley, Stith, & Nelson, 2003). Minority populations are differentially affected by the consequences of substance use disorders in terms of incarceration, health problems, stigma, and violence (Amaro, Arevalo, Gonzalez, Szapocznik, & Iguchi, 2006; Boyd, Phillips, & Dorsey, 2003; Caetano, 2003; Iguchi, Bell, Ramchand, & Fain, 2005). While treatment for substance use disorders can ameliorate these consequences, particularly for those who complete appropriate treatment (Brorson, Arnevik, Rand-Hendriksen, & Duckert, 2013), research indicates that African Americans and Hispanics tend to have more barriers to accessing treatment services, lower utilization rates, and less satisfaction with treatment as compared to Whites (Alegría et al., 2006; Marsh, Cao, Guerrero, & Shin, 2009; Wells, Klap, Koike, & Sherbourne, 2001; Wu, Ringwalt, & Williams, 2003), though other studies have found few differences in the rates of service utilization among groups (Keyes et al., 2008; Schmidt, Greenfield, & Mulia, 2006). The purpose of this study is to investigate racial and ethnic disparities in outpatient treatment episode completion, and then to examine how such disparities differ among different problem substances. We focus specifically on differences among African Americans, Hispanics, and Whites, as these are the three largest racial and ethnic groups in the U.S. and among those receiving treatment (SAMHSA, 2015).

1.2. Treatment completion literature

Though addiction is generally considered a chronic relapsing disease that may be most effectively managed with a continuum of care model (APA, 2013; Dennis & Scott, 2007), it is still important to recognize the importance of treatment completion for specific episodes of care. For those who do receive treatment services, retention is generally a critical prognostic indicator of positive post-treatment outcomes for all client groups (Brorson et al., 2013). Research has shown that those who complete a treatment episode tend to have better health, fewer relapses, fewer readmissions, less future criminal involvement, and higher levels of employment and wages, and to maintain longer term abstinence (Brewer, Catalano, Haggerty, Gainey, & Fleming, 1998; Brorson et al., 2013; Evans, Li, & Hser, 2009; Garnick, Lee, Horgan, & Acevedo, 2009; Messina, Wish, & Nemes, 2000; Stark, 1992; The TOPPS-II Interstate Cooperative Study Group, 2003; Zarkin, Dunlap, Bray, & Wechsberg, 2002). However, only about one in ten Americans 12 or older who need treatment for a substance use disorder receives it at a specialty facility.

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http://dx.doi.org/10.1016/j.jsat.2015.12.007
0740-5472/

Outpatient treatment is by far the most common modality, and compared to residential treatment, which in general tends to have higher completion rates, minorities are overrepresented in outpatient settings (SAMHSA, 2013). Unfortunately, for those in outpatient treatment, the majority of clients tend not to complete it (McCaul, Svikis, & Moore, 2001; McHugh et al., 2013; Santonja-Gómez et al., 2010; Wickizer et al., 1994).

Research has identified a great many factors that increase or decrease the likelihood of completing a treatment episode for a substance use disorder (Brorson et al., 2013; Craig, 1985; Stark, 1992). Among the many client admission variables that have been identified in prior research as associated with completing a treatment episode are age, employment, education, sex, race, and ethnicity, as well as the client's specific primary problem substance, i.e. substance of choice. In general, older age, greater education, and being employed have been consistently associated with a greater likelihood of completing a treatment episode for substance use disorders (Brorson et al., 2013; Stark, 1992).

The literature is far less consistent concerning the influence of the client's substance of choice on treatment retention. For example, some studies have found that the use of cocaine increases the likelihood of early dropout from treatment (eg., Fishman, Reynolds, & Riedel, 1999; McHugh et al., 2013; Veach, Remley, Kippers, & Sorg, 2000), yet other researchers have not found a significant association (eg., King & Canada, 2004; Maglione, Chao, & Anglin, 2000). The same inconsistency of association with early dropout has been found in studies involving users of opiates and alcohol (eg., Fishman et al., 1999; McKellar, Kelly, Harris, & Moos, 2006; Nellori & Ernst, 2004; Petry & Bickel, 2000; Veach et al., 2000). Generally when more than one drug of choice is incorporated into the research, variations in completion rates are evident (eg., Luchansky, Krupski, & Stark, 2007; SAMHSA, 2013; Veach et al., 2000). However, the majority of the treatment completion research literature involves single site studies that tend to focus on a particular drug using population (Brorson et al., 2013), which prohibits direct comparisons of treatment completion rates for different substances of choice. For example, studies have focused on treatment retention and engagement among female outpatient alcoholics (Graff et al., 2009), incarcerated male methamphetamine users receiving prison-based treatment (Joe, Rowan-Szal, Greener, Simpson, & Vance, 2010), treatment resistant opiate dependent outpatients (McHugh et al., 2013), heroin dependent or marijuana dependent adolescents in outpatient treatment (Smyth, Fagan, & Kernan, 2012; White et al., 2004), and homeless veterans (Justus, Burling, & Weingardt, 2006), to cite just a few examples.

Inconsistencies are also prevalent in the research literature concerning racial and ethnic disparities in treatment episode completion. Many studies have found that African Americans and Hispanics are less likely to complete substance use disorder treatment compared to Whites (Arndt, Acion, & White, 2013; Bluthenthal, Jacobson, & Robinson, 2007; Cooper, MacMaster, & Rasch, 2010; Guerrero, Marsh, Khachikiana, Amaro, & Vega, 2013; Jacobson, Robinson, & Bluthenthal, 2007a), though others have not found similar disparities in treatment retention (Lowman & Le Fauve, 2003; Niv & Hser, 2006; Niv, Pham, & Hser, 2009; Stack, Cortina, Samples, Zapata, & Arcand, 2000; Veach et al., 2000). Perhaps one of the reasons for the inconsistency of these results is the importance of confounding and moderating characteristics that are accounted for in the research. For example, Jacobson, Robinson, and Bluthenthal (2007b) found that when controlling for economic disadvantage, differences in treatment completion rates between minority groups and Whites were greatly reduced, though they did not disappear. More recently, Arndt et al. (2013) found that disparities in treatment completion among Blacks, Hispanics, and Whites varied considerably by state.

Given that evidence suggests that treatment completion varies both by race/ethnicity and substance of choice, the prevalence of certain drug and alcohol problems within certain racial ethnic groups is also of interest. Data from the 2014 National Survey on Drug Use and Health (NSDUH) show some variations as well as similarities across types of substances used among adults 18 and over (SAMHSA, 2015). Past month use of cocaine was 0.6% for Whites, and 0.7% for both Blacks and Hispanics, while for marijuana past month use was 10.8% for Blacks, 8.8% for Whites, and 6.5% for Hispanics. Past month binge and heavy alcohol use rates were 25.0% for Whites, 23.9% for Blacks, and 27.5% for Hispanics. Perhaps of greater importance than just prevalence of use is the extent of substance use disorders across groups. The prevalence of substance use disorders for illicit drugs was 2.3% for Whites and 2.6% for Hispanics, but 4.2% for Blacks. For alcohol use disorders, the prevalence for Whites, Blacks, and Hispanics was 6.8%, 6.5%, and 7.5%, respectively. Notably, racial and ethnic associations with particular substances may also be specific to particular regions or cities. For example, Bluthenthal et al. (2007) found that in Los Angeles County, Blacks were more likely to report using cocaine than other drugs, Whites were more likely to use amphetamines, and Hispanics were more likely to report using heroin. Guerrero, Marsh, Khachikiana, et al. (2013) found that in Texas heroin use was most common among Hispanics, whereas on the east coast of the U.S., cocaine use was found by some studies to be of higher prevalence among Latinos than any other group (Alegría et al., 2006; Amaro et al., 2006).

Few studies, however, have explicitly examined the intersection of race and ethnicity with substance of choice in studies of treatment completion. One of the few studies to examine this issue actually did not find that substance of choice predicted outpatient treatment retention when race was incorporated into their model (McCaul et al., 2001). However, this study had a limited sample size, categorized primary substance based on lifetime use criteria, and divided their sample into three very general categories—"alcohol only," "drug only," and "alcohol plus drugs." They did not differentiate among specific substances (eg., cocaine; heroin) within the general category of "drugs" for their analyses. Klein, di Menza, Arfken, and Schuster (2002), on the other hand, did find interaction effects with minority status and the number of drug-related problems, though specific drug of choice was not included in their models.

This body of research supports the view that it is important to explore factors that moderate outcomes for different subgroups of clients (MacKinnon & Luecken, 2008). Indeed, the review of Brorson et al. (2013) echoes Wierzbicki and Pekarik's (1993) call for a shift in research away from simple demographic predictors of dropout (in the latter case applied to psychotherapy research) toward greater exploration of how such predictors may vary among population subgroups.

1.3. Present study

The present study investigates racial and ethnic group disparities in outpatient treatment episode completion (including ambulatory, intensive and non-intensive outpatient treatment) among adults over age 18 in the urban U.S. using data extracted from a national dataset, the Treatment Episode Dataset-Discharge (TEDS-D; SAMHSA, 2013). We focus our investigation on outpatient treatment given the predominance of this modality, especially for minority clients. In addition, we limit our analysis to treatment offered in urbanized areas because there are considerable differences in drug use patterns, perceived need for treatment, and the availability of treatment between urban and rural settings, especially for African Americans and Hispanics (Borders, Booth, Stewart, Cheney, & Curran, 2015; Metsch & McCoy, 1999; Perron, Gillespie, Alexander-Eitzman, & Delva, 2010; Vélez et al., 2008; Wang, Becker, & Fiellin, 2013).

We test three hypotheses. First, we hypothesize that African Americans and Hispanics in U.S. urbanized areas have a lower likelihood of treatment episode completion as compared to Whites. Second, we hypothesize that the probability of treatment episode completion is associated with substance of choice, where use of heroin, cocaine, marijuana, and methamphetamines is associated with a lower probability of treatment episode completion as compared to use of alcohol. Third, given the fact that the substance of choice tends to vary by racial and ethnic group, and that treatment episode completion varies by substance of choice, we hypothesize that the association between minority