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Heterogeneity of Mental Health Service Utilization and High Mental Health Service Use Among Women Eight Years After Initiating Substance Use Disorder Treatment

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ABSTRACT

Objective: The aim of this study was to determine mental health service utilization patterns among women treated for substance use disorders (SUD) and identify factors associated with patterns of high mental health service use.
Methods: Data were provided by 4447 women treated for SUD in California during 2000–2002 for whom mental health services utilization records were acquired. A latent class model was fitted to women's high use of services (>6 services/year over 8 years). Multinomial logistic regression was used to identify predisposing, enabling, and need factors associated with utilization patterns.
Results: In 8 years after initiating SUD treatment, 50% of women utilized mental health services. High use probability was consistently low for most women (76.9%); for others, however, it decreased immediately following SUD treatment and then increased over time (8.7%), increased immediately following SUD treatment and then decreased (9.3%), or remained consistently high (5.1%). Consistently high services use was negatively associated with marriage (OR 0.60, $p < 0.05$) and employment (OR 0.53, $p < 0.05$) and positively associated with older age (OR 1.04, $p < 0.001$), homelessness (OR 1.68, $p < 0.05$), public assistance (OR 1.76, $p < 0.01$), outpatient SUD treatment (OR 3.69, $p < 0.01$), longer SUD treatment retention (OR 1.00, $p < 0.01$), treatment desire (ORs 1.46, $p < 0.001$), and co-occurring disorder diagnosis (ORs 2.89–44.93, $p < 0.001$). Up to 29% of women with co-occurring mental health disorders at SUD treatment entry did not receive any mental health treatment in the subsequent 8 years.
Conclusions: Mental health services utilization patterns among women treated for SUD are heterogeneous and dynamic. Understanding factors related to women's utilization patterns may aid efforts to optimize care and ensure appropriate use of mental health services.

1. Introduction

An estimated 40–70% of women treated for substance use disorders (SUD) have depression, anxiety, or another mental illness (Greenfield & Grella, 2009; Greenfield et al., 2007; Substance Abuse and Mental Health Services Administration [SAMHSA], 2009; Tuchman, 2010). The co-occurrence of mental health disorders and substance use disorders (COD) among women is a well-established predictor of relapse to substance abuse after treatment, morbidity, and premature death (Greenfield & Grella, 2009; Hser, Kagihara, Huang, Evans, & Messina, 2012; Institute of Medicine (IOM), 2005; SAMHSA, 2009; Tuchman, 2010).

COD can be treated effectively when treatment structure, intensity, and duration is commensurate with the complexity and acuity of clients' disorders (Drake, O'Neal, & Wallach, 2008; Kessler, 2004; McGovern, Matzkin, & Giard, 2007). However, the majority of individuals in SUD treatment do not receive care that is designed to address COD (Drake & Bond, 2010; McGovern, Lambert-Harris, Gotham, Claus, & Xie, 2014; McGovern, Lambert-Harris, McHugo, Giard, & Mangrum, 2010). Consequently, most individuals in SUD treatment settings who have COD must utilize the mental health system in order to receive psychiatric care. However, there is significant concern that individuals with COD either do not access mental health services, or utilize them in an inefficient and unnecessarily costly manner.

Nationwide, only 7.7% of individuals 18 or older with COD receive both mental health and SUD services (Substance Abuse and Mental Health Services Administration, 2014). Many individuals with COD who are in SUD treatment do not receive mental health care because SUD treatment providers inadequately evaluate clients for mental illness (Arria & McLellan, 2010; Bright, Osborne, & Greif, 2011; Greenfield & Grella, 2009; Lambert-Harris, Saunders, McGovern, & Xie, 2013; McGovern et al., 2014; Tuchman, 2010). Moreover, when SUD providers are able to identify clients' mental health needs, the isolation of SUD treatment settings from mental health systems makes it difficult to link clients to mental health services. (Arria & McLellan, 2010; Buck, 2011). Conversely, among individuals in SUD treatment who do access mental health services, excessively high use may lead to excess costs and inappropriate use of scarce mental health treatment resources

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(Center for Medicare & Medicaid Services, 2013; Kent, Fogarty, & Yellowlees, 1995; Lindamer et al., 2012; Maclean, Xu, French, & Ettner, 2014; Pasic, Russo, & Roy-Byrne, 2005; Stanton, 2006). Consequently, research is needed to better understand mental health utilization patterns of individuals who receive SUD treatment.

Improved understanding of the factors associated with both utilization and high use of mental health services can be used to assure that SUD clients who would benefit from frequent and intensive mental health services have access to them, and that those who do not require these services do not inappropriately utilize them. In particular, research is needed to enhance understanding of these issues as they pertain to women in SUD treatment, since women have high levels of mental health service need and have traditionally been underrepresented in studies of SUD treatment populations (Brady & Ashley, 2005; Greenfield et al., 2007).

1.1. Factors associated with utilization of mental health services

The Behavioral Model of Health Services Use (Aday & Andersen, 1974; Andersen, 1995, 2008) for vulnerable populations (Gelberg, Andersen, & Leake, 2000) suggests that health service utilization is a function of perceived and evaluated need for care, predisposition to use services, and factors that enable or impede use. COD diagnosis is a key determinant of mental health service utilization (Goldstein & Levitt, 2006; Grella, Greenwell, Mays, & Cochran, 2009; Lindamer et al., 2012; Min, Biegel, & Johnsen, 2005; Rosen, Tolman, & Warner, 2004; Ross, Lin, & Cunningham, 1999; Wu, Kouzis, & Leaf, 1999). Mental health service utilization is also known to be influenced by the recency of the assessed mental health diagnosis (Bigelow, McFarland, McCamant, Deck, & Gabriel, 2004; Druss et al., 2007) and the severity of COD, as indicated by COD disorder type (Mackenzie, Reynolds, Cairney, Streiner, & Sareen, 2012) or the presence of multiple comorbid mental health disorders (Frise, Steingart, Sloan, Cotterchio, & Kreiger, 2002). It is also well-known that mental health services are more likely to be received when patients perceive a need for care (Koegel, Sullivan, Burnam, Mortan, & Wenzel, 1999; Urbanoski, Cairney, Bassani, & Rush, 2008; Watkins, Burnam, Kung, & Paddock, 2001). The few studies that have identified salient enabling factors have reported the use of mental health services to be positively associated with homelessness (Lindamer et al., 2012), health insurance (Lindamer et al., 2012; Weaver et al., 2008), and Medicaid enrollment (Weaver et al., 2008).

Other research has focused on identifying factors that are associated with high use of mental health services. Studies have highlighted the association of high use of mental health services with psychotic disorders (Lindamer et al., 2012; Roick et al., 2004; Vandyk, Harrison, VanDenKerkhof, Graham, & Ross-White, 2013), schizophrenia (Chaput & Lebel, 2007; Graca, Klut, Trancas, Borja-Santos, & Cardoso, 2013; Lindamer et al., 2012), developmental delays (Pasic et al., 2005), personality disorders (Vandyk, VanDenKerkhof, Graham, & Harrison, 2014) and challenges related to substance use (Lindamer et al., 2012; Vandyk et al., 2014). Homelessness or transient accommodations (Lindamer et al., 2012; Morlino et al., 2011; Vandyk et al., 2013), and poor social and economic supports (Chaput & Lebel, 2007; Pasic et al., 2005; Vandyk et al., 2014) are also associated with high use of mental health services.

Taken together, these findings suggest there are ways in which mental health service utilization is correlated with the evaluated and perceived need for care, and may also be influenced by socio-demographic characteristics and resources that support access to health care.

1.2. Limitations of current knowledge

There are several limitations of current knowledge concerning utilization of mental health services and high mental health service use among women who receive SUD treatment. Extant literature in this area generally does not focus on individuals receiving SUD treatment in spite of the high rates of mental health service need among this population. Furthermore, the little research that does examine SUD treatment populations (e.g., Hser, Grella, Evans, & Huang, 2006) typically does not focus on women. Given the high rates of COD among women in SUD treatment settings and the distinctive challenges they face (Brady & Ashley, 2005; Brady, Back, & Greenfield, 2009; Greenfield et al., 2007; SAMHSA, 2009; Tuchman, 2010), it is critical to understand what factors improve women's access to mental health care and what makes them likely to be high users of mental health services.

Moreover, the majority of studies that focus on high mental health service use only measure use during a period of 1 year or less (Vandyk et al., 2013). Yet both mental health disorders and SUD are chronic conditions that may require clients to receive different amounts of services over many years and from different providers (Chi & Weisner, 2008; Hser, Anglin, Grella, Longshore, & Prendergast, 1997; Hser, Hoffman, Grella, & Anglin, 2001; Judd et al., 2003, 2000; McLellan, 2002). Consequently, further research that examines the long-term use of mental health services among SUD treatment populations is needed.

1.3. The present study

Drawing on the aforementioned Behavioral Model of Health Services Use, we utilize a sample of women followed for 8 years after entering SUD treatment to examine the following research questions: (1) at entry into SUD treatment, how are women with COD different from women with only SUD in demographic characteristics, key life experiences, and SUD treatment experiences, (2) by COD diagnostic type, is there variation in women's utilization of mental health services after SUD treatment entry, (3) are certain need, predisposing, or enabling factors associated with different long-term patterns of high mental health service use?

2. Materials and methods

Data were provided by the California Treatment Outcome Project (CalTOP). CalTOP recruited approximately 17,770 adults admitted to 43 SUD treatment programs in 13 California counties during 2000–2002 (Evans & Hser, 2004; Hser, Evans, Huang, & Anglin, 2004). A prospective study (Evans, Li, Buoncristiani, & Hser, 2014; Evans, Li, Pierce, & Hser, 2013; Hser, Evans, & Huang, 2011) obtained data in 2009 on mental health services utilized by 4447 CalTOP women from the California Department of Mental Health (DMH), which tracks psychiatric diagnoses and services provided by public mental health facilities. Study procedures were approved by Institutional Review Boards at UCLA and the California Health and Human Services Agency.

2.1. Participants

The study sample of 4447 women is 55.5% white, 22.1% Hispanic, 16.4% African American, and 6.0% Asian/other race/ethnicity. Mean age at baseline was 34.5 ($\pm$7.8). Approximately 42% had not attained a high school education, 22% were employed, 37% received public assistance, and more than half had been physically/sexually abused. Methamphetamine was the predominant problem substance (40%) and the women had several prior SUD treatment episodes.

2.2. Measures

The primary *dependent variables* for this study were mental health service utilization and high mental health service use over 8 years after treatment entry, which was the maximum period of time that could be calculated using available data. Currently, there is no consensus on what criteria should be used to define high use of mental health services (Junghan & Brenner, 2006; Kent et al., 1995; Vandyk et al., 2013). Several studies define high use by quantifying how many mental health service episodes occur in a time period ranging from 3 months to