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Associations between pharmacotherapy for opioid dependence and clinical and criminal justice outcomes among adults with co-occurring serious mental illness☆

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ABSTRACT

Adults suffering from a serious mental illness (SMI) and a substance use disorder are at especially high risk for poor clinical outcomes and also arrest and incarceration. Pharmacotherapies for treating opioid dependence could be a particularly important mode of treatment for opioid-dependent adults with SMI to lower their risk for overdose, high-cost hospitalizations, repeated emergency department visits, and incarceration, given relapse rates are very high following detoxification in the absence of one of the three FDA-approved pharmacotherapies. This study estimates the effects of methadone, buprenorphine, and oral naltrexone on clinical and justice-related outcomes in a sample of justice-involved adults with SMI, opioid dependence, and criminal justice involvement. Administrative data were merged from several public agencies in Connecticut for 8736 adults 18 years of age or older with schizophrenia spectrum disorder, bipolar disorder, or major depression; co-occurring moderate to severe opioid dependence; and who also had at least one night in jail during 2002–2009. Longitudinal multivariable regression models estimated the effect of opioid-dependence pharmacotherapy as compared to outpatient substance abuse treatment without opioid-dependence pharmacotherapy on inpatient substance abuse or mental health treatment, emergency department visits, criminal convictions, and incarcerations, analyzing instances of each outcome 12 months before and after an index treatment episode. Several baseline differences between the study groups (opioid-dependence pharmacotherapy group versus outpatient treatment without opioid-dependence pharmacotherapy) were adjusted for in the regression models. All three opioid-dependence pharmacotherapies were associated with reductions in inpatient substance abuse treatment, and among the oral naltrexone subgroup, also reductions in inpatient mental health treatment, as well as improved adherence to SMI medications. Overall, the opioid-dependence pharmacotherapy group had higher rates of arrest and incarceration in the follow-up period than the comparison group; but those using oral naltrexone had lower rates of arrest (including felonies). The analysis of observational administrative data provides useful population-level estimates but also has important limitations that preclude conclusive causal inferences. Large reductions in crisis-driven service utilization associated with opioid-dependence pharmacotherapy in this study suggest that evidence-based medications for treating opioid dependence can be used successfully in adults with SMI and should be considered more systematically during assessments of treatment needs for this population.

1. Introduction

Adults who suffer from a serious mental illness (SMI) combined with a substance use disorder are at especially high risk for poor clinical outcomes and also arrest and incarceration (Kavanagh, McGrath, Saunders, et al., 2002; Lagerberg, Andreassen, Ringen, et al., 2010; Margolese, Malchy, Negrete, et al., 2004; Negrete, 2003; Opsal, Clausen, Kristensen, et al., 2011; Robertson, Swanson, Frisman, et al., 2014b; Turkington, Mulholland, Rushe, et al., 2009); and many, especially racial and ethnic minorities, have limited access to high quality treatment (Kessler, Demler, Frank, et al., 2005; Substance Abuse and Mental Health Services Administration, 2012; Substance Abuse and Mental Health Services Administration, 2014; Unick et al., 2011; Wells, Klap, Koike, & Sherbourne, 2001). Substance use disorders are about three times more prevalent among justice-involved SMI individuals than those who are not justice-involved (75% vs. 25%, respectively)

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(Abram & Teplin, 1991; Abram, Teplin, & McClelland, 2003; Swanson, Frisman, Robertson, et al., 2013; Teplin, 1994); and both types of disorders are approximately twice as prevalent among female inmates (30%) than their male counterparts (15%) (Steadman, Osher, Robbins, et al., 2009; Teplin, Abram, & McClelland, 1996). Opioid dependence, while not as prevalent as alcohol dependence among this population, likely increases SMI adults' risk for high-cost hospitalizations, repeated emergency department visits, and incarceration. In theory, pharmacotherapy for treating opioid dependence could be a particularly important mode of treatment for opioid dependence among adults with SMI, perhaps by reducing drug-seeking behavior, helping patients focus more on psychiatric treatment, or even lessening some psychiatric symptoms. Sustained recovery from addiction may be a key to helping these patients benefit from psychiatric medications for their mental illness and psychosocial treatment as well, and thereby improving clinical outcomes and reduce risk of substance-related criminal recidivism. Empirical research is needed to examine the effectiveness of opioid-dependence pharmacotherapy in this special population with complex needs and barriers to care. This study estimates the effects of three types of opioid-dependence pharmacotherapy on clinical and justice-related outcomes in a sample of justice-involved adults with co-occurring opioid dependence and serious mental illness.

Many studies have demonstrated that pharmacotherapy can be effective for treating opioid dependence (Kreek, Borg, Ducat, & Ray, 2010; Mattick, Breen, Kimber, et al., 2009; Mattick, Mattick, Breen, Kimber, & Davoli, 2014; O'Brien, 2008). The medications work quickly but it usually takes a long time to change a drug-related lifestyle that often develops over many years. That can be done with motivation, attending self-help groups, counseling, and psychotherapy, in any combination that is appropriate for the patient. The medications can help give them time to work their way out of the addiction. There is also evidence that methadone and buprenorphine are cost-effective, including when combined with psychosocial therapeutic approaches (Connock, Juarez-Garcia, Jowett, et al., 2007). The literature examining the use of pharmacotherapy in people with opioid dependence and co-occurring mental illness demonstrates that opioid-dependence pharmacotherapy can also be used successfully in people with SMI (Dreifuss et al., 2013; Gerra et al., 2006; Maremmani et al., 2008; Maremmani et al., 2013), without additional side effects or major concerns about negative interactions with psychotropic medications. Finally, several studies have demonstrated that pharmacotherapy for treating opioid dependence in drug court participants (Finigan, Perkins, Zold-Kilbourn, et al., 2011), probationers (Gryczynski, Kinlock, Kelly, et al., 2012; Lee, Grossman, Truncali, et al., 2012), parolees (Lee et al., 2016), jail releasees (Lee et al., 2016), and a mixed population of individuals with recent criminal justice involvement (Lee et al., 2016) was associated with reduced risk of relapse, overdose death, and/or re-offending.

The three FDA-approved medications for treating opioid dependence—methadone, buprenorphine, and naltrexone—are pharmacologically distinct, and may have varying effectiveness for adults with co-occurring SMI. Methadone, a full opioid agonist, is the oldest medication for treating opioid dependence and requires daily dosing in the early phase of treatment at a community-based opioid treatment program. Buprenorphine, a partial opioid agonist, can be prescribed in office-based clinical settings by clinicians who have undertaken special licensure requirements, and, like methadone, does not necessitate that the patient detoxify from opioids before beginning treatment. Oral naltrexone is an opioid antagonist, blocking the effects of opioids, and does require the patient to be fully detoxified and abstinent from opioids for a least one week. Oral naltrexone is also approved for treatment of alcohol dependence. A 2011 review concluded that oral naltrexone for treating opioid dependence is not superior to treatment with placebo or no medication (Minozzi, Amato, Vecchi, et al., 2011). It is also noteworthy that the FDA label for oral naltrexone is for the blockade of the effects of exogenously administered opioids, given it was approved without clinical trials data demonstrating its superiority to placebo but rather based solely on its pharmacologic properties. It is possible that different types of patients are offered and accept these three medications—perhaps those with the most severe opioid dependence tend to use methadone treatment, and the least severe opt for naltrexone once detoxified—which could also influence effectiveness in this population. Other reasons for using oral naltrexone could be having co-occurring alcohol dependence, or initiating the medication during residential treatment after opioid withdrawal is completed and an adequate period of abstinence is obtained. It could also be that individuals who use opioid-dependence pharmacotherapy and are actively involved in the justice system are more likely to use naltrexone than methadone or buprenorphine given a tradition of resistance to the opioid-based medications, in particular, among criminal justice professionals (Friedmann et al., 2012; Lee & Rich, 2012; Matusow et al., 2013; Nunn et al., 2009; Rich et al., 2005).

A newer literature indicates that opioid-dependence pharmacotherapy is dramatically underutilized in treating substance use disorders, including opioid dependence, due in part to prescribers' reluctance to offer medications, and other barriers to access (Knudsen, Abraham, & Roman, 2011; Schmidt, Rieckmann, Abraham, et al., 2012). However, public health leaders have recently made strong calls for more routine use of opioid-dependence pharmacotherapy (Volkow, Frieden, Hyde, et al., 2014), and federal policy changes have signaled an important shift in collective thinking about addiction and the role that medications can play in recovery. A new 2016 Federal Rule {81 FR 44711} increased caseload limits for buprenorphine provision among eligible clinicians from 100 to 275 patients in 2016; and in a specific effort to improve opioid-dependence pharmacotherapy access and implementation, the Office of National Drug Control Policy instituted a new policy in 2015 requiring all federally-funded drug courts to lift medication-assisted treatment bans and allow eligible clients to use FDA-approved medications to treat their substance use disorders.

In short, more effective treatment of opioid dependence in adults with co-occurring SMI could improve not only their substance use outcomes but also contribute to better mental health outcomes if they are more likely to achieve clinical stability, which together could yield corresponding gains in quality of life and diminished social burden of disease. Implementation of opioid-dependence pharmacotherapy in vulnerable populations with criminal justice involvement could be particularly important, given the justice system's traditional resistance to this medical treatment approach (Friedmann et al., 2012; Lee & Rich, 2012; Matusow et al., 2013; Nunn et al., 2009; Rich et al., 2005). This article reports new empirical evidence along these lines from a longitudinal analysis of merged multi-agency records in a large sample of Connecticut adults with co-occurring SMI and opioid dependence who are involved with the criminal justice system.

2. Materials and methods

Administrative records of treatment service utilization and criminal justice events were merged from several public agencies in Connecticut. The Department of Mental Health and Addiction Services (DMHAS) provided records with information on demographic characteristics, clinical diagnoses, outpatient treatment utilization, state psychiatric and substance abuse hospitalizations, and methadone treatment utilization. The Department of Social Services Medicaid program provided service claims for office-based opioid medication prescriptions, psychotropic medications for treating SMI, outpatient service utilization, emergency department (ED) and crisis center visits, and psychiatric and substance abuse hospitalizations in community hospitals. The Department of Correction provided records on periods of incarceration, the Department of Public Safety provided records of criminal offense convictions, and the Judicial Branch provided records on periods of time under probation. The data from these public agencies were matched, merged, and de-identified, originally for another study (NIH R01-MH086232).