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Pilot study of treatment for major depression among women prisoners with substance use disorder

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ABSTRACT

This study, the largest randomized controlled trial of treatment for major depressive disorder (MDD) in an incarcerated population to date, wave-randomized 38 incarcerated women (6 waves) with MDD who were attending prison substance use treatment to adjunctive group interpersonal psychotherapy (IPT) for MDD or to an attention-matched control condition. Intent-to-treat analyses found that IPT participants had significantly lower depressive symptoms at the end of 8 weeks of in-prison treatment than did control participants. Control participants improved later, after prison release. IPT's rapid effect on MDD within prison may reduce serious in-prison consequences of MDD.

1. Introduction

At the end of 2008, state and federal prisons in the United States held more than 1.6 million prisoners (Sabol et al., 2009). Major depressive disorder (MDD) is the most common severe mental illness in prison settings (Brinded et al., 2001; Fazel and Danesh, 2002; James and Glaze, 2006). A recent survey found that 23.5% of state prisoners met criteria for MDD within the past 12 months, three times the national 12-month prevalence (James and Glaze, 2006). An especially high rate of MDD among substance-using women prisoners (lifetime prevalence of 32%–38%; Pelissier & O'Neil, 2000; Zlotnick et al., 2008) is of public health concern because of the negative personal and societal costs of depression in this population.

1.1. Negative consequences of MDD among substance-using incarcerated women

MDD reduces the likelihood of incarcerated women's recovery from substance use disorder. Depression in community populations is associated with premature drop-out from addiction treatment (Brown, 1997). With few exceptions (Carroll et al., 1995; Gerra et al., 2006), depression is also associated with poorer prognosis in community addiction treatment (Bottlender and Soyka, 2005; Brown et al., 1997, 1998; Kosten et al., 1986; McKay et al., 2002; O'Sullivan et al., 1988; Richardson et al., 2008; Rounsaville et al., 1987, 1986a, 1986b; Thase et al., 2001), despite higher treatment motivation (Joe et al., 1995; McKay et al., 2002; see also Rounsaville, 2004). In correctional populations, MDD and depressive symptoms strongly predict dropout from correctional substance use programs (Brady et al., 2004; Gray and Saum, 2005; Hickert et al., 2009; Hiller et al., 1999) and poorer addiction treatment outcomes (Johnson et al., 2011b).

MDD also increases risk of prison recidivism. A large ($n = 79{,}211$) study of state prison inmates found those with MDD to be at significantly increased risk of multiple incarcerations, controlling for length of current sentence and criminal offense classification (violent vs. nonviolent; Baillargeon et al., 2009a). Psychiatric distress predicts future parole violations (Skeem et al., 2009). After accounting for length of current prison sentence and past parole revocation, MDD and other severe mental illnesses increase risk for future parole revocation (Baillargeon et al., 2009b). Depression is a stronger predictor of recidivism for women than for men (Benda, 2005).

The impairment in social (Hammen, 1991; Weissman and Bothwell, 1976; Weissman et al., 1974), family (Keitner and Miller, 1990), and occupational (Broadhead et al., 1990; DeLisio et al., 1986) functioning seen with MDD can interfere with women prisoners' ability to cope with a wide array of stressors during and after incarceration. For example, MDD increases likelihood of rejection

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and victimization by other inmates (Blitz et al., 2008; Marcus et al., 2001; Varese et al., 1998). MDD also increases suicide risk for incarcerated individuals (Aharonovich et al., 2002; Charles et al., 2003), an already high risk population. Many (13–20%) incarcerated individuals have attempted suicide in the past, and 1–2 out of 1000 complete suicide while incarcerated (Charles et al., 2003; DuRand et al., 1995; Fazel and Benning, 2009; Hayes and Rowan, 1988; Sarchiapone et al., 2009). MDD may also impair women's ability to successfully address life challenges. Women prisoners experience high rates of family conflict, medical problems, homelessness, unemployment, poverty, lack of education, stigma, physical and sexual victimization, and multiple Axis I psychiatric disorders (Hills, 2000). Failure to address these challenges effectively increases women's risk for continued depression, substance use relapse, prison recidivism, and further victimization (Freudenberg et al., 2005). Finally, approximately 7 in 10 incarcerated women in the U.S. are mothers. A quarter million U.S. children have incarcerated mothers (Greenfeld and Snell, 1999). These children often face multiple risks, including maternal MDD, maternal substance use disorder, and maternal incarceration.

1.2. Need for MDD treatment research in incarcerated populations

Despite the prevalence and serious consequences of MDD among incarcerated populations, there is only one published ($n = 10$) randomized treatment trial for incarcerated individuals with MDD (Wilson, 1990). This study randomly assigned 10 male inmates at a large maximum-security prison to 14 90-min sessions of group cognitive therapy or 4 30-min sessions of individual supportive treatment plus brief counseling contacts. Men in both treatments reported improvement from moderate to mild levels of depressive symptoms, with no difference between conditions.

The contrast between the thousands of randomized treatment studies for individuals diagnosed with MDD in the community (150 published in 2007 alone; Weinberger et al., 2010) and the almost complete lack of treatment studies for MDD among incarcerated populations illustrates the desperate need for more mental health treatment research in correctional settings. The current study, which evaluated interpersonal psychotherapy (IPT) for MDD among incarcerated women, is the largest randomized controlled (RCT) trial of treatment for MDD in an incarcerated population to date. It is also the first MDD treatment study in an incarcerated population to involve women, IPT, or an attention-matched control condition.

This study targeted MDD among incarcerated women in prison substance use treatment because MDD is extremely common in this population (Pelissier & O'Neil, 2000; Zlotnick et al., 2008). MDD and substance use disorder are strongly comorbid (Grant et al., 2004; Hasin and Grant, 2002), especially among women (Grant, 1995; Merikangas et al., 1998; Wang and Patten, 2001, 2002). Furthermore, substance use disorder is the rule rather than the exception among incarcerated women (with a 6-month prevalence of 45–60% and a lifetime prevalence of 70%; Jordan et al., 1996; Teplin et al., 1996). The study targeted women who met criteria for MDD after at least 4 weeks of substance use treatment because some studies (e.g., Brooner et al., 1997; Brown et al., 1995; Nunes et al., 1998) have documented a decrease in depressive symptoms following the first few weeks of substance use treatment. The study recruited women who would be released from prison in the near future in order to evaluate the effects of MDD treatment on both in-prison and post-release outcomes.

1.3. Appropriateness of IPT for MDD among women in prison

IPT is an evidence-based treatment with proven effectiveness for MDD in non-criminal justice settings in both individual and group formats (Bolton et al., 2003; Elkin et al., 1989; Frank and Spanier, 1995; Frank et al., 1991; Levkovitz et al., 2000; Rossello et al., 2008; Shea et al., 1992). Studies to date have not found IPT to be superior to other treatments as a standalone substance use disorder treatment (Carroll et al., 1991, 2004; Markowitz et al., 2008; Rounsaville et al., 1983, 1986b). However, these studies included few female subjects, few subjects with MDD, and little or no concurrent substance use treatment. In contrast, the current study tested whether IPT can improve MDD and outcomes of concurrent substance use treatment during a demanding and high-stakes life transition (i.e., community re-entry).

IPT's focus on addressing interpersonal stressors and life changes may be a good fit for the treatment needs of women prisoners with MDD. IPT identifies a current interpersonal crisis in one of four areas (role dispute, role transition, interpersonal deficits, grief) as the proximal trigger for the current depressive episode and addresses it by helping individuals improve communication, mourn losses, or adapt to changes by building or better utilizing a social support network (Weissman et al., 2000). The first focus area, *role disputes* (or conflicts), works with individuals to address conflict by negotiating differing expectations in relationships. Women prisoners face many conflicts. These include disagreements within the prison, abusive or exploitative romantic relationships, friends' and family members' continued involvement with drugs and crime, and negotiation with caretakers to ensure their children's well-being (Enos, 2001). Women prisoners are also attempting to make several major *role transitions*. They go to prison, are separated from loved ones, and then return to the community. In the process, they often lose jobs, lose and regain primary care of their children, and seek to leave a criminally involved or drug-abusing lifestyle (Freudenberg et al., 2005; Garcia Coll et al., 1998; Hurley and Dunne, 1991). In fact, one study found that 90% of newly sentenced female prisoners experienced clinically significant levels of life change and loss stressors in the past year. Their *average* "life change unit" score was more than twice the clinical cutoff (Keaveny and Zauszniewski, 1999). Women prisoners have commonly experienced physical and/or sexual abuse (Browne et al., 1999; Greenfeld and Snell, 1999; McDaniels-Wilson and Belknap, 2008; Tusher and Cook, 2010), parental neglect and rejection, and marital and family conflict (Klein and Santiago, 2003). These experiences can isolate women and contribute to problematic interpersonal patterns (*interpersonal deficits*). Finally, prisoners are more likely than many other populations to lose a friend or family member through traumatic death (*grief*; Hurley and Dunne, 1991). One study found that 26% of newly sentenced prisoners had lost a family member to death in the past year, and 27% had experienced the death of a close friend during that time (Keaveny and Zauszniewski, 1999). Bereavement may be exacerbated by other losses such as family dissolution and loss of parental rights to children (Genty, 2001).

IPT's emphasis on developing social support may also benefit women in prison. Social support and peer support are strongly related to treatment engagement during and after prison, understanding of prison program rules, and prison program participation (Sacks and Kressel, 2005; Simpson, 2005; Skeem et al., 2009). A lack of social support predicts likelihood of substance use relapse, parole violations, and re-incarceration (Benda, 2005; Liau et al., 2004; Parsons and Warner-Robbins, 2002; Skeem et al., 2009), especially for women (Simpson et al., 2004). Furthermore, loneliness and stress are strong predictors of suicidality among incarcerated populations (Bonner and Rich, 1990; Brown and Day, 2008). IPT's focus on social support may augment prison substance use treatment because poor social support has been associated with drinking to cope (Holahan et al., 2004), dropping out of addiction treatment (Dobkin et al., 2002), and failure to maintain abstinence