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"I kicked the hard way. I got incarcerated." Withdrawal from methadone during incarceration and subsequent aversion to medication assisted treatments

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Abstract

Incarceration is a common experience for individuals with opioid use disorder, including those receiving medication assisted treatments (MAT), such as buprenorphine or methadone. In the United States, MAT is rarely available during incarceration. We were interested in whether challenges with methadone maintenance treatment during incarceration affected subsequent attitudes toward MAT following release. We conducted semi-structured interviews with 21 formerly incarcerated individuals with opioid use disorder in community substance abuse treatment settings. Interviews were audio recorded, transcribed, and analyzed using a grounded theory approach. Themes that emerged upon iterative readings of transcripts were discussed by the research team. The three main themes relating to methadone were: 1) rapid dose reduction during incarceration; 2) discontinuity of methadone during incarceration; and 3) post incarceration aversion to methadone. Participants who received methadone maintenance treatment prior to incarceration reported severe and prolonged withdrawal symptoms from rapid dose reductions or disruption of their methadone treatment during incarceration. The severe withdrawal during incarceration contributed to a subsequent aversion to methadone and adversely affected future decisions regarding reengagement in MAT. Though MAT is the most efficacious treatment for opioid use disorder, current penal policy, which typically requires cessation of MAT during incarceration, may dissuade individuals with opioid use disorder from considering and engaging in MAT after release from incarceration.

Keywords

Opioid use disorder; methadone maintenance treatment; buprenorphine maintenance treatment; incarceration; opioid withdrawal syndrome

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1. Introduction

The consequences of opioid use disorder are wide ranging, and include increased risk of overdose, overdose related death, transmission of HIV or Hepatitis C Virus, and contact with the criminal justice system (Boutwell, Nijhawan, Zaller, & Rich, 2007; Degenhardt et al., 2011; Kinlock et al., 2007; Reimer et al., 2011) . These consequences adversely impact both individual well- being and community health. In 2013, more than 2 million Americans met criteria for opioid use disorder, including 1.9 million endorsing opioid analgesic abuse or dependence and 517,000 endorsing heroin abuse or dependence (Substance Abuse and Mental Health Services Administration, 2014). Medication assisted treatments (MAT) for opioid use disorders, including maintenance treatment with methadone or buprenorphineare effective at reducing illicit opioid use, HIV risk behaviors, and overall mortality, and may reduce criminal recidivism rates (Marsch, 1998;Mattick, Breen, Kimber, & Davoli, 2014; Woody et al., 2014). Despite the strong evidence base supporting its use, MAT remains underutilized in community settings, as well as within penal facilities, such as jails and prisons (Chandler, Fletcher, & Volkow, 2009; Fiscella, Moore, Engerman, & Meldrum, 2004; Kinlock, Gordon, Schwartz, & Fitzgerald, 2010; Larney, Toson, Burns, & Dolan, 2011).

Opioid use disorder and incarceration are closely related with an estimated one third of heroin users or 200,000 individuals passing through U.S. penal facilities annually (Boutwell, Nijhawan, Zaller, & Rich, 2007). In the most recent national surveys of jail and prison inmates almost two thirds met criteria for a substance use disorder, and up to one quarter had opioid use disorder (Karberg & James, 2005; Mumola & Karberg, 2006). In New York, 83% of state prisoners are considered to be drug involved, and in 2008, 33% were incarcerated for drug-related offenses (The Correctional Association of New York, 2011). Despite the high prevalence of substance use disorders among individuals in penal facilities, treatment options during incarceration are often limited (Fiscella, Pless, Meldrum, & Fiscella, 2004.) In the United States, few jail or prison inmates receive medication assisted treatment for opioid use disorder during incarceration. In 2008, fewer than 2000 prisoners, less than 0.1% of the total prison population, received buprenorphine or methadone (Larney et al., 2011). Though 28 state prison systems report offering methadone, over half limit treatment to select populations, such as pregnant women or individuals with chronic pain (Nunn et al., 2009). Major reasons for not offering medication during incarceration include strict federal laws governing administration of MAT, preference for drug free detoxification, as well as ideological opposition to MAT (Harris et al., 2012). In New York City, the major jail complex on Rikers Island has offered MAT since 1986, improving access to treatment and preventing disruptions in treatment for those already receiving community MAT (Tomasino, Swanson, Nolan, & Shuman, 2001). By contrast, New York State prisons, which incarcerate individuals for felony convictions or sentences longer than a year, do not offer MAT. Failure to offer MAT during incarceration may affect long-term management of opioid use disorder following release, but this area is not well studied.

We conducted a qualitative study investigating attitudes towards MAT among formerly incarcerated individuals with opioid use disorder. The overarching goal of the study was to

identify barriers to and facilitators of buprenorphine maintenance treatment following release from incarceration. This secondary analysis focused on whether challenges with methadone maintenance treatment during incarceration affected subsequent attitudes toward MAT following release. Findings can inform policies regarding MAT at penal facilities.

2. Material and methods

We conducted semi structured interviews with 21 formerly incarcerated individuals with opioid use disorder between November 2012 and December 2013. The study was approved by the Institutional Review Board of the Albert Einstein College of Medicine.

2.1 Participants

Inclusion criteria were: 1) incarceration (≥ 1 day in jail or prison) in the previous 5 years; 2) opioid use disorder; 3) 18 years of age or older; and 4) fluent in English or Spanish.

Prior receipt of MAT was not an inclusion criterion, but we targeted sampling to include participants with diverse experiences with substance abuse treatment, including buprenorphine maintenance, methadone maintenance, and non-pharmacologic treatment. This sampling approach was to recruit participants with different potential attitudes toward MAT, because of the primary study objective.

We recruited participants from a federally qualified health center (FQHC) and from a community based organization (CBO) that provides non-pharmacologic treatment for substance use disorders to formerly incarcerated individuals. The FQHC houses a buprenorphine treatment program that serves individuals with opioid use disorder and a "transitions clinic" that serves formerly incarcerated individuals (Cunningham et al., 2008; Fox et al., 2014). The study was described at a monthly buprenorphine provider meeting at the FQHC and four physicians subsequently referred potential study subjects who had received buprenorphine treatment. Two physicians at the transitions clinic referred patients who had received methadone treatment. The CBO provides court-mandated treatment for substance use disorders to parolees following release from penal facilities, and allows participants to utilize buprenorphine or methadone if prescribed. The study was described to a group of substance use disorder counselors who then referred potential subjects from their non-pharmacologic treatment groups. Potential subjects were then screened for inclusion criteria.

2.2 Setting

This study was conducted in the community but most participants had experience at Rikers Island (New York City Jail) and New York State prisons, where MAT was and was not available, respectively. The availability of MAT at Rikers Island is through the KEEP program, which offers treatment for acute opioid withdrawal or maintenance treatment in some circumstances. Individuals with a sentence of less than one year and not on parole, facing a warrant or felony charge, would meet criteria for maintenance treatment, while individuals being transferred to prison would not. In 2008, 8000 individuals were tapered off methadone and 4000 individuals were continued on or initiated methadone maintenance treatment (Harris et al., 2012).

2.3 Data Collection

A trained research assistant obtained informed consent and conducted face to face interviews lasting approximately one hour in a private room at the FQHC or CBO. All interviews were audiotaped and professionally transcribed; one was translated from Spanish to English prior to transcription. Participants were compensated with $20 and a $5 transit pass.

2.4 Interviews

We developed an interview guide to elicit participants' experiences with treatment for opioid use disorder, incarceration, community reentry, and attitudes toward methadone and buprenorphine. Participants also completed surveys eliciting socio-demographic information. The semi-structured interviews were guided by the participants; open ended questions were followed up with more specific probes based on their responses. For example, the question, "Can you tell me about the last time that you were incarcerated?" was followed by more specific questions: "How about your drug use when you were in jail or prison? Can you tell me about any craving or withdrawal symptoms that you had? Can you tell me about the treatment for heroin addiction that was available while you were incarcerated (groups, methadone, Suboxone, etc.)?"

2.5 Data Analysis

We analyzed the data in an iterative process using a Grounded Theory approach. Three investigators (AF, JM, JS) developed a coding scheme to categorize themes that emerged upon readings of the first five transcripts. This coding list was then applied to all 21 transcripts in an iterative process with two investigators independently coding each one. Transcripts were then discussed by the entire research team and discrepancies in coding or revisions to the coding list were resolved by consensus. Agreed upon codes were entered into N Vivo software, so that content from all transcripts could be sorted and extracted by code. For this analysis, codes relating to methadone, withdrawal during incarceration, and attitudes toward MAT following incarceration were retrieved and discussed by the research team in detail. Common themes related to these topics were further refined during discussion and were used to develop an explanatory model regarding incarceration and attitudes toward MAT.

3. Results

The 21 participants were middle aged (median age: 49); all were African American or Hispanic, 18 were male, and 20 spoke English fluently. They had been incarcerated for a median of 16 years (IQR: 5.5-26) as adults, and prison or jail release was a median of 7.5 months (range: 10 days-4 years) prior to interview. Two participants were only incarcerated in jail and not prison. No female participants reported being pregnant during incarceration. The median number of years of heroin use was 24 (IQR: 15-30). All participants participated in non-pharmacologic treatment of substance use disorder during incarceration; six participants were receiving buprenorphine at the time of interviews, and three were receiving methadone (see Table 1).

3.1 Methadone Treatment During Incarceration

Methadone was available within jail, but the majority of participants were eventually transferred to state prison where it was unavailable, which contributed to negative experiences with substance use disorder treatment during incarceration. The three main themes relating to methadone that emerged were: 1) rapid dose reduction during incarceration; 2) discontinuous and inadequate care during incarceration; and 3) post incarceration aversion to methadone. Each theme is discussed in detail below with direct quotes from participants that demonstrate key concepts.

3.2 Rapid dose reduction

Participants receiving methadone at the time of their incarceration described that—as per protocol—they would receive methadone or buprenorphine at the local jail once evidence of community based care was established. If they remained in jail, methadone would be continued until release, at which time their care would be transferred back to the community program. However, participants who had been sentenced for felonies were transferred to state prisons where MAT was unavailable, and they were withdrawn from methadone (or "detoxified") by sequential dose reductions. Many participants expressed that the timescale of their dose reduction was dictated less by their individual medical needs, and more by their charges or administrative expediency.

Participants typically reported having their methadone withdrawn over 14-30 days. Though one participant was satisfied with the dosage taper, most participants stressed that the reduction was more rapid than would occur in community treatment programs. One 49 year old male who chose to initiate buprenorphine (and not restart methadone) following release from incarceration described how methadone was rapidly withdrawn:

> *…it was amazing because [the detoxification process] was 14 days. It's such a short amount of time*.

For others, the period of detoxification was even shorter without reasons given to participants. One 33 year old male, who chose to initiate buprenorphine instead of restarting methadone after release from incarceration, reported:

> *In five days they took you out of [methadone]. In five days they took you out and I was [taking] 150mg. They put you in a room and then you going to be right there for a little [while] and that's too fast*.

Some participants speculated about the protocols followed by the jail treatment program and suggested that it was too algorithmic and not specifically attuned to individual medical needs. One participant, a 54 year old male, reported that the dose he received in the community was not continued during incarceration, which led to withdrawal symptoms. This participant stated that there was a cap on the dosage provided:

> *First of all, if you're on 200 mg of methadone, in jail, they give everyone 40[mg]. [Then] they decrease your medication little by little until you get to 5. Once you're at 5, you go in the next day to report in and they say no more. You have to be uncomfortable for 30 days, sometimes 60 days without being able to sleep...*

The effect of the rapid dose reduction was that many participants reported severe withdrawal symptoms. A 45 year old participant reported pain so intense that he contemplated suicide and required psychiatric care:

> *They detoxed me and it was really cruel. I was going crazy. I wanted to hang myself and I couldn't deal with it. Honestly, when I finished, I was in so much pain that I had to go to the psychiatric [ward] so I could try to get some type of pills*.

3.3 Discontinuous and inadequate care

Even when participants were able to continue methadone maintenance treatment, frequent treatment disruptions or delivery of non-evidence-based care led participants to believe that they were receiving inadequate care. These problems with methadone delivery included delays in initiating treatment, discontinuous dosing, and inattention to medical needs or withdrawal symptoms. These frequent disruptions often induced withdrawal symptoms, which made treatment a hassle for some participants and unbearable for others.

A 50 year old participant, who at the time of interview preferred abstinence to medication assisted treatment, described how disruptions to medical care began at the time of arrest with delays in initiating methadone treatment:

> *It takes a week before you get the methadone. It's like you take three days to go through the process and procedures to see the judge; that's three days. Then when you get to [jail], you have to get a medical [exam] and then you see the doctor. Okay. So, now that's five days already that you've gone without anything…and you're sick [throughout this time]*.

Treatment disruption continued during incarceration leading to discontinuous dosing. A 50 year old female participant, who did not re-initiate MAT following incarceration, reported that medical needs were often subordinate to procedural requirements:

> *[Methadone administration] wasn't consistent…They would put you on it but then if you had a court date, it reschedules, and then when you came back from court, you would miss days and things like that, and that's in Rikers [jail]*.

Participants also reported that their medical needs were not considered when sentencing or procedural decisions were made by security staff. A 47 year old male who was receiving methadone during incarceration explained how he was sentenced to an intensive exercise program, despite also experiencing methadone withdrawal symptoms:

> *I was on 140mg [of methadone]… they made a decision that they were going to send me to High Impact, which is a 60 day [intensive exercise] program…I almost died behind that shit…When I got there, the superintendent called me and said, 'you're not getting no more medication no more.' So, [one day] I started marching, but I stood in the back. The platoon was marching straight down, I started marching straight up. I went up the stairs. And, right there, as soon as I knocked on the door where the director of the methadone program is. Right there I threw up*.

For other participants, inadequate care was embodied by inattention to withdrawal symptoms from non-medical prison staff, who failed to facilitate access to medical care.

When participants believed they were receiving inadequate care, one way to gain medical attention was to over-report or feign medical symptoms that were more likely to be taken seriously than withdrawal symptoms.

> *I'd be like: I'm sick, I'm sick. The only way I can get to the emergency room is if I say I got chest pain…if you just say I'm kicking off this meth[adone] they're not going to.*

One consequence of this indifference to medical need was a sense of alienation. One participant, a 48 year old man who chose not to continue methadone or buprenorphine at the time of interview, reported:

> *…you've got to have a real need where you're off the wall climbing, before anyone asks your needs. They don't want to give you nothing. Jail does not even want to feed you. They will not give you nothing.*

3.4 Post incarceration methadone aversion

Following these experiences of rapid dose reductions and perceived inadequate care, many participants decided not to re-initiate methadone after community reentry. Participants reported that the painful withdrawal symptoms experienced while incarcerated deterred them from restarting methadone, and, in some cases, from initiating any MAT.

One participant, who started buprenorphine instead of methadone following release from incarceration, reported that he had found the experience of withdrawal from methadone too painful:

> *…and then my parole [officer] was the one that told me: 'Yo, you was on methadone. You going back?' I'm like no, I'm not going back to methadone. 'So what you want to do? Why don't you want to use methadone again?' Because it was the most painful time of my life to get off of that.*

Another participant who had also chosen buprenorphine instead of methadone reported that his strong aversion towards methadone was related to his withdrawal experiences in jail:

> *Participant: I would never take methadone again. Hell no! I suffer[ed]. When it was time to kick methadone, I suffered like I was—I cried like a baby.*
>
> *Interviewer: So what made it time to kick methadone?*
>
> *Participant: I kicked the hard way. I got incarcerated.*

Another participant described how the inadequate care she received in jail contributed to her negative attitude toward methadone, which carried over past her last incarceration:

> *I stayed on methadone for three years and then I was incarcerated again and over the time of being incarcerated there, I managed to detox from it because there was no help to me there...*

Overall, several of the participants who had negative experiences with MAT were reluctant to re-engage in substance abuse treatment, and instead chose to proceed in recovery on their own. A common sentiment was that taking personal responsibility for their substance use

disorder was more important than seeking treatment, which was reflected by a 40 year old participant:

> *So this individual didn't need no Suboxone; he didn't need no methadone. He didn't need no doctor. He didn't need no treatment. All he needed was the willingness and the desire to stop using*.

4. Discussion

In our qualitative study of attitudes towards MAT among formerly incarcerated individuals with opioid use disorder, participants reported severe withdrawal symptoms from rapid dose reductions and disruption of methadone treatment during incarceration. These experiences contributed to an aversion to methadone, which adversely affected future treatment decisions. Though some participants chose to initiate buprenorphine treatment instead of methadone following release from incarceration, others harbored negative attitudes in general to substance abuse treatment. These findings are provocative and suggest that lack of access to evidence-based treatment during incarceration may complicate efforts to maintain high- risk opioid users in effective treatment following release. Thus, current penal policy may dissuade individuals with opioid use disorder from utilizing MAT - the most efficacious treatments available.

A recent trial, which randomized jail inmates to methadone continuation or forced tapered withdrawal from methadone during incarceration, found that participants assigned to forced tapered withdrawal were only half as likely to return to treatment within one month of release (Rich et al., 2015). Our participants' vivid descriptions of opioid withdrawal symptoms and fear of future withdrawal, suggests a mechanism which could explain these striking findings. Even in a penal facility that provided MAT, withdrawal symptoms were common, severe and may have negatively affected attitudes toward MAT. To our knowledge, only one other study, which focused on penal facilities that do not offer MAT, has described the high levels of opioid withdrawal symptoms during incarceration (Mitchell et al., 2009). Our study supports and extends their findings by suggesting that offering methadone in limited settings (e.g., jail but not prison), to select individuals (e.g., not parolees), or with frequent interruptions in treatment, may not be sufficient to engage and retain individuals with opioid use disorder in medical treatment once they reenter the community.

Our findings regarding discontinuation of MAT are particularly concerning because the negative sequelae of opioid use disorder continue during incarceration. In the most recent published data from the Department of Corrections, in New York State prisons, 27 overdose deaths were documented between 1996 and 2005 and numerous other individuals required hospitalization for overdose related reasons (New York State Department of Corrections, 2006). Participants in our study also reported insomnia lasting for months and suicidal ideation. Similar findings were reported in another study, which suggested that "the trauma of imprisonment, coupled with severe opioid withdrawal, can also increase the risk of suicide in opioid dependent individuals with co-occurring disorders" (Bruce & Schleifer, 2008). Withdrawal symptoms, such as severe diarrhea and vomiting, could contribute to spread of infectious diseases (Mitchell et al.,2009). Finally, the corruption and disorder that

accompanies illicit drug sales and use during incarceration could potentially be reduced by offering more comprehensive treatment for substance use disorders during incarceration (Lee & Rich, 2012).

Domestic and international data on treatment of opioid use disorders demonstrate that offering MAT throughout incarceration is feasible and effective. In Australia, methadone maintenance during incarceration has been associated with increased uptake of community opioid use disorder treatment, and lower mortality and HCV infection (Dolan et al., 2005). Similarly, studies from Puerto Rico and France, where buprenorphine treatment is offered during incarceration, demonstrate that treatment is both feasible and facilitates entry into community based treatment (Garcia et al., 2007;Marzo et al., 2009). Outcome data from the KEEP program at Rikers Island demonstrate that when adequate blocking dosages of methadone (> 60 mg) are provided to participants, there is a decrease in recidivism rates and increase in community treatment uptake post-incarceration (Bellin et al., 1999). International treatment and ethical guidelines stress that MAT should be offered during incarceration (Milloy & Wood, 2015). In 2005, the World Health Organization added buprenorphine and methadone to the list of essential medicines (World Health Organization, United Nations Office on Drugs and Crime (UNODC) & Join United Nation Programme on HIV/AIDS (UNAIDS) 2004). In 2006, both UNODC and UNAIDS recommended that governments ensure access to MAT free of charge to prisoners with opioid use disorder whether or not it is available outside of prison (UNODC & UNAIDS, 2004). Thus, typical policies within the United States regarding continuity of MAT during incarceration are inconsistent with the scientific evidence base and ethical and international guidelines.

Our data could also be used for quality improvement efforts within jails and prisons. Specifically in New York, offering methadone (maintenance treatment or tapering protocols) in state prison would obviate the need for rapid dose reductions for those individuals who are convicted for felonies and will be transferred from jail to prison. At the time of incarceration, identifying individuals who receive methadone in the community, confirming methadone dosages, and rapidly reinitiating treatment presents a logistical challenge; however participants reported that security staff was inattentive to their needs, so better training and reporting protocols could have an impact. Additionally, because of the evidence supporting initiation of methadone or buprenorphine prior to release from prison, if methadone is not offered to individuals with long sentences, at least reinitiating MAT before release could improve rates of treatment entrance in the community (Rich et al., 2015; Gordon et al., 2014; Kinlock et al., 2007).

Our study had several limitations. First, our participants were exclusively from New York City and their experiences may not be representative of the experiences of inmates in other geographic locations. Second, most of our study sample was male, while substance use disorders are prevalent among female inmates who constitute the fastest growing inmate demographic in the United States (Proctor, 2012). Third, more of our participants were currently receiving buprenorphine treatment than methadone, leading to possible selection bias. Fourth, some of the challenges in methadone administration described in the study (e.g. discontinuous dosing) may also occur in community-based methadone maintenance treatment programs. Additionally, we did not adapt our interview guide during the study to

gauge the impact of methadone withdrawal during incarceration on future treatment decisions in more detail. This theme emerged upon iterative readings of transcripts, but future studies exploring the link between incarceration and “methadone aversion” may provide additional details regarding treatment decisions.

5. Conclusion

Medication assisted treatment is an evidence based therapy for the chronically relapsing condition of opioid use disorder. Failure to ensure prisoner access to opioid use disorder treatment leads to painful withdrawal experiences, and also deviates from domestic and international medical guidelines. Offering consistent medication assisted treatment in penal facilities, such as jail and prisons, could reduce suffering, and encourage individuals with opioid use disorder to remain engaged in evidence based treatment following release.

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Highlights

- This qualitative study examined the barriers to evidence-based opioid agonist treatment in formerly incarcerated individuals with opioid use disorder in the Bronx, NY.
- Inadequate access to methadone maintenance treatment during incarceration was perceived to be a barrier to opioid agonist treatment post-release.
- Subjects who received methadone prior to incarceration reported high levels of withdrawal symptoms during incarceration, which led to subsequent aversion to opioid agonist treatment post-release.
- Policies of American penal facilities may be discouraging individuals with opioid use disorder from seeking opioid agonist treatment upon re-entry.

Table 1

Sociodemographic Characteristics (N = 21)

Characteristic	N (%)
Age, median years (Interquartile range)	49 (46 – 52)
Male	17 (81)
Race/Ethnicity	
Hispanic	13 (62)
Non-Hispanic Black	8 (38)
Medicaid	19 (90)
High school diploma or equivalency	11 (52)
Ever injected drugs	15 (71)
Current substance use[a]	
Heroin	6 (29)
Other opioid analgesics	2 (10)
Cocaine	3 (14)
Lifetime substance use[b]	
Heroin	21 (100)
Other opioid analgesics	9 (43)
Cocaine	17 (81)
Treatment during incarceration	
Methadone	13 (62)
Non-pharmacologic treatment	20 (95)
Buprenorphine[C]	0 (0)
Any opioid addiction treatment	21 (100)

[a] within the previous 30 days

[b] regular use within lifetime

[C] 8 participants received buprenorphine maintenance treatment following release from incarceration