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RE-ENTRY NEEDS AMONG A POPULATION WITH CO-OCCURRING OPIOID USE AND MENTAL HEALTH DISORDERS IN MASSACHUSETTS, USA JAILS: PART OF A NATIONAL PLAN TO ADDRESS THE OPIOID EPIDEMIC

NECESIDADES DE REINSERCIÓN SOCIAL DENTRO DE UNA POBLACIÓN CON TRASTORNOS CONCURRENTES DE USO DE OPIOIDES Y DE SALUD MENTAL EN CÁRCELES DE MASSACHUSETTS, EEUU: PARTE DE UN PLAN PARA ABORDAR LA EPIDEMIA DE OPIOIDES

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Abstract

Introduction. Studies show that the release from jail is a vulnerable transition for individuals with opioid use disorder re-entering their communities. Less is known about individuals with co-occurring mental health and opioid use disorders (COD), particularly their specific needs following release. ***Objectives.*** To describe the needs of people with COD within two weeks of release jail. ***Methods.*** Baseline data from 155 individuals with COD were collected within two weeks of release from jail across 9 counties in Massachusetts. Univariate analyses were conducted to determine baseline needs. ***Results.*** The majority of participants were male (78.7%), White (64.5%), and non-Hispanic (75.5%). The most relevant needs among participants were employment (88.4% were unemployed), opioid overdose prevention (67.7% had at least one non-fatal opioid overdose), mental health symptoms (participants reported anxiety or tension an average of 8.9 days in the past 30 days), and trauma support/treatment (71.6% reported at least one traumatic event in their lifetime). ***Conclusions.*** Individuals with COD re-entering their communities have critical needs that must be addressed upon release.

Resumen

Introducción. Estudios demuestran que el período después de que un individuo con desorden de uso de opioides sale de la cárcel es un período vulnerable. Poco se sabe sobre cuáles son las necesidades para personas que salen de la cárcel y tienen desórdenes concurrentes de salud mental y uso de opioides (COD). ***Objetivos.*** Describir las necesidades que presentan las personas con COD dentro de las dos semanas después de ser liberados de la cárcel. ***Metodología.*** Data de 155 individuos con COD fue recolectada dentro de las dos semanas posteriores a la liberación en 9 cárceles en Massachusetts. Se hicieron análisis univariados para determinar las necesidades. ***Resultados.*** La mayoría de los participantes eran hombres (78.7%), blancos (64.5%), y no hispanos (75.5%). Las necesidades más relevantes eran empleo (88.4% estaban desempleados), prevención de uso de opioides (67.7% dijeron haber tenido una sobredosis no mortal), salud mental (los participantes reportaron ansiedad o tensión un promedio de 8.9 días en los últimos 30 días) y apoyo sobre trauma (71.6% reportaron por lo menos una experiencia traumática en la vida). ***Conclusiones.*** Individuos con COD que están reingresando a sus comunidades presentan necesidades críticas que deben ser tratadas de forma rápida.

Keywords

Addiction, Co-Occurring Disorders, Criminal Justice, Mental Health, Opioid Use Disorders.

Palabras clave

Adicción, Justicia Criminal, Salud Mental, Trastornos Concurrentes, Trastorno por Consumo de Opioides.

Introduction

Since the late 1990s, the United States (U.S.) has experienced an opioid epidemic that resulted in high rates of mortality and morbidity (Lyden & Binswanger, 2019). As of 2018, an estimated 10.3 million Americans ages 12 and older misused opioids (SAMHSA, 2019). In 2017, approximately 652,000 Americans had an opioid use disorder (OUD) specifically attributable to heroin use, and 1.7 million had an OUD attributable to synthetic opioids (e.g., Fentanyl, and other nonmedical use of prescription opioids), resulting in 0.8% of Americans with an OUD (SAMHSA, 2018). Data from the National Vital Statistics System indicates that in 2018, 46,802 people experienced at least one fatal opioid-related overdose (Hedegaard et al., 2020), and, in 2017, 305,623 suffered a nonfatal opioid-related overdose (Vivolo-Kantor et al., 2020). In parallel, there are increasing rates of opioid use and mortality in Africa, Asia, and Europe (Krausz et al., 2021). For example, countries in West, Central and North Africa are experiencing an opioid crisis fueled in part by the increased use of Tramadol, and countries including Estonia, Lithuania, Sweden, Finland, and Norway show a rise in the rate of opioid related fatalities (Krausz et al., 2021). Moreover, in Spain, opioid consumption has almost doubled in the previous ten years (AEMPS, 2021).

U.S. based research suggests that about half of people with OUD also have a co-occurring mental health disorder (referred to as COD hereafter) (Winkelman et al., 2018). Individuals with a COD are vulnerable to more relapses as compared to individuals with OUD only (Flynn & Brown, 2008), have difficulty engaging in care and experience prolonged cycles of use (Peterson et al., 2014), experience lower access to family and social support (Baillargeon et al., 2010), and have a greater propensity to engage in risky behaviors that can lead to unemployment and homelessness (Di Lorenzo et al., 2014). Furthermore, 60% to 80% of people who are in jails and prisons have a COD (Peters et al., 2015; Harris & Jenkins, 2019), one in four people passing though the criminal justice system every year have OUD (Binswanger et al., 2013; Bronson et al., 2017), and those with a COD are more likely to return to jail or prison earlier than other formerly incarcerated individuals (Cloyes et al., 2010). International studies have also observed similarly high rates (Baranyi et al., 2019).

Reentry from jail is a vulnerable period for individuals with both a COD and OUD and can inform various needed programming to help address unmet needs. For example, individuals with an OUD leaving incarceration have over a hundred-fold risk of fatal overdose within the two-week period from release (Binswanger et al., 2007). They also have other needs including housing and employment upon release. However, less is known about the needs of those with a COD which could be more substantial given that people with both mental health and substance use issues often have other disparate psychosocial needs compared to a non-reentry population. Therefore, this paper will fill this gap in the literature by examining the needs of people with COD within two weeks of release from nine jails in Massachusetts to help inform post-release treatment and support services.

Methods

Design and Participants

Data for this research was funded from one of Substance Abuse and Mental Health Services' (SAMHSA) State Opioid Response (SOR) grants that supported a project called Medication Assisted Treatment Re-entry Initiative (MAT-RI). MAT-RI aimed to reduce criminal justice recidivism, increase access to treatment and recovery support services, reduce unmet treatment needs, as well as reduce the prevalence of OUD, and opioid overdose for re-entry populations. Moreover, MAT-RI specifically targeted clients with a COD, to support this vulnerable population during a critical transitional time period. Baseline data was collected within two weeks of post release as part of a larger treatment outcome study.

Data Collection Procedure

Clients met the following inclusion criteria to be deemed eligible for services: (1) be 18 years or older at the time of screening; (2) meet the Diagnostic and Statistical Manual (5th ed.; DSM-5; American Psychiatric Association, 2013)

criteria for OUD, or have been prescribed any type of Medication for Opioid Use Disorder (MOUD), or have had a history of opioid-related overdose (one or more); (3) have a comorbid mental health disorder; and (4) city or town of release was in Massachusetts rather than other states outside of the SAMHSA grant catchment area. The jails were located in Bristol, Suffolk, Norfolk, Franklin, Hampden, Worcester, Hampshire, Middlesex, and Essex (areas with geographic variability).

Criminal Justice, Behavioral Health, and Substance Use Measures

Clients completed a baseline assessment administered by re-entry staff within two weeks of release from jail. Self-reported baseline data included the Government Performance and Results Act (GPRA) measure (SAMHSA, 2015), particularly several components of the Addiction Severity Index (ASI).The screener included the following items: (1) DSM-5 criteria for OUD; (2) opioid overdose history (e.g., number of non-fatal overdoses); (3) release date; (4) city/town of release; and (5) history of MOUD prescription(s). Data from the GPRA and ASI measure included self-reported demographics, substance use, mental health, health satisfaction, criminal justice, and social connectedness domains.

Data Analysis

To determine baseline characteristics and psychosocial needs of the study sample, univariate analyses were conducted using IBM SPSS Statistics (Version 26).

Ethical Considerations

This project was reviewed by the University of Massachusetts Medical School and the Massachusetts Department of Public Health Intuitional Review Boards (IRBs), and clients signed informed consent to participate. The IRBs determined this study to be program evaluation rather than research.

Results

Table 1 includes all baseline characteristics of the study participants. Data was collected from nine jails in Massachusetts, with a total of 244 enrollments spanning from 2017-2019. Of those 244 enrollments, 177 clients were released from jail and received post-release services. Of those 177 clients, 155 clients (87.6%) completed the baseline assessment within two weeks of release. Participants had an average age of 35.5 (SD = 9.15), and the majority were male (78.7%), white (64.5%), and non-Hispanic (75.5%). Most participants (72.3%) had a least one child, with an average of 2.46 (SD = 1.48) children.

Table 1. *Participant Baseline Characteristics (N=155)*

Characteristic	*n* (%)	*M(SD)*
Demographics & General Information		
Age (Years)		35.5 (9.15)
Gender		
Female	32 (20.6%)	
Male	122 (78.7%)	
Other	1 (0.6%)	
Race		
Black	23 (14.8%)	
White	100 (64.5%)	

Native American	1 (0.6%)	
Multiracial	6 (3.9%)	
Unknown	25 (16.1%)	
Ethnicity		
Hispanic	38 (24.5%)	
Non-Hispanic	117 (75.5%)	
Education		
Below High School	41 (26.5%)	
High School	94 (60.6%)	
Beyond High School	20 (12.9%)	
Children		
At least one child	112 (72.3%)	
No children	42 (27.1%)	
Unknown	1 (0.6%)	
Number of children		2.5 (1.48)
Participants with children living with someone else due to court order	10 (8.9%)	
Employment		
Employed	18 (11.6%)	
Unemployed	137 (88.4%)	
Do you have enough money to meet your needs?		
Not at all	103 (66.5%)	
A little	27 (17.4)	
Moderately	11 (7.1%)	
Mostly	11 (7.1%)	
Completely	3 (1.9%)	
Criminal Justice Involvement		
Client on parole or probation	81 (92%)	
Client awaiting charges, trial, or sentencing	7 (8%)	
Substance Use (Lifetime)		
Client used opioid medication without a prescription or longer than prescribed	145 (93.5%)	
Client used heroin	137 (88.4%)	
Client experienced one or more non-fatal opioid overdose(s)	105 (67.7%)	
Client received inpatient, outpatient, and/or emergency substance use treatment (past 30 days)	34 (21.9%)	
Mental Health & Trauma		
Psychological/Emotional Problems (Past 30 Days)		
Anxiety or tension		8.92 (10.71)
Prescribed medication for psychological problem		7.43 (12.93)
Depression		4.06 (7.79)
Trouble understanding, concentrating, or remembering		3.52 (8.75)
Trouble controlling violent behavior		0.25 (2.44)
Hallucinations		0.10 (1.14)
Experienced violence or trauma in any setting	111 (71.6%)	
Were constantly on guard, watchful, or easily startled	79 (71.2%)	

Tried hard not to think about it or went out of their way to avoid situation that remind them of it	74 (66.7%)
Have had nightmares about it or thought about it when they did not want to	72 (64.9%)
Felt numb and detached from others, activities, or surroundings	66 (59.5%)
Social Connectedness (Past 30 Days)	
Had interactions with family and/or friends that were supportive of recovery	133 (85.8%)
Attend voluntary self-help groups for recovery not affiliated with a religious organization	78 (50.3%)
Attend meetings of other organizations that support recovery	37 (23.9%)
Attend religious/faith affiliated recovery self-help groups	25 (16.1%)
Quality of Life & Health Satisfaction.	
How would you rate your quality of life?	
Very good	23 (14.8%)
Good	86 (55.5%)
Neither poor nor good	38 (24.5%)
Poor	5 (3.2%)
Very Poor	3 (1.9%)
How satisfied are you with your health?	
Very satisfied	22 (14.2%)
Satisfied	103 (66.5%)
Neither satisfied nor dissatisfied	20 (12.9%)
Dissatisfied	6 (3.9%)
Very dissatisfied	3 (1.9%)
How satisfied are you with your ability to perform you daily activities?	
Very satisfied	41 (26.5%)
Satisfied	95 (61.3%)
Neither satisfied nor dissatisfied	12 (7.7%)
Dissatisfied	3 (1.9%)
Very dissatisfied	4 (2.6%)
Client received inpatient, outpatient, and/or emergency treatment for physical complaint (past 30 days)	11 (7.1%)

Education & Employment. Over half of participants reported that their highest education attained was a high school degree (60.6%). 41 participants (26.5%) indicated less than a high school degree, and 20 (12.9%) received an education higher than a high school degree. Regarding employment, 137 (88.4%) reported being unemployed, and 103 (66.5%) reported not having enough money to meet their needs.

Substance Use. Most participants (93.5%) reported the use of a prescription opioid without a prescription, or longer than prescribed in their lifetime. Furthermore, 137 participants (88.4%) reported using heroin, and 105 participants (67.7%) indicated experiencing at least one non-fatal overdose in their lifetime. More than one in five participants (21.9%) received inpatient, outpatient and/or emergency department (ED) substance use treatment in the past 30 days (3.9%, 20%, 0.6%, respectively).

Mental Health Symptoms & Trauma. Regarding mental health symptoms, 111 (71.6%) reported experiencing at least one traumatic event in their lifetime. The majority of participants stated they had experienced one or multiple symptoms for post-traumatic stress disorder, including startlement (71.2%), avoidance (66.7%), nightmares (64.9%), and/or numbness (59.5%). In the past 30 days, clients reported an average of 8.92 days experiencing anxiety or tension (SD

= 10.71), 7.43 days using prescribed medication for psychological problems (SD = 12.93), 4.06 days experiencing depression (SD = 8.75), and 3.52 days experiencing trouble understanding, concentrating, or remembering (SD = 8.75).

Quality of Life & Health Satisfaction. Most participants (70.3%) rated their quality of life as either good or very good. Similarly, 80.7% of participants reported being satisfied or very satisfied with their overall health. 87.8% of participants said that they were satisfied or very satisfied with their ability to perform their daily activities. Finally, 7.1% of participants reported receiving inpatient, outpatient, and/or ED treatment for physical complaint.

Criminal Justice. Most participants (92%) reported being released under community supervision (e.g., parole or probation), and 7 participants (8%) were waiting charges, trial, or sentencing without supervision.

Social Connectedness. Most participants (85.8%) reported that they had had interactions with family and/or friends who were supportive of their recovery. Moreover, more than half of clients indicated attending voluntary self-help groups for recovery not affiliated with a religious organization (50.3%) (e.g., AA/NA/smart recovery). Only 37 participants (23.9%) attended meetings with other types of organizations that support recovery, and 25 (16.1%) attended religious recovery self-help groups.

Discussion

This paper fills a void in the literature given that it looks at the needs of people with COD within two weeks of release from jail. Most notably, the majority of participants reported being unemployed, having a history of non-fatal overdoses in their lifetime, experiencing traumatic events, and suffering mental health difficulties in the past 30 days. These results highlight that the needs of these individuals are complex during the two-week period after release from jail.

One key finding was regarding unemployment. In this study, 88.4% of the participants with COD were unemployed, a higher rate than those observed in studies with people with OUD only (60-70%) (Hooker et al., 2020). Similarly, this unemployment rate is higher than others reported in people with COD not in a CJ setting (77.8%) (Jaffe et al., 2012). Other studies have observed that unemployment is associated with involvement in future criminal activities (Kleck & Jackson, 2016), but increasing one's income through employment reduces criminal behavior (Wooditch et al., 2014). Additionally, individuals releasing from jail struggle to find necessary employment services and health care, compounding their complexities (Semenza & Link, 2019). Redcross et al. (2011) observed that offenders who entered vocational training within three months of release were less likely to recidivate compared to those who did not go to vocational training and compared to those who went three months after release. Thus, from a public health and public safety perspective, services during this vulnerable transition-point need to focus on support to help attain and sustain employment.

A second key finding was related to the high rates of overdose. In this study, 67.7% of the participants reported experiencing at least one non-fatal overdose in their lifetime (almost 50% higher than other studies focused on OUD only) (Kerr et al., 2007; Winter et al., 2015). Moreover, literature from Binswanger et al. (2007) indicates this is a vulnerable period with more than a hundred-fold risk of fatal overdose, with the risk being compounded but the fact that this population has a history of prior overdoses. From a public health perspective, non-fatal opioid overdose survivors constitute a high priority population, and providing services to this population during reentry is a critical point of intervention to reduce opioid overdose mortality rates. Given the extraordinarily high rate of prior non-fatal opioid overdoses, MOUD induction prior to release, and maintenance during the transitional period is an effective recommended treatment to help individuals with OUD (Dydyk et al., 2020). Studies report that individuals who receive MOUD prior to release have improved outcomes, including increased enrollment in community-based substance use treatment, decreased rates of subsequent overdoses, lower rates of recidivism and substance use, and improvements in mental and physical health (Lee et al., 2016).

A third key finding was regarding social support. A majority of participants in this study had positive interactions with

family and/or friends who were supportive of their recovery. Furthermore, more than half of the study population indicated attending self-help recovery groups within two weeks of release. Interestingly, these findings are inconsistent with existing literature, documenting that people who release from jail and have a substance use usually receive inadequate social support (Malta et al., 2019). Pettersen et al. (2019) suggest that positive social interaction, particularly with peers and family members is crucial to initiate and maintain recovery. Future treatment for individuals with COD should also focus on maintaining positive family and friend interactions, while also encouraging individuals to attend self-help groups.

The fourth major finding was related to trauma, with over two-thirds of participants reporting a traumatic event in their lifetime, and mental health difficulties in the past month. Other literature also highlights high rates of trauma among those with a COD, but this is the first study to document it as a need among a re-entry population with COD (Baillargeon et al., 2010). In the U.S., many integrated treatment models for substance abuse disorders and PTSD have been developed and tested; several have met strict criteria for evidence-based practices (Lenz et al., 2016). While there is far to go in adapting these treatment models for justice involved adults with COD, the field has been steadily begun to incorporate recognition, awareness, and knowledge about trauma into treatment and wraparound support interventions to mitigate trauma and mental needs within this population (Killeen et al., 2015). A recent study of a trauma intervention for justice involved men found that trauma intervention fostered significant improvements in general mental health, self-esteem, and self-efficacy (Wolff et al., 2013).

Given the complex needs of individuals with COD releasing from jail, multicomponent interventions have been shown to address the needs of those being released compared to numerous single component with multiple providers. One such multicomponent intervention is called Maintaining Independence and Sobriety through Systems Integration, Outreach, and Networking-Criminal Justice (MISSION-CJ) (Pinals et al., 2014). MISSION-CJ is an intervention that combines assertive outreach with traditional behavioral health treatments to meet the complex needs of individuals with COD. MISSION-CJ has been found to reduce recidivism, mental health symptoms, and substance use amongst justice involved adults with COD (Shaffer et al., 2021).

Limitations

This paper had a number of limitations. It only includes quantity and frequency components of the ASI as part of the GPRA measure. If we had used the full ASI, it would have helped identify a broader picture of addiction severity. Similarly, there were no validated measures for physical health and behavioral health needs, other than the GPRA measure, meaning that participants' physical and mental symptoms might have been even more pronounced than reported. Another limitation is that this study only uses self-report data, as opposed to official record data. However, we wish to note that self-report data are routine in program evaluations to determine the effectiveness of a service delivery model. Finally, this paper does not address risk for reoffending or some salient treatment targets among CJ-involved populations, such as criminal attitudes/orientations and associates (Andrews & Bonta, 2010). Future studies that examine these complex treatment needs among people with COD leaving prison and re-entering their communities would be valuable to the field. Despite these limitations, this paper expands on the literature by delineating the needs of this highly vulnerable population.

Conclusion

This project was the first (to the best of our knowledge) to highlight the needs of individuals with a COD being released from jail. The findings suggest that individuals with a COD have an array of behavioral health, health, social, and CJ needs that need to be addressed upon release. These needs appear to be worse than OUD populations' needs, particularly regarding employment rates, overdose rates, and mental health symptoms. Moreover, we recommend considering a multicomponent intervention that either commences before release, or at minimum, immediately upon release. Such an intervention could help with both the highly vulnerable transitional period in the first two weeks from release as well as in addressing the the complexity of client's needs among this population. Multicomponent interventions should also maintain and bolster social support. Initial research with MISSION-CJ multicomponent intervention is underway in jails in Massachusetts and Michigan and the studies focus on feasibility and accessibility

of the treatment model for reentry. Depending on results, developers will follow up with a large randomized trial of the intervention. While this data was only collected in Massachusetts, it is likely that the needs of the population are similar across the U.S. and perhaps outside of the U.S. More research is needed on the needs of the population in other settings.

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