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Perceived need for depression treatment among persons entering inpatient opioid detoxification

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Abstract

Background and Objectives—Depression is common among persons with opioid use disorder. We examined the perceived need for depression treatment (PNDT) among opioid-dependent patients and the relationship of PNDT to depression screening result.

Methods—Between May and December 2015, we surveyed consecutive persons (n=440) seeking inpatient opioid detoxification. We used the Patient Health Questionnaire-2 (PHQ-2) to screen for depression. To assess perceived need for depression services, participants were asked, “Do you believe you should be treated for depression?” Response options were recorded into four categories: “Not Depressed (ND),” “Perceive Need for Depression Treatment (PNDT),” “Depressed/Don’t Want Treatment,” and “Currently Treated.”

Results—Participants’ mean age was 32.3 ($\pm$ 8.7) years; 70.7% were male. Nearly 2 out of 3 persons screened positive for depression yet only 8.2% were being treated for depression prior to admission. Screening positive for depression was associated with a 2.95 (95% CI 1.82–4.81, $p < .005$) fold increase in the expected odds of PNDT. But nearly half of those depressed (48%) did not perceive the need for treatment. Approximately 40% of the participants (n=177) perceived that they were not depressed; of these persons, 52% screened positive for depression.

Discussion and Conclusions—Detoxification program staff should screen patients for depression, and if a clinical diagnosis is confirmed, discuss treatment options, exploring the level of interest in mental health treatment for depression.

Scientific Significance—Screening for and addressing depression, including patients’ interest in treatment, should be central to post-detoxification aftercare planning.

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Declaration of Interest

The authors report no conflicts of interest. The authors alone are responsible for the content and writing of this paper.

Keywords

opioids; detoxification; depression; mental health services

Background and Objectives

Persons with substance use disorder (SUD) are more vulnerable to mental illness than those without ^{1–3}. In 2014, eight million adults had both mental illness and SUD (referred to as co-occurring disorders) in the past-year; and persons with past-year SUD had a higher likelihood of having any mental disorder than people without SUD (39% and 16%, respectively) ¹. Persons with opioid use disorder have particularly high rates of mental disorders. Depressive disorders are noteworthy for their prevalence in both out-of-treatment and in-treatment samples ^{4–7}. In the context of opioid detoxification programs, opioid users often first turn toward mental health treatment. Teeson reported that 25% of the patients entering treatment for heroin dependence had major depressive disorder ⁸. This opioid use-depression co-occurrence increases the likelihood of suicide, and other psychiatric disorders ⁹ and has adverse prognostic effects ⁶. Therefore, treatment for co-occurring depression should be advised and facilitated for individuals using opioids ^{10,11}.

Nonetheless, having co-occurring disorders does not necessarily lead to patients looking for, or receiving, professional health care for both disorders. One determinant of health care use is its perceived need ^{12–14}. Among persons with SUD, perceived need for substance-use or mental-health treatment is a key step in receiving treatment. Those who perceive the need for mental health care have a higher likelihood of seeking and receiving drug disorder treatments than their counterparts lacking this perception ¹⁵.

The current epidemic of non-medical opioid use and the concomitant increase of overdose incidence and fatalities calls for comprehensive and integrated services that might increase the effectiveness of the treatment of opioid dependence. Treatment for opioid use disorder commonly begins with short-term inpatient detoxification. A critical goal of inpatient detoxification is arranging a program of aftercare. One objective of inpatient detoxification should be to evaluate and begin treatment for dual diagnoses including depression. Screening for mental health symptoms and the assessment of patients' perceived need of mental health services allows for an evaluation of the need for and interest in treatment.

The purposes of this study are to estimate: (1) the prevalence of depression among opioid users at admission to a short-term inpatient detoxification program; (2) the perceived need for depression treatment (PNDT); and (3) the association between PNDT with depressive symptoms. We hypothesized that PNDT would be associated with screening positive for depression.

Methods

Between May 2015 and December 2015, consecutive persons seeking inpatient opioid detoxification were approached at the time of admission to Stanley Street Treatment and Resources, Inc. (SSTAR) in Fall River, Massachusetts to participate in a survey research

study. SSTAR's detoxification program provides evaluation and withdrawal management using a methadone taper protocol, individual and group counseling, and aftercare case management and has a mean length-of-stay of 4.9 days.

Of patients admitted to SSTAR during the recruitment period, 497 were opioid users who were 18 years or older, English-speaking, and able to provide informed consent as approved by the Butler Hospital Institutional Review Board. Twenty-five refused study participation or were discharged before staff could interview them. The remaining 472 persons completed a non-incentivized, face-to-face interview administered by non-treating research staff that required approximately 15 minutes. Data related to relevant study variables were missing for 32 persons leaving a final sample size of 440.

Measures

Sample descriptors that served as covariates included age, gender, race/ethnicity, employment (part or full-time vs. unemployed), years of education, substance use and injection drug use in the past 30 days (yes/no), and homelessness (any nights living on the street or in a shelter in the prior 90 days). We assessed whether participants had ever sought opioid detoxification in the past, and if so, when. Participants were asked if the primary opioid they were currently seeking detoxification from was heroin or prescription medication. Participants were asked if "they had ever been seen in a psychiatric emergency room or been hospitalized for psychiatric reasons?"

The key response variable in this study was *perceived need for depression treatment (PNDT)*. Participants were asked, "Do you believe you should be treated for depression?" Response options were: "I don't have depression"; "Yes, with an anti-depressant medication only"; "Yes, with counseling (psychological therapy by a social worker, psychologist, or psychiatrist) only"; "Yes, with both medication and counseling"; "I have depression, but I don't want to be treated by a mental health professional"; "I have depression, and I'm treating myself"; and "I have depression, and I already receive professional mental health treatment." These response categories were generated from our pilot qualitative work with this population. For analyses, these responses were recoded into four categories: "Not Depressed"; "Perceived Need for Depression Treatment (PNDT)"; "Depressed/Don't Want Treatment"; and "Currently Treated."

The covariate of central interest was *past two-weeks level of depression*. It was measured via the two-item PHQ-2¹⁶. Participants provided answers to the question: "Over the past two weeks, how often have you been bothered by the following problems, (1) "Little interest or pleasure in doing things"; and (2) "Feeling down, depressed, or hopeless." The possible responses were: "not at all=0", "several days=1", "more than half the days=2", and "nearly every day=3." These two items were summed to create a score ranging from '0' to '6.' A score of 3 was used as the cut off point for a positive screen for major depression¹⁶.

Analytical Methods

We present descriptive statistics to summarize the characteristics of the sample and a contingency table to evaluate the bivariate association of perceived depression treatment need with screening positive for depression on the PHQ-2. Because of relatively small

expected cell frequencies we report Fisher's exact *p*. Bivariate and multivariate logistic regression were used to evaluate the association of perceived treatment need (dichotomized to contrast those with PNDT to those who reported they were not depressed) with demographic characteristics and indicators of substance use and prior substance use treatment history. We present odds-ratios and 95% confidence interval estimates to summarize the unadjusted and adjusted associations.

Results

Participants averaged 32.2 ($\pm$ 8.66) years of age, 70.9% were male, 82.7% were non-Latino Caucasian, 4.1% were African-American, 8.9% were Latino and 4.3% identified other racial or ethnic origins (Table 1). Ethnicity was dichotomized to contrast non-Latino Caucasians to all ethnic or racial minorities in subsequent analyses. Mean years of education was 11.8 ($\pm$ 1.87), 18.9% of the participants were employed either full- or part-time, and 11.8% reported a period of homelessness during the past 90 days, 71.8% had a prior episode of opioid detoxification treatment, 86.6% reported they were detoxifying from heroin, and 68.9% had injected heroin within the past 30 days. One hundred nine (24.8%) reported ever having had an ER visit or hospitalization for psychiatric reasons, and 66.6% screened positive for depression on the PHQ-2.

Forty percent of the participants (*n*=177) perceived that they were not depressed; of these persons, 52% screened positive for depression (Table 2). Nearly half of the participants (48%) believed that they should be treated for depression, 8.2% were already being treated for depression, and 4% reported being depressed and not wanting treatment (Table 2, Row Totals). Perceived need for depression treatment was associated significantly (Fisher's exact *p* < .001) with screening positive for depression (Table 2). Compared to those who screened negative on the PHQ-2, those screening positive were less likely to perceive they were not depressed (31.4% vs 57.8%) and more likely to report they needed depression treatment (57.7% vs 28.6%).

Table 3 presents results from bivariate and multivariate logistic regression models evaluating correlates of the two major groups: (a) perceived not depressed (ND) and therefore without perceived need for depression treatment (*n*=177); and (b) perceived need for depression treatment (PNDT) (*n*=211). With the exception of homelessness, variables with significant unadjusted associations with PNDT were statistically significant in the multivariate model. After adjusting for other covariates in the model, screening positive for depression was associated with a 2.95 (95%CI 1.82; 4.81, *p* < .005) fold increase in PNDT. Males (OR = 0.53, 95%CI 0.31; 0.91, *p* < .05), non-Latino Caucasians (OR = 0.48, 95%CI 0.25; 0.90, *p* < .05), and persons employed either full- or part-time (OR = 0.38, 95%CI 0.20; 0.72, *p* < .005) had a significantly lower likelihood of PNDT. Reporting an ER visit or hospitalization for psychological problems was also associated with a significantly (OR = 2.69, 95%CI 1.48; 4.89, *p* < .005) increased likelihood of PNDT. The unadjusted association between homelessness and PNDT was statistically significant (OR = 2.34, 95%CI 1.19; 4.60, *p* < .01), but after adjusting for other covariates in the multivariate model this item was not statistically significant.

Discussion

At the time of admission to an inpatient opioid detoxification program, nearly 2 of 3 persons screened positive for depression, yet only 8% reported current receipt of treatment for depression. Nearly half of the patients screening positive for depression did not perceive the need for depression treatment. Our findings suggest that inpatient program staff should screen for depression, pursue confirmatory clinical diagnosis later during the detoxification stay, and discuss treatment options, attempting to ascertain the level of interest in receiving mental health treatment among opioid users, who as a group are known to be at risk for relapse to opioid use after short-term inpatient detoxification stays.

There are potentially many reasons why so few opioid users with depression were receiving mental health services at the time of treatment entry. Our data demonstrate that a significant number of opioid users may not recognize depressive symptoms, or separate them from other negative medical and social consequences related to their opioid use. Alternatively, persons with opioid use disorder may presume that mental health treatment is ineffective generally, or more specifically when using opioids. Additionally, opioid users may believe, based on their own experience, that depressive symptoms are transient and improve after substance use treatment. Of note, many opioid users cannot depend on the availability of basic necessities, and experience considerable instability in many aspects of their lives, and thus may simply be too disorganized to seek mental health care, even if interested¹⁷. Finally, many persons may not have access to mental health care because insurance coverage of treatment is poor. Finally, there is a shortage of psychiatrists and other mental health providers in most communities, including the one in which this study was conducted.

Still, PNDDT was associated significantly with screening positive for depression and almost half of the participants believed that they should be treated for depression. This is in line with our previous work suggesting that mental health issues are among the foremost life concerns of opioid users in detoxification¹⁸. Having been previously hospitalized or visiting an emergency room for psychiatric treatment was significantly associated with PNDDT, suggesting that past experience with care-seeking for mental health problems makes one more open to receiving additional mental health services and/or depressive symptoms are more severe, persistent or recurrent in this population. Women in our sample had a higher likelihood of perceiving a need of depression treatment than men in keeping with other research addressing mental health disorders¹⁹ and mental health functioning among opioid dependent women²⁰.

This study had limitations. Although performed after initial inpatient methadone dosing, depression screening was done early in the detoxification program when participants are under great stress. Repeating depression screening later during detoxification and comparing the findings with this earlier measurement would be of interest in further work to test the stability of depressive symptoms in this population. Second, we used the validated PHQ-2 as our screener for depression²¹ which has only moderate psychometric characteristics in a substance using population. We are aware that screening for depression does not replace a clinical diagnosis, and also that making such diagnoses are difficult during active substance use²². Third, our questions concerned only the perceived need for depression treatment, and

did not address other mental health issues for which participants might perceive a need for treatment such as anxiety or PTSD. Finally, we recruited from only one type of drug treatment program in one location.

Conclusions

Admissions to inpatient detoxification programs are a gateway to the healthcare system^{23–25}. Screening for depression should occur as part of the initial assessment to guide the development of an individualized treatment plan. If a clinical diagnosis of depressive disorder is made, perhaps several days into detoxification, behavioral or medication treatment can begin, with referral to mental health services in order for these individuals who have multiple health and psychosocial challenges. The “bundling” of broader psychosocial and health promotion services during detoxification and as part of aftercare for those who present with multiple problems can be beneficial, but only if patients see the need for such services^{26,27}. The accumulation of adverse life experiences may undermine health awareness and make the establishment of long-term treatment for substance use, medical, and psychiatric issues difficult^{17,28–31}.

With our finding that fifty percent of patients screening positive for depression at the time of admission to a short-term inpatient detoxification program lacked PNDT, it may be challenging to get patients attending short-term opioid detoxification to address mental health issues during aftercare without attention to opioid relapse prevention that generally requires long-term medication assisted treatment^{32,33}. Males, non-Latino patients and those with current employment may be most prone to under-appreciate the significance of depressive symptoms. Outpatient substance use treatment programs that can provide primary care, mental health care and social services in one location may be particularly effective in addressing the mental health needs of such patients.

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Table 1

Characteristics of study sample (n = 440).

	n (%)	Mean ($\pm$ SD)	Median	Range
Age		32.2 ($\pm$ 8.66)	30	18 – 64
Sex (Male)	321 (70.9%)			
Race/Ethnicity				
Non-Hispanic white/Caucasian	364 (82.7%)			
Non-Hispanic African-American	18 (4.1%)			
Hispanic	39 (8.9%)			
Non-Hispanic other	19 (4.3%)			
Education (years)		11.8 ($\pm$ 1.87)	12	1 – 18
Employed Full- or Part-Time	83 (18.9%)			
Any Homelessness (past 90 days)	52 (11.8%)			
Lifetime Opioid Detox	316 (71.8%)			
Primary Opioid (heroin)	381 (86.6%)			
Injection Drug Use (past 30 days)	303 (68.9%)			
Psych ER Visit or Hospitalization	109 (24.8%)			
Current Rx Depression Medication	55 (12.5%)			
PHQ-2 $\geq$ 3	293 (66.6%)			

Table 2

Perceived Need for Depression Treatment by Depression Screen (n=440).

PNDT^a	PHQ-2 Positive		Row Total
	No	Yes^b	
Not Depressed	85 (57.8%)	92 (31.4%)	177 (40.2%)
Perceived need for Treatment	42 (28.6%)	169 (57.7%)	211 (48.0%)
Depressed/Don't Want Treatment	7 (4.8%)	9 (3.1%)	16 (3.6%)
Currently Treated	13 (8.8%)	23 (7.8%)	36 (8.2%)
Column Total	147 (100.0%)	293 (100.0%)	440 (100.0%)

Fisher's Exact $p < .001$ ^aPNDT = Perceived need for depression treatment.^bDepression Screen Score *PHQ-2* ≥ 3.

Table 3

Logistic Regression Models Estimating the Unadjusted and Adjusted Association of perceived need for depression treatment by depression screening status and participant characteristics (n = 388).

	Unadjusted OR (95% CI)	Adjusted OR (95% CI)
Depression PHQ-2 3	3.72 *** (2.37; 5.82)	2.95 *** (1.82; 4.81)
Age	1.00 (0.98; 1.02)	1.00 (0.97; 1.02)
Sex (Male)	0.44 *** (0.28; 0.70)	0.53 * (0.31; 0.91)
Non-Latino Caucasian	0.52 * (0.30; 0.91)	0.48 * (0.25; 0.90)
Educational level	0.99 (0.88; 1.10)	0.99 (0.87; 1.12)
Employed (Full-or Part-Time)	0.35 *** (0.21; 0.61)	0.38 *** (0.20; 0.72)
Any Homelessness in the past	2.34 ** (1.19; 4.60)	1.37 (0.65; 2.85)
Lifetime Opioids Detox	1.06 (0.80; 1.39)	1.21 (0.87; 1.67)
Detoxing from Heroin	0.84 (0.46; 1.54)	0.51 (0.24; 1.08)
Injection Drug Use (past 30 days)	1.26 (0.82; 1.94)	1.08 (0.62; 1.88)
Psych ER Visit or Hospitalization	3.42 *** (1.97; 5.92)	2.69 *** (1.48; 4.89)

*
p < .05,

**
p < .01,

p < .005