Illicit and Prescription Opiate Dependence: The Impact of Axis II Psychiatric Comorbidity on Detoxification Outcome

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Abstract

Objective: The current study examined the predictors of inpatient detoxification failure among illicit and prescription opiate dependent patients. Outcomes for the treatment of opiate dependence were compared to those with sedative-hypnotic dependence.

Methods: Data from 203 consecutive detoxification admissions included results of urine toxicology screens, length of stay, and outcomes. All detoxification protocols were designed to manage withdrawal throughout the tapering process and medical/psychiatric monitoring was provided daily.

Results: Opiate-dependent patients were significantly less likely to complete detoxification and more likely to drop-out against medical advice or to be discharged for non-compliance compared to sedative-hypnotic dependent patients. Those with opiate dependence were also more likely to be polysubstance abusers, and to report that they suffered some form of chronic pain syndrome (e.g. fibromyalgia) compared to the non-opiate group. Additionally, a large percentage of the sample was diagnosed with a personality disorder (PD), primarily Cluster B PD. There was considerable overlapping comorbidity between PD, pain syndromes and opiate abuse; 31.6% of the opiate-dependent patients suffered from both a chronic pain condition and a PD compared to 4.0% of the non-opiate patients. A hierarchical logistic regression revealed that treatment failure was predicted by three significant variables – younger age, opiate dependence and the presence of a Cluster B personality disorder. Illicit opiate (IO) users differed significantly from prescription opiate (PO) users in that they were significantly younger at first use of opiates and at the time of detoxification. Time between first use and detoxification admission did not significantly differ between the groups and rates of detoxification completion were comparable.

Conclusions: Overall, these findings suggest a complex interaction between opiate dependence, pain syndromes, and affective dysregulation, which may lead to early termination from treatment. Further understanding of treatment failure may lead to specific, targeted interventions for this difficult to treat population.

Keywords: Opiate dependence; Comorbidity; Detoxification outcome; Personality disorders

Abbreviations: AMA: Against Medical Advice; BSI: Brief Symptom Inventory; HIV: Human Immunodeficiency Virus; IO users: Illicit opiate users; MUHC: McGill University Health Centre; PASW: Predictive Analytics Software Statistics; PD: Personality Disorder; PO users: Prescription opiate users

Introduction

Dependence on opiates is a major worldwide health issue. Risks of opiate addiction include the transmission of the human immunodeficiency virus (HIV), hepatitis B and C viruses, and tuberculosis, as well as a high incidence of death due to overdose [1-2]. North Americans currently have the highest levels of opioid use in the world [3-4], and rates of prescription opiate abuse have been documented as rising [5-6]. In 2006, prescription opioids were involved in more drug-related deaths than heroin and cocaine combined [7] and were the most rapidly increasing cause of unintentional overdoses resulting in death in 2002 [8]. Within Canada, the number of admissions related to Oxy Contin® abuse in Ontario increased steadily from 3.8% of admissions in 2000 to 55.4% of the total opioid admissions in 2004 [9]. Sproule et al. [9] found that among their sample of 571 patients admitted for opioid detoxification, that 37% had a legitimate prescription as the sole source of their opioids and an additional 26% had obtained opioids through both a prescription as well as purchasing it illegally on the street. Increasing levels of prescription opioid abuse coupled with rising rates of sexually transmitted and blood-borne infections make providing effective and efficient treatment for opiate dependence essential.

Opiate dependence has long been characterized as a chronic relapsing disorder. Consequently, it is not surprising that numerous studies conducted over the past three decades have consistently yielded poor short and long term outcomes, regarding abstinence from opiates. Detoxification is often the first step in recovery from opiate dependence [10] although the means by which this is achieved varies widely. Patients may be detoxified in either an in-patient or an outpatient setting using non-opiate (e.g. clonidine, loxefidine) or opiate-based methods (e.g. methadone, buprenorphine, naloxone). Despite numerous studies examining long-term opiate abstinence rates, few studies have specifically examined detoxification outcome. Those studies that have examined detoxification completion rates have found a large disparity, most likely due to method of detoxification. Completion rates vary between 21% [11] for outpatient detoxification and between 56-82% for in-patient detoxification [12-14]. Consistent with these findings, Smyth et al. [15] found that the vast majority of patients (64%) relapsed

within a week of completing in-patient detoxification and that by 3.5 years follow-up this percentage had climbed to 91% [15]. However, it is important to note that these studies have either selected specifically for heroin users, or have not differentiated between illicit opioid users and prescription users. It is therefore unknown whether treatment completion rates differ for prescription users, and consequently whether traditional drug dependence treatment methods are effective in this population.

Despite these poor outcomes, there has been little focus on understanding the causes of treatment failure. Kenne, Boros and Fischbein [16] reported that being younger, having fewer prior treatment episodes, and being an intravenous drug-user were all significant predictors of opiate-dependent patients leaving detoxification against medical advice (AMA). Similarly, Mullen et al. found the only significant predictor of early drop-out from detoxification was a history of intravenous drug use [12]. Mancino et al. [17] found that one of the significant predictors of drop-out from methadone maintenance after 3 years was "serious mental-illness" which was defined as bipolar spectrum or psychotic disorders. However to date, the mediating role of concurrent psychiatric illness, including personality disorders (PDs), on the outcome of detoxification from opiate dependence is not well understood. Fitzsimons, Tuten, Vaidya and Jones [18] found that, among pregnant women receiving methadone maintenance treatment, a comorbid anxiety disorder was associated with increased treatment attendance and retention, whereas those with a comorbid mood disorder had the poorest attendance and retention rates. Conversely, in a dual-diagnosis sample with mainly bipolar patients, Maremmani et al. [19] found that among treatment-resistant methadone maintenance patients the presence of a comorbid Axis I diagnosis predicted a favourable treatment outcome with longer retention rates and fewer opiate-positive urine screens. Despite high prevalence rates of PDs among substance abusers [20-25], the effect of PDs on addictions treatment outcome have thus far yielded inconsistent results. Some studies have implicated specific personality disorders playing a role in dropout [26], early attrition [27], and higher relapse rates [28-30]. In a comparison of patients with various PDs, Haro et al. [31] found that only Antisocial Personality Disorder (ASPD) influenced substance use outcomes. The presence of ASPD comorbidity increased the probability of relapse at 3 months follow-up. Conversely, King, Kidorf, Stoller, Carter, and Brooner [32] compared one-year treatment retention between patients diagnosed with ASPD, those with an ASPD mixed diagnoses, and a group of patients comorbid for other non-Axis II diagnoses. They found that there were no significant group differences thereby suggesting that ASPD does not negatively affect treatment retention.

The objective of the present study was to conduct a detailed examination of detoxification outcome in relation to drug use characteristics, psychiatric comorbidity and primary substance of abuse with a particular focus on examining differences between patients abusing prescription opioids (PO) versus illicit opioids (IO). Ethical approval for the study was obtained from the Research Ethics Board of the McGill University Health Centre (MUHC). Outcomes for 203 consecutive patients admitted for inpatient detoxification were evaluated to determine rates of completion and non-completion among patients with opiate and sedative-hypnotic dependence.

Materials and Methods

Participants and procedures

Data was collected on 203 consecutive admissions to the inpatient detoxification services in the Psychiatry Department at the MUHC. For patients who had been admitted more than once during the study period, data was collected only on their most recent admission. Patients were not offered any monetary compensation for participating in this study. Patients with opiate dependence (both prescribed and illicit) and patients with sedative-hypnotic dependence (alcohol, benzodiazepines, and barbiturates) were included in all analyses. Sedative-hypnotic dependence was chosen as a comparison group due to its well-documented withdrawal syndrome and similar rates of referral for in-patient detoxification. All patients underwent a standard intake assessment at the Addictions Unit, which included a 1.5 hour interview with a therapist as well as a psychiatric evaluation. During this evaluation, information was collected in relation to the presenting drug/alcohol problem (pattern of intake, typical amounts, route of administration, treatment history), psychiatric diagnoses and medical history. For all patients, the need for inpatient detoxification was determined in the course of the assessment by the treating psychiatrists usually indicated by a failure at previous attempts to detoxify in an outpatient setting or concerns regarding potential health complications. Information on the admission and discharge dates from the inpatient unit, status at discharge, data on progress during the detoxification protocol (episodes of non-compliance, results of urine toxicology screens), medications prescribed, as well as outcomes related to the completion of detoxification was collected. Initial psychiatric diagnoses were confirmed by the treating psychiatrists throughout the course of admission using a semi-structured clinical interview, and were explicitly stated on the discharge summary.

Detoxification procedures

Detoxification was conducted using the standardized Addictions Unit protocols designed to manage withdrawal through the tapering process using a variety of medications. Patients who were benzodiazepine or alcohol-dependent received a diazepam taper, while patients who were opiate-dependent received a methadone or another long-acting opiate based taper (such as hydromorphone). All patients had individualized taper schedules and additional doses of medications were made available to them as needed (Pro re nata, PRN), such as clonidine, naproxen, acetaminophen, and quetiapine. Medical/psychiatric monitoring was provided on a daily basis with appropriate adjustments in tapering schedules and prescription of additional medications as needed. During the inpatient stay, patients participated in the Addictions Unit Day Program, twice daily group sessions offering psychoeducational and supportive interventions.

Primary outcomes and statistical analysis

The goal of detoxification was abstinence from all substance use. Primary outcome measures included urine drug screen results during detoxification (taken once per week) to assess treatment compliance, and the percentage that completed the detoxification procedure. All statistical analysis was conducted using the micro-computer versions of PASW (Predictive Analytics SoftWare Statistics, version 18 for Windows). An alpha level of .05 was used for all statistical tests (multiple comparisons were adjusted using a Bonferroni correction). Descriptive analyses were conducted in order to describe the patient sample in terms of demographics, drug use, and psychological factors. Associations were examined using the chi square test for categorical data. Logistic regression analysis was conducted in order to determine which factors were most predictive of retention in treatment and variables entered into the model included time-independent factors (age, sex, age of first use, psychiatric diagnoses, substance of dependence).

Results

Sample description

The sample was stratified by primary substance of dependence: opiate dependence (which included both prescribed and illicit opiates) and sedative-hypnotic dependence (alcohol, benzodiazepines, and barbiturates). Sedative-hypnotic dependence was the primary substance diagnosis (56.6% of the total sample, n = 115). Men represented just over half of the sample (53.7%, n =109), and there were no significant gender differences in terms of primary substance of abuse, $\chi 2$ (1, n = 203) = 3.15, p = .08. Table 1 illustrates selected characteristics of the sample stratified by primary substance of abuse.

Opiate dependent patients were more likely to be daily users, $\chi 2$ (1, n = 203) = 5.94, p =.02, with 97.7% reporting daily use in the past month. As well, they were significantly more likely to have a secondary drug problem, $\chi 2$ (1, n = 203) = 7.5, p = .01, when compared with sedative-hypnotic users. Opiate users were younger at the time of detoxification, t(201) = 4.33, p<.01, but significantly older when they first used their substance of dependence, t(160) = 7.46, p<.01, and consequently had fewer years of problem use, t(186) = 9.54, p < .01. As well, they also had fewer prior detoxifications, t(198) = 2.64, p = .01, when compared with sedative-hypnotic dependent patients.

Opiate dependent patients were significantly more likely to report having a chronic pain condition, $\chi 2$ (1, n = 203) = 69.56, p < .01. As well, they were also more likely to have active or have had infectious hepatitis in the past, $\chi 2$ (1, n = 199) = 6.79, p = .01. Sedative-hypnotic users were more likely to have alcoholic hepatitis, $\chi 2$ (1, n = 198) = 15.56, p <.01.

Concurrent psychiatric problems were common in the sample as a whole, with approximately 21% receiving an Axis I diagnosis, predominantly mood or anxiety disorders (73.8%), followed by schizophrenia (21.4%). However, no significant differences were found between opiate versus sedative-hypnotic dependence in terms of Axis I diagnoses, $\chi 2$ (1, n = 203) = 3.31, p = .07. Opiate dependent patients had significantly more Axis II personality pathology than sedative-hypnotic users, $\chi 2$ (1, n = 202) = 5.68, p = .02, with Cluster B PD being particularly prevalent, $\chi 2$ (2, n = 202) = 9.79, p = .01. Almost two-thirds (62.5%) of the opiate-dependent sample had a PD diagnosis, compared with 45.6% of sedative-hypnotic users. PD diagnosis was stratified into no PD (n = 95), Cluster B PD (narcissistic, borderline, histrionic, and antisocial; n = 62), and Other PD (schizotypal, schizoid, paranoid, dependent, avoidant, obsessive-compulsive, and not-otherwise-specified; n = 45). Of note, there was considerable overlapping comorbidity between PD, pain syndromes, and opiate dependence; 31.6% of the opiate-dependent patients suffered from both a chronic pain condition and a PD compared to 4.0% of the non-opiate patients ($\chi 2$ (3, n = 196)= 64.68, p < .01).

Course of detoxification and outcome

Detoxification outcomes were dichotomized into completion versus non-completion. Patients that discontinued tapers with the advice of the treating physician were subsequently excluded from analysis. Of those that failed to complete detoxification, 30.0% were discharged due to drug use while on the ward, as confirmed by urine toxicology screens or self-report, and the remaining 70.0% left AMA. These participants were grouped together as representing a detoxification failure group. Patients who had used opiates as their primary substance of dependence were significantly less likely to complete the detoxification procedure compared those with sedative-hypnotic dependence, $\chi 2$ (1, n = 197) = 14.95, p<.01. Table 2 illustrates completion rate by primary substance of abuse. Opiate dependent users had significantly longer length of stays when compared with sedative-hypnotic users, t(200) = 3.87, p < .01. Cluster B PD was found to be significantly associated with drop-out from detoxification, $\chi 2$ (2, n = 196) = 10.64, p = .01. Only 59.7% of those with Cluster B diagnoses completed detoxification compared with 82.4% of those with no PD diagnosis, and 79.0% of those with Other PD diagnoses.

Logistic regression

A logistic regression model was constructed to assess which baseline patient characteristics predicted failure to complete detoxification in a multivariate context. Step 1 included demographic variables, Step 2 included drug-use variables such as patterns of use and primary substance of dependence, and Step 3 included factors which may affect psychological state including Axis I and II pathology and chronic pain. Table 3 illustrates the regression model. The final model yielded three significant predictors of a failure to complete detoxification: younger age, opiate dependence and Cluster B PD diagnoses, $\chi 2$ =26.86, df =3, p< .01.

Prescription versus illicit opiate users

The sample of opiate dependent patients (n = 88), was stratified

Variables	Opiates	Sedative-Hypnotics
	(*n*=88)	(*n* =115)
Age (± SD)**	43.5 ± 11.7	50.4 ± 10.9
Sex % Male	46.6%	59.1%
Drug Use History		
Age first use primary drug (± SD)**	34.3 ± 13.6	20.9 ± 10.7
Years of problem use (± SD)**	6.8 ± 7.0	19.7 ± 12.0
% Using daily (past month)**	97.7%	88.7%
% Using non-oral route of administration**	31.8%	0%
# prior detoxifications (± SD)**	1.4 ± 2.0	2.2 ± 2.2
% with secondary drug problem**	72.7%	53.9%
Medical History		
% with Alcoholic Hepatitis**	2.3%	21.4%
% with Infectious Hepatitis**	23.2%	9.7%
Psychiatric History		
% with Axis I disorders	14.8%	25.2%
% with personality disorder**	62.5%	45.6%
% with Cluster B PD**	42%	21.9%
% with a chronic pain condition**	61.4%	7%
% with chronic pain and a PD**	31.6%	4%

Table 1: Selected characteristics of the sample stratified by primary substance of use.
Values represent the group mean (±SD) or % of sample. Groups were compared using independent t-tests or chi-square analysis.
**significantly different, *p* < .05 corrected for multiple comparisons

Variables	Opiate	Sedative-Hypnotics
	(n=88)	(n=115)
% completing detoxification**	60.7%	85%
Length of stay in days (±SD)**	22.1 ± 11.3	16.8 ± 8.3

Values represent the group mean (±SD) or % of sample. Groups were compared using independent t-tests or chi-square analysis.
**significantly different, *p* < .05 corrected for multiple comparisons
Table 2: Detoxification outcome stratified by primary substance of abuse.

	Dropout - not completing detoxification		
	Wald (*df*)	*p*	Cox & Snell
Predictors			R^2
Step 1: demographics			0.060
Age	10.55(1)	< .01	
Sex	0.79 (1)	ns	
	Step:χ2=11.41, df=1;p < .01		
Step 2: drug use characteristics		0.104	
Primary substance of abuse	8.58 (1)	<.01	
Age of first use	0.50 (1)	ns	
Duration of drug problems	0.01 (1)	ns	
More than one substance of abuse	0.86 (1)	ns	
Route of drug administration	2.08 (1)	ns	
Frequency of use	0.45 (1)	ns	
	Step:χ2=8.88,df=1;p < .01		
Step 3: psychological characteristics		0.136	
Cluster B PD	6.63 (1)	0.01	
Non-Cluster B PD	0.62 (1)	ns	
Axis I disorders	0.29 (1)	ns	
Chronic pain condition	1.93 (1)	ns	
	Step:χ2=6.58,df=1; p =.01		
	Model:χ2=26.86,df=3; p <.01		

Table 3: Logistic regression predicting detoxification failure (dropout).

Variables (n=88)	**Prescribed Opiates (n=54)**	**Illicit Opiates (n=34)**
Age (±SD)**	46.0 ± 11.2	39.6 ± 11.6
Sex % Male	44.4%	50.0%
Drug Use History		
Age first use primary drug (±SD)**	37.3 ± 13.2	29.5 ± 12.9
Years of problem use (±SD)	5.9 ± 5.8	8.2 ± 8.6
% Using daily (past month)	100%	94.1%
% Using intravenously**	3.7%	41.2%
# prior detoxifications (±SD)**	0.7 ± 1.7	2.2 ± 2.0
Last consumption, # of hours prior to admission (±SD)**	3.2 ± 3.0	11.7 ± 17.9
% with secondary drug problem	79.6%	61.8%
Detoxification Outcome		
% completing detoxification	68.6%	48.4%
Length of stay in days of those that completed (±SD)**	26.4 ± 8.3	22.3 ± 10.0

Table 4: Selected Characteristics of the Opiate-Dependent Sample Stratified by Source of Opiates.

by source of opiates: prescription (which constituted legally obtained medication via prescription) or illicitly (which included both heroin as well as prescription opiates obtained without a prescription). Legitimate prescription was the primary source through which opiates were obtained (61.4%, n = 54). Men represented just under half of the sample (46.6%, n = 41), and there were no significant gender differences in terms of PO versus IO use, χ2 (1, n = 88) = 0.26, p = .61. Table 4 illustrates selected characteristics of the sample stratified by source of opiates.

Those who had illicitly obtained opiates were significantly younger at the time of detoxification, t(86) = 2.60, p = .01, and to have begun using opiates at a younger age, t(84) = 2.69, p<.01, although the number of years of problem use did not significantly differ between the two groups (all p>.05). As well, those who had illicitly obtained opiates

were more likely to have had a prior detoxification attempt, t(61) = 3.74, p<.01, and to be using opiates intravenously, χ2 (1, n = 88) = 19.69, p<.01, when compared with those that had obtained their opiates through a prescription. No significant differences were found in terms of frequency of use and rates of polysubstance abuse (all p>.05). Similarly, there were no significant differences between groups in terms of Axis I and Axis II psychopathology (all p>.05). All PO patients reported having a diagnosed chronic pain condition, while no IO patients had a diagnosed chronic pain condition, χ2 (1, n = 88) = 88.00, p<.01.

Chronic pain conditions were consequently categorized according to type of pain. The most common type of pain among this sample was musculoskeletal pain (42.6%, n = 23), followed by abdominal pain (33.3%, n = 18), which included conditions such as Crohn's disease, ulcerative colitis, and endometriosis. Other types of chronic pain in the sample included widespread pain conditions (16.7%, n = 9), such as fibromyalgia and complex regional pain syndrome, and chronic migraines (7.4%, n = 4).

Detoxification outcome was similarly dichotomized into those that completed detoxification and those that did not. Patients that discontinued tapers with the advice of a treating physician were subsequently excluded from analysis, which brought the outcome sample to 84 patients. Among opiate dependent patients, approximately 60.7% completed detoxification(n=51), whereas 39.3% did not (n=33). Of those that did not complete, 30.3% were discharged due to drug use while on the ward, as confirmed by urine toxicology screens or self-report, and the remaining 69.7% left against medical advice. No significant differences were found between PO and IO users in terms of detoxification outcome (all p>.05).

Discussion

Opiate-dependent patients were found to differ from those with sedative-hypnotic dependence in several ways. They were younger at the time of detoxification with fewer years of problem use, more likely to be daily users with a non-oral route of administration, and to be polysubstance users, three indices of higher addiction severity. Sedative-hypnotic users were more likely to have alcoholic hepatitis, whereas opiate users were more likely to have infectious hepatitis, the latter being of greater public health concern due to its risk of transmission. As well, high rates of chronic pain conditions were found among opiate-dependent individuals. In terms of psychiatric comorbidity, rates of Axis I disorders were relatively high, but rates did not significantly differ when stratified by substance of abuse. Personality disorders were highly prevalent among opiate-dependent patients admitted for in-patient detoxification, with 62% meeting criteria for a PD, and 42% having a Cluster B PD diagnosis. Logistic regression revealed three variables which predicted detoxification non-completion: being younger, being opiate-dependent and having a Cluster B PD diagnoses. Strikingly, less than two thirds of opiate-dependent patients were able to complete detoxification.

While previous research implicates PDs in playing a role in dropout from treatment, few studies have systematically examined the mediating role of PDs over the course of detoxification or have differentiated their effect by substance of dependence. Zikos et al. [30] study suggested that those with Cluster B PDs show greater likelihood of early treatment dropout, as well as shorter periods of time to relapse compared to those with no comorbidity [30]. Similar to these findings, a number of other studies have found that ASPD was a significant predictor of poor treatment outcomes among both opiate addicts and alcoholics [33-35]. However, only one study has examined the effects of PDs during the

course of detoxification. Ross et al. [36] found that while PD patients undergoing detoxification had a greater degree of psychiatric symptoms during their hospitalization, specifically in terms of sensitivity and hostility as measured by the Brief Symptom Inventory (BSI), it did not affect overall detoxification completion. However, it is important to note all patients in the Ross et al. [36] study were triply diagnosed with concurrent Axis I, Axis II and substance use disorders. Therefore, based on the design it was difficult to differentiate between the possible Axis I and Axis II effects on detoxification outcome. Perhaps the most likely confounding variable of their study was the incorporation of both abuse and dependence diagnoses, and the inclusion of a large variety of substances including alcohol, benzodiazepines, cocaine, cannabis, heroin, amphetamines and hallucinogens. The current findings, in conjunction with previous research, suggests overall that opiate patients with comorbid PDs may have more difficulty than other patients in overcoming the psychological effects of withdrawal. One of the defining features of Cluster B PDs is emotional dysregulation and affective instability. Detoxification is a stressful procedure, and patients with Cluster B PD may experience significantly more emotional distress during inpatient detoxification, leading to early termination of treatment. Of note, a large portion of the opiate dependent sample also reported having a chronic pain condition. The comorbidity between chronic pain disorders and personality disorders has been well-documented [37-41]. Tragesser, Bruns and Disorbio [42] examined the relationship between Borderline Personality Disorder (BPD) features, somatic complaints, and pain ratings in a sample of 777 patients seeking treatment for pain/injury, and found that those with BPD endorsed significantly higher total pain complaints, total somatic complaints, and the highest pain levels in last month. However, these associations were no longer significant when controlling for affective scales measuring depression, hostility and anxiety. This suggests that affective dysregulation could be largely responsible for high rates of pain and somatic complaints among those with BPD.

An inability to cope with both the psychological and physical symptoms of detoxification might be at least partially responsible for the decision to leave treatment early. Two hallmark features of Cluster B PDs are impulsivity and interpersonal conflict. It is entirely likely that the decision to leave treatment AMA may be the result of an impulsive moment, which is characteristic of Cluster B PDs. Zikos et al. [30] found that patients with Cluster B PDs had higher rates of impulsivity at treatment initiation as measured by the Barrett Impulsiveness Scale as well as other behavioural indicators such as suicidality and financial debt [30]. Another factor which may cause patients with Cluster B PD to leave treatment early would be conflicts with staff. Thylstrup and Hesse [43] examined staff member's emotional reactions to substance dependent patients with PDs and found that Cluster B PDs were associated with feelings of distance, feeling on guard, and being overwhelmed [43]. This is in contrast to Cluster C PDs, which evoked feelings of helpfulness, and Cluster A PDs, which generated no significant emotional reactions.

It is important to note however, that opiate dependent individuals were not a homogenous sample, and PO users were found to differ from IO users in several ways. They were older at the time of detoxification and had been introduced to opiates at an older age, yet did not differsignificantly from IO users in terms of years of problem use. This suggests that both IO and PO use have similar rates of progression from first use to need for substance use treatment. PO users were more likely to be seeking treatment for the first time, whereas IO users were more likely to have had prior detoxification attempts. Interestingly, neither frequency of use nor rates of polysubstance use differed significantly between PO and IO users. The most commonly used substance in conjunction with opioids was benzodiazepines, which in the PO population were legitimately prescribed. Notably, all PO users had a diagnosed chronic pain condition [44].

Within the clinical literature, patients with chronic pain are often described as being difficult, specifically "manipulative and drug-seeking" [45]. It is possible therapeutic relationships are undermined by the existence of undiagnosed personality disorders among chronic pain patients [37,44]. For example, in Dersh et al. [37] sample of 1595 patients on disability for chronic pain, 69% met criteria for at least one PD. Schafer and Nowlis [44] found that among patients identified by the clinician as being "difficult", one third of them had unrecognized PDs [44]. Wilsey et al. [46] found that in a sample of chronic pain patients presenting to the emergency department for prescription refills, a higher propensity for prescription opiate abuse was associated with panic attacks, trait anxiety and PDs [46].

The results of this study suggest that considerable attention needs to be paid to personality disorder psychopathology as well as pain syndromes among opiate dependent patients entering treatment. Therapy provided both prior to entering detoxification, as well during the detoxification could improve the ability to cope with both the emotional as well as physical hardships of withdrawal thereby decreasing rates of premature dropout from treatment, especially among those with Cluster B PDs. The high rates of physical pain syndromes are alsolikely to represent another barrier to achieving detoxification, especially in those patients with poor or maladaptive coping strategies.

There are several limitations to this study which should be acknowledged. Unfortunately, due to sample size restrictions, it was not possible to stratify by both substance of dependence and PD diagnosis. As well, it was not feasible to look at specific PDs. In order to improve detoxification and treatment outcomes in opiate dependence, it is likely that future therapeutic interventions need to target the emotional dysregulation of the Cluster B PDs, specifically during the detoxification period.

Acknowledgments

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