Predicting Aberrant Drug Behavior in Patients Treated for Chronic Pain: Importance of Abuse History

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Abstract

Physicians can encounter problems in prescribing opioids for some patients with chronic pain such as multiple unsanctioned dose escalations, episodes of lost or stolen prescriptions, and positive urine drug screenings for illicit substances. This study explored the usefulness of questions on abuse history in predicting problems with prescribing opioids for patients at a hospital-based pain management program. One hundred forty-five (145) patients who were taking long- and short-acting opioids for their pain were classified as high or low risk on the basis of their responses to interview questions about 1) substance abuse history in their family, 2) past problems with drug or alcohol abuse, and 3) history of legal problems. The treating physicians completed a questionnaire about problems that they had encountered with their patients. Problem behaviors were verified through chart review. No differences in demographic characteristics were found between those classified as high and low risk. Patients who admitted to a family history of substance abuse, a history of legal problems, and drug or alcohol abuse were prone to more aberrant drug-related behaviors, including a higher incidence of lost or stolen prescriptions and the presence of illicit substances in their urine ($P < 0.05$). Patients classified as high risk also had a significantly higher frequency of reported mental health problems and motor vehicle accidents. More of these patients smoked cigarettes, tended to need a cigarette within the first hour of the day, took higher doses of opioids, and reported fewer adverse effects from the medications than did those without such a history ($P < 0.05$). This study demonstrates that questions about abuse history and legal problems can be useful in predicting aberrant drug-related behavior with opioid use in persons with chronic noncancer pain.

Key Words

Chronic pain, opioids, aberrant drug behaviors, substance abuse, addiction
Introduction

Past research has shown that some patients show aberrant drug-related behaviors after taking medically prescribed drugs for organic pathologic conditions.\textsuperscript{1–3} Certain individuals who are prescribed opioids for pain may misuse these drugs because of biologic and environmental susceptibility factors such as family history of addiction, temperament, poor support, and drug availability. These individuals often report that they develop a craving for opioids and take more medication than prescribed.\textsuperscript{1,4,5} Scientific evidence suggests that the transition from voluntary user to substance abuser occurs through a combination of processes, including a series of brain changes or neuroadaptations that result from repeated drug exposure.\textsuperscript{5} Aberrant drug-related behavior associated with substance abuse is perpetuated by the physiologic drive that comes with using or withdrawing from opioids.

When prescribing opioids for chronic pain, it is important to identify those individuals who have a potential to develop aberrant drug behaviors. There have been attempts to identify reliable aberrant drug behaviors that may predict a substance-abuse disorder. Jaffe\textsuperscript{6} and Portenoy and Payne\textsuperscript{7} have proposed a list of such disorders. These include 1) selling prescription drugs, 2) forging prescriptions, 3) stealing drugs, 4) injecting oral formulations, 5) obtaining prescription drugs from nonmedical sources, 6) concurrently abusing alcohol or other illicit drugs, 7) escalating doses on multiple occasions or otherwise failing to comply with the prescribed regimen despite warnings, 8) “losing” prescribed medication on multiple occasions, 9) repeatedly seeking prescriptions from other clinicians or from emergency rooms without informing the original prescribing physician, and 10) giving evidence of a deterioration in the ability to function (at work, in the family, or socially) that appears to be related to drug use. Although only a minority of patients taking opioids for pain engage in these behaviors, such behaviors can have very serious repercussions for the patient and the physician.\textsuperscript{8} The identification of those chronic pain patients who are likely to develop aberrant drug behaviors would permit the treating physician to take special precautions when prescribing opioids for pain.

Chabal et al.\textsuperscript{9} developed a checklist for prescription drug-abuse that consists of five criteria: overwhelming focus on opiate issues, pattern of early refills, multiple telephone calls or unscheduled visits, episodes of lost or stolen prescriptions, and obtaining opioids from supplemental sources. Physicians in a Veterans Administration Medical Center rated 76 patients who were taking opioids for chronic pain, 34\% of whom met one or more criteria for abuse. The abuse criteria were found to have adequate inter-rater reliability (\(>0.9\)). Patients who met 3 of the 5 criteria (28\%) were classified as opiate abusers. No differences were found between abusers and nonabusers in history of substance abuse, depressive symptoms, pain intensity, or need for pain medication. Thus, preexisting clinical characteristics failed to predict prescription misuse. Limitations of the study were noted: the patients recruited for the study were mostly men and still in an early phase of treatment and many of the patients who were identified as having a substance abuse problem (67\%) dropped out of treatment.

Compton and colleagues\textsuperscript{10} developed an interview screening tool for assessment of addiction in patients with chronic pain and “problematic” substance use. The Prescription Drug Use Questionnaire (PDUQ) was created to identify subjects who are likely to be 1) nonaddicted, 2) substance-abusing, or 3) substance-dependent. Responses of 52 problematic patients differed significantly from those of nonproblematic patients on multiple screening items, with the two groups easily differentiated by total questionnaire score. Unfortunately, this recently published semi-structured interview measure is designed for use by a trained mental health professional and is not easily adaptable for use by a general practitioner or pain clinician.

There are currently no widely used brief instruments to screen for potential aberrant drug-related behavior in chronic pain patients who are taking prescription opioids, and few prospective studies have attempted to link self-reported variables of abuse history with subsequent behaviors.\textsuperscript{11} The aim of this study was to explore the utility of abuse history questions to predict aberrant drug-related behaviors among patients treated with opioids for their pain. It was hypothesized that those patients who admitted to a personal and family history...
of substance abuse and a history of legal problems would be more prone to aberrant drug-related behaviors when prescribed opioids for chronic pain.

**Methods**

All patients in this study were being treated at a hospital-based pain management center and were either being started on or had been taking opioid medication for chronic pain. Patients were selected by the order of their admission to the pain center and were recruited between January 2000 and January 2002. Subjects were included if they 1) had been taking or were considered for daily doses of opioids for their pain, 2) had noncancer chronic pain of more than three months’ duration, 3) failed trials of non-opioid medication and could tolerate short-acting opioids, 4) spoke English, 5) were between 21 and 70 years of age, and 6) did not have a serious progressive illness or history of significant cardiac or respiratory disease. Patients were interviewed by a clinical psychologist and monitored by their treating physician. Most patients were well known to the physicians and had been followed for longer than six months while taking opioids for pain. The following assessments were obtained for all patients.

**Demographic Questionnaire**

All participants completed a 23-item evaluation questionnaire that covered demographic information; verbal and numerical ratings of pain intensity; activity factors; socioeconomic data; marital, compensation, and employment status; pain site; past treatments for pain; surgical history; and ratings of emotional and other health-related problems. This questionnaire was adapted from a number of other comprehensive questionnaires on pain.12

**Substance Abuse History Interview**

Three substance abuse questions predictive of problematic drug-related behaviors were created from items drawn from the addiction literature and were asked during a psychological interview.9,11,13 A draft of the questions was reviewed by five specialists in pain medicine and two addiction specialists, and agreement was reached on the wording of each item. Responses to the questions were scored on a dichotomous scale of positive or negative. The questions are presented in Table 1. Patients also were asked about history of mental health problems (seen at least once by a mental health professional), motor vehicle accidents (two or more), smoking behavior (including having a cigarette within the first hour of the day), and whether they were bothered by any adverse effects (confusion, constipation, dizziness, drowsiness, dry mouth, headache, itching, memory lapse, nausea, nightmares, sneezing, sweating, visual problems, and weakness).

**Physician Questionnaire on Aberrant Drug Behavior**

Six treating physicians were asked to complete questionnaires about problems that they had encountered with their patients. The items reflect the behaviors outlined by Chabal et al.9 that were indicative of substance abuse, including 1) multiple unsanctioned escalations in dose, 2) episodes of lost or stolen prescriptions, 3) frequent unscheduled visits to the pain center emergency room, 4) excessive phone calls, 5) concern expressed by a significant other about the patient’s use of opioids, and 6) unanticipated positive results in urine toxicology tests. The reliability for these items has been found to be acceptable.9 For those behavioral items that could be verified by chart review (unsanctioned dose escalation, incidence of lost or stolen drugs, frequent clinic calls, concern expressed by significant others), an item

<table>
<thead>
<tr>
<th>Question</th>
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<tbody>
<tr>
<td>% Yes</td>
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<tr>
<td>Is there a history of alcohol or substance abuse in your family, even among your grandparents, aunts, or uncles?</td>
</tr>
<tr>
<td>Have you ever had a problem with drugs or alcohol or attended Alcoholics Anonymous (AA) or Narcotics Anonymous (NA) meetings?</td>
</tr>
<tr>
<td>Have you ever had any legal problems or been charged with driving while intoxicated (DWI) or driving under the influence (DUI)?</td>
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</table>

*Patients with 0-1 “yes” responses were classified as low risk (n = 100); patients with 2 or 3 “yes” responses were defined as high risk (n = 45).*
was counted as an aberrant drug-related behavior if it was either documented in the chart or recalled by the physician.

**Chart Review**

All charts (electronic and paper) were reviewed by a registered nurse knowledgeable about the clinic operations. A checklist was developed to aid in the chart review. Information on urine toxicology screens for any illicit medications was obtained, including evidence of amphetamines, barbiturates, benzodiazepines, cocaine metabolites, ethanol, methadone, other opiates, propoxyphene, cannabinoids, methaqualone, and phencyclidine. Documented frequency of unauthorized escalations in opioid dose (two or more incidents), episodes of lost or stolen prescriptions (one or more incidents), unscheduled visits to the pain center or emergency room (three or more incidents), frequent phone calls from the patient (five or more in one month), and calls by family members or others (one or more) expressing concern about the patient’s opioid use was recorded for the duration of the study for up to 12 months. The number of problems (0–6) recalled by the physician and/or verified by chart review was compared with the patient’s interview and questionnaire data.

**Statistics**

All data were analyzed with SPSS (Statistical Package for the Social Sciences) v.11.0. Relations among demographic data, interview items, and aberrant behaviors were analyzed using Pearson Product Moment correlations. All subjects were identified as low or high risk on the basis of their responses to three abuse questions, and test scores were compared using paired t-tests and chi-square analyses. Discriminant function analyses using stepwise analyses also were run to identify those items that were most predictive of low- and high-risk group classification.

**Results**

One hundred sixty-six (166) patients who had been or were about to be prescribed opioids for chronic pain were interviewed as part of this study. All but 21 of these patients were included; 9 of the patients were excluded either because they were not taking daily doses of opioids or because their physician did not recommend that they take opioids, and 12 patients discontinued treatment at the pain center because they were being followed by their primary care physician, had difficulty traveling, or for unknown reasons chose not to return. None of the patients were excluded from the study because of severe behavioral problems or side effects related to the opioids. No significant differences were found between those who were excluded or dropped out and those who were followed. The average age of the 145 patients who were studied was 43.2 years (SD = 8.46; range 21–69), 52.1% were women, and 31.5% reported the lower back as their primary pain site. These patients had pain for an average of 98.1 months (SD = 94.44; range 6–492), and their average pain intensity was 6.98 on a 0 to 10 numeric pain scale (SD = 1.65). Types of opioid medications taken for pain included oxycodone with acetaminophen (32.7%), continuous-release oxycodone (32.0%), continuous-release morphine (20.4%), transdermal fentanyl (13.6%), oxycodone (10.9%), methadone (10.2%), hydrocodone (7.5%), and other opioids (10.2%). Fifty-six of the patients (38.1%) were taking more than one opioid medication for pain.

Most patients reported taking opioids for pain at the time of entry into the study (mean duration = 59.5 months, SD = 60.17 months; range 2–360). The treating physicians completed opioid therapy questionnaires an average of 5 months after the psychological interview (mean = 4.8 months; SD = 2.54; range 2.5–15.5). Most patients were well known to their physicians and had been taking opioids for pain, although some had been recently referred to the pain center by another physician for management of their opioid treatment and were less well known. Patients receiving opioid therapy who were less well known to the prescribing physician were followed for longer periods (>6 months).

Agreement between physicians’ ratings of aberrant drug-related behaviors and chart review was assessed and was found to be significant in the predicted direction. The majority of those patients who were found to have no opioid-related problems on chart review were recalled to have no aberrant drug-related behaviors by their physician (χ² = 16.60; df = 1;
found in the urine (chart review of documented illicit substances reported unanticipated positive urine screens and significant agreement between physician-reported incidents of aberrant behaviors that were not documented in the charts. There was no agreement between physician-reported episodes of lost or stolen medications. Twenty-six percent of the patients were reported to have multiple unsanctioned escalations in dose, and 22.3% reported episodes of lost or stolen medications. Sixteen percent were reported to have frequent visits to the pain center and/or emergency room, and 13.1% were noted to have family members contact the physician to express concern about the patient’s use of opioids. Only 7.5% were judged to have made excessive numbers of phone calls to the clinic.

On the basis of interactions with patients, physicians requested a urine screen for 61 patients suspected of possible substance misuse; of these, 42% had evidence of an illicit substance in their urine. The majority of the patients had evidence of use of marijuana (THC, 52.5%) and/or cocaine (35.0%), although amphetamines, PCP, and ethanol also were detected. Thirty-eight (62.2%) of the 61 patients also tested positive for an opioid that was not prescribed by the treating physician. These included hydrocodone (48.7%), methadone (23.1%), morphine (15.4%), and codeine (12.8).

Pearson Product Moment correlations were run among the variables, and significant correlations were found between sex and positive urine screen results ($r = 0.19; P < 0.05$), with the likelihood of a positive result being greater in men than in women. Also, a higher dose of opioid positively correlated with concern from a significant other ($r = 0.24; P < 0.01$), although the longer the duration of pain the less the likelihood that a family member would call the pain management center about problems with opioid use ($r = 0.18; P < 0.05$).

**Aberrant Drug Behaviors**

Patients averaged at least 1 of the 6 designated aberrant behaviors (mean = 1.0; SD = 1.45; range 0–6). The rate of problem drug-related behaviors (49.7% with at least one problem) by patients with chronic noncancer pain falls within the spectrum reflected in the literature. Twenty-six percent of the patients were reported to have multiple unsanctioned escalations in dose, and 22.3% reported episodes of lost or stolen medications. Sixteen percent were reported to have frequent visits to the pain center and/or emergency room, and 13.1% were noted to have family members contact the physician to express concern about the patient’s use of opioids. Only 7.5% were judged to have made excessive numbers of phone calls to the clinic.

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Number of surgeries was positively correlated with a higher dose of opioids ($r = 0.24; P < 0.01$). Those patients who had higher depression or irritability scores tended to show up in the emergency room or the pain center without an appointment more often than did those who had lower depression or irritability scores ($r = 0.23; P < 0.05$). Of the side effects assessed, patients reported dry mouth (49%), constipation (42%), sweating (41%), and feeling drowsy (40%) as the most bothersome.

**Risk Classification Results**

From results of the three abuse questions, 38 patients (26.2%) denied any abuse history, 62 patients (42.8%) answered yes on one item, 23 patients (15.9%) had two yes responses, and 22 (15.2%) had positive responses to all three questions. Patients were grouped into low risk (0–1 ‘yes’ responses; $n = 100$; 69.0%) and high risk (2–3 ‘yes’ responses; $n = 45$; 31.0%). Demographic variable comparisons were made between groups. No significant differences in age; sex; marital, employment, or compensation status; pain site; pain intensity; pain duration; number of surgeries; and mood were found (Table 2).

Comparisons were made between those patients who were classified as high and low risk on other psychological interview and medication-use variables (Table 3). Those patients who were classified as high risk admitted to more mental health problems and frequent multiple motor vehicle accidents and tended to

<table>
<thead>
<tr>
<th>Variable</th>
<th>Low Risk ($n = 100$)</th>
<th>High Risk ($n = 45$)</th>
</tr>
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<tbody>
<tr>
<td>Age (mean years)</td>
<td>42.7 ± 9.0</td>
<td>44.3 ± 7.1</td>
</tr>
<tr>
<td>Sex (% female)</td>
<td>50.0</td>
<td>64.4</td>
</tr>
<tr>
<td>Married (% yes)</td>
<td>42.1</td>
<td>33.3</td>
</tr>
<tr>
<td>Employment (% employed)</td>
<td>19.8</td>
<td>22.7</td>
</tr>
<tr>
<td>Compensation (% yes)</td>
<td>68.4</td>
<td>79.5</td>
</tr>
<tr>
<td>Pain site (% low back)</td>
<td>18.4</td>
<td>24.4</td>
</tr>
<tr>
<td>Average pain intensity (0–10)</td>
<td>7.0 ± 1.5</td>
<td>7.0 ± 1.9</td>
</tr>
<tr>
<td>Pain duration (years)</td>
<td>7.3 ± 6.7</td>
<td>10.9 ± 9.9</td>
</tr>
<tr>
<td>Number of pain-related surgeries</td>
<td>3.0 ± 4.4</td>
<td>4.3 ± 8.5</td>
</tr>
<tr>
<td>Anxiety (0–10)</td>
<td>5.0 ± 3.5</td>
<td>5.5 ± 2.9</td>
</tr>
<tr>
<td>Depression (0–10)</td>
<td>5.1 ± 3.4</td>
<td>5.7 ± 2.5</td>
</tr>
<tr>
<td>Irritability (0–10)</td>
<td>4.8 ± 3.1</td>
<td>5.1 ± 2.7</td>
</tr>
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</table>

*Patients with 0–1 ‘yes’ responses were classified as low risk ($n = 100$); patients with 2 or 3 ‘yes’ responses were defined as high risk ($n = 45$).  
*All comparisons were nonsignificant.
smoke cigarettes—often needing a cigarette within the first hour of the day. The high-risk patients also were found to have fewer physical symptoms related to their opioid use and were prescribed higher doses of opioids ($P < 0.05$). Percentage comparisons between high- and low-risk groups for aberrant drug-related behaviors revealed that the low-risk subjects had significantly fewer problem behaviors (Fig. 1).

Discriminant function analyses were run to identify items that were most predictive of subjects within the low-risk and high-risk groups. This analysis was employed to control for the multiple single comparisons between groups. When all items that were found to be significant between high- and low-risk groups from Tables 2, 3 and 4 were entered simultaneously, 76.6% of the originally grouped cases were correctly identified (Wilks’ lambda = 0.71; $\chi^2 = 27.08$; df = 10; $P > 0.01$). The most useful in predicting group classification, using a step-wise analysis, was a positive urine screen, a higher dose of opioid medication, and the need for a cigarette within the first hour of the day (Wilks’ lambda = 0.77, $\chi^2 = 21.48$; df = 3; $P < 0.001$), correctly identifying 71.7% of the cases.

**Table 3**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Low Risk (n = 100)</th>
<th>High Risk (n = 45)</th>
<th>$P$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mental health history (% yes)</td>
<td>50.0</td>
<td>73.3</td>
<td>$\chi^2 = 6.9^a$</td>
</tr>
<tr>
<td>Multiple vehicle accidents (% yes)</td>
<td>23.0</td>
<td>42.2</td>
<td>$\chi^2 = 5.6^b$</td>
</tr>
<tr>
<td>Smokes cigarettes (% yes)</td>
<td>61.0</td>
<td>82.2</td>
<td>$\chi^2 = 6.4^a$</td>
</tr>
<tr>
<td>Smokes within 1st hour (% yes)</td>
<td>42.0</td>
<td>68.9</td>
<td>$\chi^2 = 9.0^a$</td>
</tr>
<tr>
<td>Physical symptoms (total: 1–14)</td>
<td>4.7 ± 3.2</td>
<td>3.0 ± 2.2</td>
<td>$t = 3.0^a$</td>
</tr>
<tr>
<td>Opioid duration (years)</td>
<td>4.2 ± 4.1</td>
<td>6.6 ± 6.5</td>
<td>$t = 2.1^b$</td>
</tr>
<tr>
<td>Equivalent morphine doses (mg/day)</td>
<td>178.6 ± 252.4</td>
<td>431.0 ± 707.5</td>
<td>$t = 2.1^b$</td>
</tr>
</tbody>
</table>

*a $P < 0.01$.
*b $P < 0.05$.

**Discussion**

This study confirms that, in patients taking opioids for chronic noncancer pain, variables such as reported family history of substance abuse, past problems with drugs or alcohol, and a history of legal problems can be useful in predicting problems with opioid use. Other items found to be most closely related to an abuse history included a higher required dose of opioids for pain, dependence on cigarettes, psychiatric treatment history, multiple car accidents, and reporting fewer adverse symptoms. In general, the incidence of aberrant behaviors was higher among those who were classified as high risk on the basis of their responses to questions on a history of abuse and legal problems.

**Table 4**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Low Risk (n = 100)</th>
<th>High Risk (n = 45)</th>
<th>$P$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Positive urine screens (% yes)</td>
<td>15.0</td>
<td>37.8</td>
<td>$\chi^2 = 9.4^a$</td>
</tr>
<tr>
<td>Lost/stolen prescriptions</td>
<td>17.0</td>
<td>33.3</td>
<td>$\chi^2 = 4.8^b$</td>
</tr>
<tr>
<td>Unsanctioned dose escalations</td>
<td>22.0</td>
<td>33.3</td>
<td>n.s.</td>
</tr>
<tr>
<td>Unscheduled clinic/ER visits</td>
<td>12.0</td>
<td>17.8</td>
<td>n.s.</td>
</tr>
<tr>
<td>Concern from significant others</td>
<td>10.1</td>
<td>17.8</td>
<td>n.s.</td>
</tr>
<tr>
<td>Mean aberrant behaviors (0–6)</td>
<td>0.83</td>
<td>1.49</td>
<td>$t = 2.45$</td>
</tr>
</tbody>
</table>

*n.s. = nonsignificant.
*a $P < 0.01$.
*b $P < 0.05$. 
The questions on abuse history were worded to encourage a truthful answer. We have found that some patients are reluctant to admit to a history of substance abuse in their immediate family but will admit to problems with substance abuse in second-generation relatives such as grandparents, aunts, or uncles. Surprisingly, a very high percentage (70%) of patients admitted that a member of their biological family had a problem with alcohol or illicit drug use. This is higher than would be expected in the general population and raises the question about whether patients who are prescribed opioids generally have a greater likelihood of having a biological family member with an abuse history. Although they might be inclined to deny having a personal history of substance abuse, the patients also seemed willing to admit they had attended Alcoholic Anonymous or Narcotics Anonymous meetings. Further, patients seemed to be willing to admit to ever having been charged with a DWI (driving while intoxicated) or DUI (driving under the influence) violation. It is likely that some patients did not answer these questions truthfully, but the percentage of ‘yes’ responses was much higher than that reported in the general population.

The high-risk group endorsed items that are correlated with a substance-abuse disorder, including psychiatric history, smoking, and requiring high doses of opioid medication. Patients who have problems with opioids are likely to be predisposed to high tolerance to medication and to have problems with other substances of abuse. Of note is the fact that a majority of the patients (67%) smoked cigarettes, and that most of these individuals (73.5%) needed a cigarette within the first hour of the day. This suggests that many are dependent on nicotine. It is also noteworthy that a third of the high-risk patients did not show signs of aberrant drug behaviors. This suggests that it is more accurate to predict minimal aberrant drug behavior in low-risk patients than to predict drug behavior problems in high-risk patients.

It is important to highlight those items that were not predictive of aberrant drug-related behaviors. Although there was a trend towards fewer problem behaviors among older patients, age was not found to be significant. Sex, marital status, pain site, average pain intensity, pain duration, or duration of opioid use were also not significant predictors of high-risk classification. Those who are younger and male have been targeted as at risk for developing an addiction disorder, however, our study suggests that these factors are less important than a family history of substance abuse and a personal history of aberrant behavior problems such as use of illicit substances.

It should be emphasized that being at risk for aberrant drug-related behaviors does not necessarily indicate an addiction disorder. Clinical judgment from a trained addiction specialist is needed to determine whether a patient has an addiction disorder and whether opioids are the best course of treatment. It is also known that patients with an addiction history can be successfully maintained on opioids for pain.

Opioid therapy contracts, frequent urine toxicology screens, limited dosing, and close monitoring are highly recommended in those high-risk patients. Although the three abuse questions were administered during an interview by a clinical psychologist, response to these questions could be easily assessed by a treating healthcare provider. The items could be included in an initial comprehensive pain questionnaire given to all new referrals to a treatment center. Also, urine toxicology screens, need for higher doses of opioids, and dependence on nicotine should be part of the assessment process. Some clinicians use compliance history as an indicator for considering an increased dose of opioids. Further studies are under way to develop an empirically derived, psychometrically sound screener of opioid abuse potential. Such a tool could ultimately be very beneficial for all clinicians who are considering patients as candidates for chronic opioid therapy.

There are a number of limitations in this study that deserve mention. First, errors can be expected in the accuracy of the chart notes, in the physicians’ memory for aberrant behaviors, and in the truthfulness of the patients’ responses during the interviews. It is well known that some clinicians are more accurate in their documentation than others and reliance on patient records and clinic notes alone can be problematic. Thus, these results are correlational because a survey study design was used and causality cannot be assumed. Second, patients had been followed by their physician for different
periods of time, with follow-up time determined as the period between when the patients were interviewed by the psychologist and when the physician rated each patient for perceived aberrant drug-related behaviors. Although most of the patients were well known to the treating physicians before the start of the study, a longer follow-up period, for example, 12 months for all patients, might have detected additional aberrant behaviors. Third, selective biases may have influenced the results of this study. The patients had a long history of pain and had been receiving opioids for an average of five years. Patients recruited for this study may be different from patients typically followed by a primary care physician, and extremely problematic patients could likely have been discontinued from opioid therapy early in their treatment. Self-selection from patients attending a pain center would account for the high percentage of family members with alcohol and drug abuse history. The results may have been different if the patients had been opioid-naïve and had been followed for a period by a primary care clinic. Fourth, this study classified patients on the presence or absence of aberrant behaviors, but did not identify the frequency of these behaviors. Future studies should examine the frequency of aberrant behaviors to identify patients who have a greater likelihood of repeat offenses. Finally, not all patients were asked to give a urine sample for a toxicology screen. The results would have been more reliable if all subjects were given a random urine screen.

Despite these limitations, the results of this study suggest that questions regarding substance abuse and legal history can be useful in predicting problems with opioid use for patients with chronic noncancer pain. These findings have clinical implications for identifying patients at risk for aberrant drug-related behaviors while they are taking opioids for pain.

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References


