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Characterization of inpatient care for patients admitted to a psychiatric hospital with a home opioid prescription

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Abstract

Introduction: Patients with mental illness are particularly at risk for OUD, and due to this higher risk, providers may be more inclined to withhold their home opioids when they are admitted to a psychiatric hospital. Patients whose home opioids are continued or withheld during admission may be treated differently with respect to pain control, orders for nonopioid adjunctive pain agents, orders for intramuscular as-needed medications, orders for seclusion and/or restraints, and outpatient referrals for OUD treatment. The objective of this retrospective pilot study was to characterize inpatient care for these 2 patient populations.

Methods: Thirty-one inpatient encounters were reviewed for patients who had opioid prescriptions before admission and were discharged from the medical center's psychiatric service from June 1 through August 31, 2019.

Results: Orders for nonopioid adjunctive pain agents and intramuscular as-needed medications trended higher for the opioid-withheld group, suggesting greater polypharmacy and patient dissatisfaction compared with the opioid-continued group. Additionally, what became evident was the lack of consistent and clear documentation regarding the discharge plans for the patients' home opioid and OUD treatment.

Discussion: These findings may prompt inpatient interdisciplinary teams to develop a better process of documentation to facilitate continuity of care.

Keywords: SUD, substance use disorder, OUD, opioid use disorder, pain management, psychiatric hospital

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Introduction

In 2016, the Centers for Disease Control and Prevention published new prescribing guidelines for opioids in the treatment of chronic pain to address the growing rates of OUD, overdose, and death in the United States.[1] Although these guidelines were established to address the current opioid epidemic, these deprescribing efforts may have had unintended consequences on patient care, including suboptimal pain management. Deprescribing efforts may also affect the patient–provider relationship and decrease patient satisfaction with care, which has been described in the literature in both the inpatient and outpatient settings.[2]

Patients with psychiatric conditions are particularly at risk for SUD, including OUD. In fact, approximately half of adult patients with a mental illness develop an SUD.[3] Due to this higher risk, providers may be more inclined to withhold home opioids from patients when they are admitted to a psychiatric hospital even if they have pain that requires treatment. In fact, hesitation toward treating acute pain with opioids for hospitalized patients with known OUD has been reported,[4] leading to undertreatment. Polypharmacy using nonopioid medications may also be an issue in this population although not specifically described in the inpatient setting. For example, polypharmacy has been reported[5] through the use of additional nonopioid adjunctive pain agents, such as gabapentin. There is also evidence[6] that withholding home opioid medications during medical hospitalizations may lead to dissatisfaction in care in the general patient population. We hypothesized that withholding home opioids from patients in a psychiatric facility may lead to increased use of nonopioid adjunctive pain agents; worse pain control; dissatisfaction that may manifest through agitation requiring intramuscular administration, restraints, or seclusion; or leaving against medical advice. This study aimed to address these outcomes that have been less characterized in inpatient psychiatric populations. Last, we also examined if patients diagnosed with OUD during admission received appropriate treatment referrals because these hospitalizations are good opportunities to engage patients in long-term care. Many psychiatric facilities are required to report appropriate provision or offer of treatment for SUD at discharge per Inpatient Psychiatric Facility Quality Reporting (IPFQR) Program measures developed by the Centers for Medicare and Medicaid Services (CMS).[7]

Patients whose home opioids are continued or withheld during admission may be treated differently with respect to orders for nonopioid adjunctive pain agents, pain control, the use of as-needed intramuscular medications, or outpatient referrals for OUD treatment. Characterizing differences in the treatment of these patient populations may be informative in finding opportunities for improvement in inpatient care.

Methods

This study was a retrospective pilot study of inpatient encounters for patients discharged from the medical center's adult psychiatric service between June 1 and August 31, 2019, with an active home opioid prescription, which was defined as an electronic opioid prescription or a manual entry per patient report in the outpatient medication list within 30 days prior to admission. Patients with buprenorphine or methadone prescriptions were excluded because their indications would have been difficult to capture, and we aimed to look at a population not already on long-term treatment for OUD. The study population was divided into 2 cohorts: patients who had an active order for an inpatient opioid medication during the last 24 hours of admission (the continued group) and patients whose home opioid medication was withheld (the withheld group).

The primary outcome was the percentage of encounters with at least 3 active orders for nonopioid adjunctive pain agents during the last 24 hours of admission. The threshold of 3 medications was chosen based on a study of polypharmacy in chronic pain patients that found this was the average number of pain medications taken per patient.[8] Secondary outcomes included the average resting pain scores during the first 24 hours of admission compared with the last 24 hours of admission, use of intramuscular as-needed medications administered during admission, utilization of seclusion and/or restraints, orders for Clinical Opiate Withdrawal Scale (COWS), hospital discharges against medical advice, continuation of opioids at discharge, diagnoses of OUD at discharge, and offer or provision of substance use treatment.

Nonopioid adjunctive pain agents included acetaminophen, aspirin, baclofen, gabapentin, NSAIDs, pregabalin, SNRIs, skeletal muscle relaxants (cyclobenzaprine, carisoprodol, tizanidine, metaxolone, orphenadrine, methocarbamol), topical formulations (methylsalicylate, capsaicin, lidocaine), and TCAs. As-needed intramuscular medications captured were lorazepam, diphenhydramine, and all antipsychotics.

Data collection via electronic health record review was performed by the primary project investigator. Patient encounters to be included in the analysis were generated via reports from SAP Business Objects, restricting to the medical center's adult psychiatry services with discharge dates from June 1, 2019, through August 31, 2019, with at least 1 electronic order placed or a patient-reported home medication entered in the electronic health system since January 1, 2019. The reports also included inpatient orders for the identified encounters, which provided data for nonopioid adjunctive pain agents active during the last 24 hours of admission. Manual review of the electronic chart was required for evaluation of other outcomes. Nursing notes from all shifts were reviewed for resting pain scores and COWS scores. The utilization of seclusion and/or restraints was determined from physician orders. The medication administration records were reviewed for the use of intramuscular as-needed medications. The discharge summary provided data for hospital discharges against medical advice, continuation of opioids at discharge, diagnoses of OUD at discharge, and the offer or provision of substance use treatment. Encounter-level as opposed to patient-level data was

TABLE: Baseline characteristics and select outcomes[a]

	Opioid Continued (n = 16)	Opioid Withheld (n = 15)
Age, y	56.0 (32 to 84)	46.3 (22 to 79)
Male sex	7 (43.8)	10 (66.7)
Home opioids prescribed within 30 d prior to admission		
Hydrocodone products	2	11
Morphine products	0	2
Oxycodone products	11	5
Tramadol	5	0
Fentanyl	1	0
Encounters with ≥3 active orders for nonopioid adjunctive pain agents during last 24 h of admission	7 (43.8)	9 (60)
Intramuscular as-needed medications administered during admission	1 (6.3)	3 (20)
Seclusion and/or restraints ordered during admission	1 (6.3)	1 (6.7)
Clinical Opiate Withdrawal Scale ordered during admission	3 (18.8)	4 (26.7)
Left hospital against medical advice	1 (6.3)	0 (0)
Home opioid resumed at discharge	14 (87.5)	2 (13.3)
Diagnosis of opioid use disorder at discharge	5 (31.3)	6 (40)
Substance use treatment offer or referral provided	1 (20)	1 (16.7)

[a]Values are n or n (%) except for age, which are mean (range).

examined as patients could be included more than once if discharged multiple times during the study period. Descriptive measures were calculated utilizing Microsoft Excel, and the Fisher exact test was performed on select outcomes using an online calculator.[9] This project was deemed as quality improvement by the Medical University of South Carolina's IRB criteria and, therefore, did not require IRB approval.

Results

Sixteen encounters comprised the continuation group versus 15 encounters for the withheld group (Table). The patients in the continued group were generally older than patients in the withheld group (56 vs 46.3 years). A smaller proportion of the former group were male compared with the latter group (43.8% vs 66.7%). In the continued group, oxycodone products were the most frequently prescribed, and hydrocodone products were the most frequently prescribed in the withheld group (11 and 11, respectively). Nonopioid adjunctive pain agents were frequently utilized regardless of home opioid continuation. The percentage of encounters with at least 3 active orders for nonopioid adjunctive pain agents during the last 24 hours of admission trended lower in the continued group compared with the withheld group (43.8% vs 60%, $P = .29$). Mean resting pain scores during the first 24 hours of admission compared with the last 24 hours of admission for the continued group trended improvement from 7.3 to 6.1, and the withheld group exhibited little change but also had a lower baseline score (4.4 to 4.5). Administration of intramuscular as-needed medications trended lower in the continued group compared with the withheld group (6.3% vs 20%, $P = .27$), and orders for seclusion and/or restraints between the groups were similar (6.3% vs 6.7%, $P = .77$). Orders for COWS and leaving the hospital against medical advice were infrequent for both groups (Table). Regardless of home opioid continuation, both cohorts had a substantial number of patients with an OUD who did not have documentation of an offer of or referral to substance use treatment (80% in the continuation group vs 83.3% in the withheld group).

Discussion

This pilot study finds some trends that support the initial hypotheses that patients in the withheld group would have increased orders for nonopioid adjunctive pain agents, worse pain control, and dissatisfaction during admission. Specifically, orders for nonopioid adjunctive pain agents trended higher for the withheld group, suggesting that the withheld group experienced greater polypharmacy. Regarding our measures of patient dissatisfaction, there was also a trend for increased orders for intramuscular as-needed medications in the withheld group, hinting at increased dissatisfaction with care during admission. Although we hypothesized there would be a greater need for the use of restraints and/or seclusion in the withheld population, these events occurred infrequently in both groups.

Furthermore, this study found that, although patients continued on opioids trended toward pain improvement during their admission, pain remained about the same for the withheld group. This difference between the groups may have occurred for various reasons. For example, the patients in the withheld group may no longer have had a pain indication for the opioid or had pain that was less serious and adequately controlled by nonopioid adjunctive pain agents available during admission. For these same reasons, baseline mean pain scores for the withheld group may have trended lower overall compared with the continued group.

One of the biggest limitations of this study was the inability to access the state's prescription drug monitoring program database to confirm controlled substance prescriptions before and after discharge. Due to this limitation, patient cohorts were defined through data that was available internally, including electronic opioids prescribed from the Medical University of South Carolina's providers as well as manually entered opioids per patient report. The definition of the continuation of home opioids also needed to be defined rigidly (an active order of opioids for the last 24 hours of admission), which may not have captured the pattern of medication use during admission. Because information for home prescriptions before admission and after discharge could not be confirmed with a validated source outside of the University's electronic health record, some bias and inaccuracies may have been introduced. For example, prescriptions older than 30 days before admission that had an intended days' supply longer than 30 days could not be captured, and inaccurate prescriptions per patient report, expired prescriptions, or prescriptions for completed therapy could not be excluded. Not all home medication lists were reconciled by a pharmacist, increasing likelihood for errors. Alternative indications outside of pain, such as depression or anxiety, for nonopioid adjunctive agents could not be confirmed. Because of the need for manual chart review, our sample size was small.

What became evident from data collection was a lack of consistent and clear documentation regarding the plan to continue or discontinue the opioid at discharge. The information from the discharge summary was often insufficient to determine the plan at discharge. If a plan was documented elsewhere, such as in the team progress notes or social worker notes, it may not have been captured. This may make it not only difficult for the patients to understand the plan for the opioid, but also for future providers who may refer to the discharge summary for the patient's ongoing care. Furthermore, this study finds that offer or provision of substance use referral for patients with OUD as required per CMS IPFQR Program measures SUB 3 and SUB 3a was not consistently documented, which exposed the need for process improvement. This is a finding particularly relevant to all psychiatric facilities eligible for CMS funding and required to report this measure.[10] These findings may prompt inpatient interdisciplinary teams to develop a better practice of documentation for post-discharge care, such as an update for the physician's discharge summary template in the electronic health record.

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