



INFLUENCES ON PATIENT SATISFACTION AMONG PATIENTS WHO USE EMERGENCY DEPARTMENTS FREQUENTLY FOR PAIN-RELATED COMPLAINTS

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CE Earn Up to 6.5 Hours. See page 606.

Contribution to Emergency Nursing Practice

- Patient satisfaction with nursing care in the emergency department overall is dependent on wait time, precautions taken to protect patient safety, ability of staff to convey that they care about the patient as a person, and compassion shown by caregivers.
- Patient satisfaction with physicians is more dependent on ED cleanliness, pain control, wait time, and satisfaction with nursing care than on prescriptions for medication.
- Nurses can advocate for ED pain management protocols that align with best practices to limit opioid use without fear of poor patient satisfaction.
- Caring, clean, efficient ED environments are linked to improved patient satisfaction.

Abstract

Introduction: The primary purpose of this study was to assess relationships between opioid prescribing practices, patient and ED attributes, and patient satisfaction ratings of nursing and physician care among patients with high utilization of the emergency department for pain relief.

Methods: A retrospective cohort study was conducted to examine 305 individual patient satisfaction surveys from users

with high ED utilization for pain complaints. Responses were compared with an age-matched control group ($n = 305$) of nonfrequent ED users. Patient satisfaction survey responses and electronic medical records were used to model relationships between patient satisfaction and predictor variables.

Results: ED frequent users with pain complaints were 75% less likely to return a satisfaction survey compared with other patients (odds ratio = 0.2488; $P < .0001$). Patient satisfaction with physician behavior was largely accounted for by ED cleanliness, pain control, wait time for the physician, satisfaction with nursing, and feelings that ED staff cared about the patient personally. On the other hand, patient satisfaction with nursing care was largely accounted for by perceptions that nursing care was compassionate, feelings that the patient mattered personally, perceptions of safety precautions, and wait times. Receipt of prescriptions for scheduled drugs did not significantly influence patient satisfaction with physician or nursing behaviors.

Discussion: Emergency nurses can influence patient satisfaction scores by promoting clean, caring environments and prioritizing patient flow and pain management. ED providers can withhold opioids when appropriate without fear of a significant impact on patient satisfaction.

Keywords: Emergency department; Patient satisfaction; Physician; Nurse; Opioid; Pain

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Introduction

Two issues that pose challenges for emergency departments include visits from patients defined as “frequent users” and visits from patients with chronic pain who are seeking opioid medication. When frequent ED use and requests for opioid prescriptions are combined, ED personnel face a complex patient population who may have undertreated chronic pain, substance abuse, or psychiatric or psychosocial problems.^{1,2} Coinciding with national efforts to improve the quality of pain care, the percentage of ED visits resulting in a prescription for an opioid analgesic for home use increased from 23% in 1993 to 42% in 2005.³ Likewise, overdose deaths from prescription opioid pain medications escalated in the United States, increasing by 415% among women and 265% among men between 1999 and 2010.⁴

Currently, it is recommended that ED practitioners not encourage use of opioids to treat long-term painful conditions.⁵ Nonpharmacological interventions and non-opioid pharmacotherapy are preferred.⁶ Furthermore, prescriptions for treatment of chronic pain should be delivered within the context of a primary care provider–patient relationship for ongoing monitoring.⁶ Nonetheless, ED practitioners are among the most frequent prescribers of opioids and vary considerably in their attitudes regarding opioid guidelines and prescribing practices.^{7,8}

Appropriate pain care can be challenging when ED patients request or expect opioids for use at home. Providers must balance expectations for patient satisfaction with safe, evidence-based clinical decisions. A goal of transparency and public reporting for quality comparisons led the Centers for Medicare and Medicaid Services to implement the Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) surveys.⁹ These surveys provide patient perspectives of in-hospital experiences, whereas the Emergency Department Patient Experience with Care Survey (EDCAHPS), currently in field testing, will provide feedback specific to the ED setting.¹⁰ As a result of these and other patient experience surveys, emergency care providers are increasingly aware of factors that predict ratings on patient surveys. When tied to performance reviews or provider compensation, there is a risk that clinician decisions regarding opioid prescriptions will be influenced by a desire to maximize patient satisfaction.¹⁰

This study sought to (1) determine if patients classified as frequent users of the emergency department with pain-related complaints submitted patient satisfaction surveys at rates similar to the general ED population and (2) evaluate the influences of available variables, including receipt of opioid prescriptions for home use, on patient ratings of satisfaction with nurses and physicians. Understanding the relationship between patient satisfaction and ED characteristics such as opioid prescribing patterns may help clinicians balance patient preferences with best practices.

Methods

This study was reviewed and approved by the Institutional Review Board of the hospital system to which the study hospital belonged.

STUDY SETTING AND DATA SOURCES

We conducted a retrospective cohort study at a 720-bed full service, private, nonprofit urban medical center in the southwestern United States. Data for the year 2013 were used. During this period, 109,280 ED patients were encountered. The population of interest included patients who met the definition of “frequent users of the emergency department.” For the purposes of this study, “frequent user” was defined as an individual who was admitted to the study emergency department at least 3 times in 1 month, twice a month for 2 consecutive months, or 7 or more times in 12 months. This definition is consistent with other US emergency departments and previous literature, as well as the more recent CMS classification.¹¹ Data were compiled from a database of de-identified physician information provided by the physician group serving the study emergency department, the hospital electronic medical record (EMR), and from Press Ganey (PG) surveys of patients encountered at the study emergency department in 2013.

DATA COLLECTION

Data extraction from the hospital EMR was performed by a professional data manager employed by the study hospital. Records selected for this analysis were associated with nonpregnant adult patients who were admitted to the emergency department between the dates of January 1, 2013, and December 31, 2013, and were discharged home from the emergency department. A subgroup was defined consisting of patients who met the aforementioned criteria and presented at multiple visits with acute or chronic pain (frequent ED users with recurrent pain complaints). Cases were excluded if the patient was subsequently admitted to the hospital or an observation unit, was unable to communicate, or was cognitively disabled.

Records were subjected to manual chart audit to confirm that patients met the frequency-related definitions of high ED utilization and the presence of pain in such cases. Auditors achieved 96% inter-rater agreement, and the few disagreements that occurred were resolved by discussion between auditors and one of the physician investigators.

The following variables were obtained from the EMR: demographic factors (ie, age, sex, and ethnicity), date of admission to the study emergency department to find an

TABLE 1
Responses to rated items from Press Ganey ED surveys

Item	Frequent users with pain (n = 304) Mean score (SD)	Infrequent users (n = 304) Mean (SD)	Entire sample (N = 608) Mean (SD)
Satisfaction with nursing care			
Nurses' courtesy	4.45 (0.966), n = 299	4.64 (0.767), n = 300	4.55 (0.876), N = 599
Nurses' attention to patient needs	4.37 (1.08), n = 294	4.53 (0.918), n = 298	4.45 (1.00), N = 592
Nurse informativeness regarding treatments	4.30 (1.09), n = 295	4.50 (0.859), n = 296	4.40 (0.987), N = 591
Nurses' concern for privacy	4.44 (0.974), n = 292	4.57 (0.832), n = 295	4.57 (0.906), N = 587
Nurse took time to listen	4.38 (1.03), n = 295	4.56 (0.799), n = 298	4.47 (0.926), N = 593
Patient satisfaction with ED nursing care (index)	4.38 (0.972), n = 301	4.53 (0.769), n = 303	4.46 (0.879), N = 604
Satisfaction with physician care			
Doctor's courtesy	4.53 (0.890), n = 303	4.58 (0.843), n = 301	4.56 (0.867), N = 604
Doctor's concern for comfort	4.40 (0.984), n = 298	4.42 (0.981), n = 299	4.41 (0.982), N = 597
Doctor informativeness regarding treatment	4.36 (1.012), n = 299	4.43 (0.982), n = 296	4.39 (0.997), N = 595
Doctor took problem seriously	4.34 (1.119), n = 298	4.46 (0.949), n = 299	4.40 (1.037), N = 597
Doctor took time to listen	4.40 (0.967), n = 298	4.51 (0.911), n = 298	4.46 (0.940), N = 596
Patient satisfaction with ED physician care (index)	4.41 (0.923), n = 303	4.48 (0.863), n = 303	4.44 (0.894), N = 606
Other items			
Waiting time to see doctor	4.26 (1.077), n = 297	4.34 (0.925), n = 296	4.30 (1.004), N = 593
Informed about delays	4.11 (1.131), n = 277	4.19 (1.087), n = 266	4.15 (1.109), N = 543
Staff cared about you as a person	4.31 (1.051), n = 293	4.43 (0.939), n = 287	4.37 (0.998), N = 580
How well pain was controlled	4.17 (1.138), n = 288	4.40 (0.965), n = 265	4.28 (1.064), N = 553
Cleanliness of emergency department	4.39 (0.908), n = 298	4.41 (0.900), n = 290	4.40 (0.904), N = 588

SD, Standard deviation.

index case in 2013 (first visit of 2013), dates of service at any emergency department in the hospital system in 2012-2014 to help establish criteria as a frequent user, pain scores, discharge diagnoses, and names of analgesic prescriptions dispensed. PG case-level survey data were obtained from the hospital system Service Excellence Department. PG questionnaire items used in this analysis are shown in Table 1.

SAMPLE SIZE

All frequent users presenting with reports of pain who returned PG surveys (304) were considered cases. An age-matched, random sample of adult ED patients with any presenting complaint who were not frequent users and returned PG surveys (304) was selected as a control group.

The total sample size of 608 had sufficient power (0.80) to reject the null hypothesis and detect moderate effects.

ANALYSIS

Response scores on PG items were counted, and summary measures of central tendency (means) and dispersion (standard deviations [SDs]) were calculated. Multivariable linear regression was used to determine relationships between outcomes (satisfaction with nursing and satisfaction with physicians) and plausible independent variables. Analyses were conducted using SPSS statistical software, version 20 (IBM Corp, Armonk, NY). A backward stepwise method was used to restrict the regression models to the final equations. Instances of missing data were minimal; these data were determined to be missing at

TABLE 2

Sample: Patients admitted and discharged from the emergency department who returned Press Ganey surveys

Characteristic	Frequent users with pain (%) (n = 304)	Infrequent ED users (general adult ED patient population) (%) (n = 304)	Entire sample (%) (N = 608)
Sample size	304 (50)	304 (50)	608 (100)
Admitted during day shift (7 AM-7 PM)	196 (64.5)	209 (68.8)	405 (66.6)
Male	87 (28.6)	108 (35.5)	195 (32)
Received a nurse leader visit during admission			
Yes	108 (38)	87 (30)	195 (34)
No	97 (34)	81 (28)	178 (31)
Don't remember	80 (28)	119 (42)	199 (35)
Race			
White	179 (59)	185 (61)	416 (60)
Black	97 (32)	39 (13)	139 (22)
Hispanic/Latino	52 (17)	42 (14)	94 (16)
Other	28 (9)	80 (26)	53 (18)
Received prescription for scheduled drug at ED discharge	140 (46)	14 (5)	154 (25)
Age, y (age-matched groups)	Mean, 52 (SD = 17.6); range, 18-92; skewness, 0.105		

SD, Standard deviation.

random, and the situation was handled using list-wise deletion.

Results

SAMPLE

During 2013, the study emergency department reported 82,460 eligible adult encounters. Only 4418 PG survey responses from the cohort were returned, representing a yield of about 5%. Among all adult ED patient encounters, 27% were classified as patients who had a history of frequent ED use associated with pain. From this cohort of frequent users, 304 completed PG surveys were returned from 280 individual patients (1.2% of potential frequent-user respondents). Surveys from ED frequent users represented 6% of total ED surveys returned and only 0.3% of all the ED encounters. Encounters with ED frequent users with pain were 75% less likely to yield a PG survey return than were encounters with other patients (odds ratio [OR] = 0.2488), a statistically significant difference ($\chi^2 = 615$, $P < .0001$). Sample characteristics are shown in Table 2.

SCHEDULED DRUGS

Among all adult patients discharged from the emergency department (82,460), the association between receiving a prescription for a controlled drug and returning a PG survey was statistically significant ($\chi^2 = 222$, $P < .0001$). ED encounters with patients who received a prescription for a controlled drug were about twice as likely to result in a PG survey return than were encounters with patients who did not receive such a prescription (OR = 2.38, confidence interval [CI] = 2.12-2.68). Notably, encounters with frequent users with pain complaints were about 8-fold (OR = 7.8, CI = 7.5-8.1) more likely to result in prescriptions for a controlled drug than were encounters with matched control subjects. Among ED frequent users with recurrent pain complaints, the association between receipt of a controlled drug prescription and return of a PG survey was not significant ($\chi^2 = 0.220$, $P = .639$, OR = 0.95, $\phi = 0.003$). Although frequent users with recurrent pain were significantly more likely to leave the emergency department with a prescription of a scheduled drug than were other patients ($\chi^2 = 138$, $P = .0001$, $\phi = 0.477$), receipt of prescriptions for scheduled drugs was not significantly associated with PG ratings of physician (prescriber) behaviors among frequent ED users.

RATINGS OF CLINICIAN BEHAVIOR

PG surveys from ED frequent users with pain were more likely to result in lower mean scores on 2 nurse-related items than were surveys of other patients. After adjustment (Bonferroni based on 0.05 original α) for multiple testing, frequent users reported significantly lower ratings on nurse courtesy and nurse's informativeness regarding treatments than were nonfrequent users ($t = -2.558$, $P = .011$, and $t = -2.407$, $P = .016$, respectively). No significant differences were found in physician ratings between frequent and infrequent ED users.

Responses to nurse-related items on the PG surveys were highly intercorrelated ($r \geq 0.80$), suggesting that these questions reflect the same broad concept, which we label "satisfaction with ED nursing care." The same situation held with physician-related items. Nurse-related items were combined and averaged to create a short index of satisfaction with ED nurse care (Table 1). The same operation was performed for physician-related items. Satisfaction with ED nursing care and satisfaction with ED physician care as measured with these short indexes were found to be strongly related ($r = 0.704$), and mean ratings for satisfaction with ED nursing and ED physician care were similar (mean = 4.5, SD = 0.88; mean = 4.4, SD = 0.89, respectively).

Multivariable linear regression was used to model the effects of selected variables on the Satisfaction with ED Nursing Care index score among frequent and infrequent

ED users. We found that 75% of the variance in patient satisfaction with nurse behavior was accounted for by 4 variables (Table 3). Contrary to the case with patient satisfaction with physicians, described later, satisfaction with nursing was not predicted by satisfaction with physicians. Patient age, sex, ED cleanliness, and activities of allied health providers were not significantly associated with satisfaction with nursing care.

Multivariable linear regression was also used to model the effects of selected variables on the Satisfaction with ED Physician Care index score among frequent and infrequent ED users (Table 3). We found that 66% of the variance in patient satisfaction with physician behavior was accounted for by 5 variables. Notably, variables that did not contribute significantly to predicting patient satisfaction with physician behavior included patient status as a frequent user of the emergency department, receipt of a prescription for scheduled drugs, a visit with a nurse leader, patient age, or sex of the patient. The variable that predicted satisfaction with both nursing care and physicians was the perception that the ED staff cared about the patient as a person.

Discussion

Although few surveys were returned by frequent ED users, the surveys that were received did not support clinician fears that poor satisfaction scores relate to receipt of prescriptions for opioids. This finding is consistent with findings of

TABLE 3
Influences on patient satisfaction with ED physician and nurse care

Predictive variable	Standardized β coefficient	95% CI	t value	P value
Satisfaction with physician (adjusted $R^2 = 0.66$)				
Perception that staff cared about respondent as a person	0.353	0.228-0.415	6.784	.0001
Patient satisfaction with ED nursing care (composite score)	0.159	0.067-0.261	3.317	.001
Waiting time for physician	0.122	0.038-0.181	3.006	.003
How well pain was controlled	.0146	0.063-0.190	3.918	.0001
Cleanliness of emergency department	0.154	0.090-0.231	4.484	.0001
Satisfaction with nurse (adjusted $R^2 = 0.75$)				
Perception that staff cared about respondent as a person	0.298	0.215-0.381	7.023	.0001
Wait time before arrival noticed	0.138	0.074-0.201	4.286	.0001
Compassion shown by caregivers	0.371	0.284-0.458	8.406	.0001
Precautions taken to protect safety	0.108	0.034-0.181	2.875	.004

CI, Confidence interval.

previous studies¹² and supports clinicians who implement strategies to include non-opioids and nonpharmacological means to control pain. Providers should feel comfortable doing what they believe is best for the patient without fear of poor patient reviews. Factors that affected patient ratings of caregiver behavior can be changed through team effort. The entire health care team, including housekeepers, physicians, nurses, receptionists, and others, are involved in the organization of care in the emergency department. The strong positive correlation between patient perception of nursing care and physician care, in particular, disrupts any illusion that physicians can function well in solitude. If a patient receives indifferent nursing care in a cluttered, rushed environment in which staff forget to introduce themselves or narrate their care, physicians may receive lower satisfaction scores regardless of the quality of their treatments or demeanor. Likewise, nursing care receives higher scores when the entire ED staff works together to provide compassionate, safe care that makes the patient feel cared about personally.

Limitations

Caution is required in interpreting conclusions resulting from associational and retrospective studies. In this sample, unknown variables influenced 34% of the ratings of physicians and 25% of nurse ratings in emergency departments. We had a low yield of surveys overall, but especially from our study population of high ED utilizers with pain-related visits. Because the yield of PG patient satisfaction surveys from ED users who visited frequently with pain was small, confidence in some conclusions about that group may be limited.

Implications for Emergency Nurses

Placing high emphasis on patient satisfaction can be a concern if it means providing care that is not in patients' best interests.¹³ Nurses should be knowledgeable about issues surrounding long-term opioid use, such as signs of withdrawal, tolerance, and drug dependency.¹⁴ Emergency nurses can advocate for non-opioid alternatives and promote pain management programs that ensure that patients receive appropriate pain care and referrals. Nurses report multiple barriers to exhibiting caring to patients with pain because they feel overwhelmed and frustrated by the complexity of pain and unrealistic patient expectations, along with feeling inadequately staffed and perceiving noncohesiveness of the health care team.¹⁵ Nurse leaders should be aware of such concerns and recognize that the work environment is directly linked to patient satisfaction.

Conclusion

Our data indicate that patient satisfaction scores are not likely to be significantly influenced by patients who have frequent ED visits for pain-related complaints. Members of this patient subgroup return surveys rarely, and when they do, their ratings of providers' behavior are not significantly different from those of other patients. The predictive models that emerged from this sample suggest that aggregate patient satisfaction with ED providers' behavior is more likely to be influenced by promoting clean, caring environments and prioritizing patient flow and pain management. ED providers serving similar populations can withhold opioids when appropriate without fear of a significant impact on patient satisfaction scores.

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Letters to the Editor

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NOTE: In addition to letters submitted for possible publication, your comments, suggestions, and feedback are also welcomed and encouraged.