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Prevalence and characteristics of hospitalized older adults with moderate to severe pain

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Abstract

Background: Unrelieved pain is associated with adverse outcomes among older adults. While previous studies found a high prevalence of pain among community dwelling older adults, the occurrence of pain among older patients in the hospital is not well understood. The objective of this study was to investigate the prevalence, characteristics and management of pain in older hospitalized medical patients.

Methods: To determine the prevalence of moderate to severe pain (i.e., pain of 4 on the 0 to 10 Numeric Pain Rating Scale), medical record aggregate review was conducted on patients 65 years of age admitted to the medicine service at a tertiary hospital between 11/28/2014 – 5/28/2015. Demographic characteristics, comorbidity burden, pain characteristics, and analgesics during the index hospitalization were assessed on moderate to severe pain patients only.

Results: Of 1267 patients admitted to the medicine service, 248 (20%) had moderate to severe pain on admission. Mean age was 75 ± 8 years, 57% were female, and 50% were white. During hospitalization, most patients received opioids (80%) and acetaminophen (74%), and few received nonsteroidal anti-inflammatory drugs (9%). Compared to those without a history of chronic pain, patients with chronic pain experienced a lower reduction in pain intensity score from admission to discharge (mean change score 3.7 vs. 4.9, $p=0.002$) and were more likely to receive opioids, adjuvant analgesics, and other analgesics (all $p<0.05$).

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Data interpretation, drafting of manuscript, and critical revision: All authors

Final approval of submitted manuscript: All authors

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Conclusions: Moderate to severe pain is present in one of five older adults admitted to the general medicine service. Further research about optimal pain management among hospitalized older adults, particularly those with chronic pain, is necessary to improve care in this population.

Keywords

pain; pain management; older adult; hospital; opioids

Introduction

Pain is a common and disabling condition in the older population. Approximately 24–72% of community-dwelling older adults and 60–80% of long-term care facility older residents report or have been observed to have pain.^{1–4} Unrelieved pain is associated with adverse outcomes among older adults, including decreased physical functioning, sleep disturbance, and falls.^{5–7} However, across different care settings, studies found that pain is often inadequately treated among older adults.^{8–10} Pain management for older adults is complicated by multimorbidity, as 65% of older adults have ≥2 chronic conditions and 24% have ≥4 chronic conditions.¹¹ Furthermore, high rates of polypharmacy among older adults increase the risk of drug-drug interactions and adverse effects.^{12, 13}

Despite comprising 13% of the United States population in 2008, patients ≥65 years of age represented over 40% of all hospitalized adults.¹⁴ However, limited research exists about the occurrence and management of pain among older adults in the hospital setting. Studies to date have focused on overall admission pain prevalence, pain in the emergency department and hip fracture pain.^{15–18} The prevalence and management of pain in older patients on general medicine services remains unknown.

Therefore, the objectives of this study were to (1) determine the prevalence of pain in older adults admitted to a medicine service, (2) examine the pain characteristics and management of moderate to severe pain in these patients, and (3) investigate differences in pain and pain management among different subgroups of patients.

Methods

Study Population

This retrospective cohort study included patients aged ≥65 years of age who were admitted with moderate to severe pain to the medicine service of a tertiary medical center in San Francisco between 11/28/2014 and 05/28/2015. Moderate to severe pain was defined as the first documented pain intensity score within 24 hours of admission as assessed by the 0 to 10 Numerical Pain Rating Scale (NPRS) of ≥4 or the Checklist of Nonverbal Pain Indicators (CNPI) of ≥1.^{19, 20} The NPRS is a reliable and commonly used tool to assess pain in older adults, while the CNPI is frequently used to assess pain in cognitively impaired elders.²¹ For patients with multiple admissions during the 6 months of enrollment, the most recent admission was considered. Ethics approval was obtained from the local institutional review board.

Study Measures

Structured medical record reviews were conducted by trained clinical and research personnel. Demographic data such as age at hospitalization, sex, race, ethnicity, marital status, insurance type, and language preference were abstracted electronically. Abstracted index admission information included length of hospital stay and admission and discharge locations. Collected pain characteristics included pain sites and relevant pain related diagnoses from the electronic health record problem list (e.g., chronic pain, dementia and depression).

On admission, the first documented NPRS or CNPI score was recorded. At discharge, the last documented NPRS, CNPI, or the Verbal Descriptor Scale (VDS) score was recorded. A subset of patients completed pain assessments at discharge using VDS, which is a valid and reliable tool that elicits a verbal description of pain intensity (i.e., none, mild, moderate, severe, or very severe).²² Patients who did not have documented pain scores within 24 hours of admission or within 48 hours of discharge were excluded. To harmonize the three pain scales, CNPI scores were converted to NPRS scores using the following algorithm: “1–2” → “5”, “3–4” → “8”. VDS scores were converted to equivalent NPRS scores with the following algorithm: “None” → “0”, “mild” → “2”, “moderate” → “5”, “severe” → “8”, and “very severe” → “10”.²³

We recorded data about analgesics at three time points: medications prescribed before the time of hospitalization, during hospitalization, and at discharge. We categorized analgesics into four types: non-opioids (acetaminophen and nonsteroidal anti-inflammatory drug [NSAID] combined), opioids, co-analgesics (e.g., antidepressants, anticonvulsants), and “other” analgesics (e.g., lidocaine, baclofen).²⁴ We noted non-pharmacologic methods of pain treatment (e.g. repositioning, hot or cold application, emotional support). Morphine Equivalent Daily Dose (MEDD) was calculated for opioid intake on the first and last day of admission. A high MEDD was defined as ≥ 50 mg based on dosing recommended by the 2016 Centers for Disease Control guidelines.²⁵ To verify the accuracy of chart abstraction, an independent abstractor re-evaluated and adjudicated the data for 10% of the sample.

We assessed comorbidity burden using the Cumulative Illness Rating Scale for Geriatrics (CIRS-G).^{26,27} The CIRS-G is a validated tool in older adults and comprises 14 organ systems assigned ratings from 0–4 based on severity. Total score ranges from 0–56, with higher scores indicating greater burden of disease. While the 1991 CIRS-G manual was the main reference for score calculation,²⁸ the 2008 CIRS-G manual²⁹ was used to clarify ambiguous scoring scenarios. Trained clinical personnel completed the CIRS-G scoring. To check inter-rater reliability, a trained research team member scored a subset of the first 100 charts. All discrepancies were resolved with the consultation of the senior author (CSR).

Statistical Analysis

We calculated descriptive summary statistics related to pain prevalence and treatment characteristics using Chi-square test for categorical variables and Student’s t-test for continuous variables. Pain prevalence, characteristics, and management were examined among different subgroups of patients. These variables were determined a priori based on

previously identified factors associated with pain and included age, sex, race, history of chronic pain, depression, and dementia.^{2, 17, 30} We examined outpatient treatment characteristics before hospitalization and at discharge using McNemar's test or Wilcoxon's rank sum test and paired t-test as appropriate. To adjust for significant factors based on previous research, multivariate logistic regression analysis was used to determine variables independently associated with a history of chronic pain.^{31–33} All analyses were conducted using SAS version 9.4 (SAS Institute, Inc., Cary, NC).

Results

Patient Sample

Of the 1267 patients admitted to the medicine service for non-elective procedures, 938 (74.0%) had no pain, 81 (6.4%) had mild pain, and 248 (19.6%) had moderate to severe pain. The current analysis is restricted to the 248 patients whose admission records reported moderate to severe pain (Figure 1). The mean age of moderate to severe pain group was 75.0 ± 8.3 years, 56.5% were female, 50.4% were White and 89.5% were non-Hispanic. Most patients (71.4%) reported English as their primary language, 82.7% had Medicare insurance coverage, and 45.2% had Medicaid coverage. The mean length of hospitalization was 5.7 ± 6.4 days and the mean CIRS-G total score was 17.3 ± 5.6 (Table 1).

Pain Characteristics and Management

At the time of admission, the mean NPRS score was 6.3 ± 1.8 ; 55.2% reported moderate pain (NPRS: 4–6) and 44.8% reported severe pain (NPRS: 7–10). A total of 39.9% had a documented history of chronic pain. The most common sites of pain upon admission were back/knee/hip/shoulder (26.6%), abdomen (23.4%), and arm/hand/wrist/leg/foot (21.8%) (Table 1). A significant reduction in mean NPRS score occurred from admission to discharge (4.4 ± 2.9 , $p < 0.001$).

During hospitalization, most patients received opioids (80.2%) and acetaminophen (74.2%, Figure 2); 60.5% received both acetaminophen and opioids. Few patients (8.9%) received NSAIDs. Intravenous patient-controlled analgesia was prescribed for 3.6% of patients. Approximately half (49.6%) received non-pharmacologic pain interventions. Of those prescribed opioids during admission, 23.6% received a high MEDD (> 50 mg). Overall, significantly more patients were prescribed opioids at discharge than before hospitalization (57.3% vs. 50.8%, $p = 0.04$, Figures 2, 3). In addition, 14.1% patients received new opioid prescriptions at discharge and 43.1% patients received opioid prescriptions both before hospitalization and at discharge (Figure 3). No differences were observed in other outpatient analgesic prescriptions from before hospitalization to discharge (Figure 2). Patients who were prescribed opioids before admission had longer hospital stays compared to those who did not (mean 6.8 vs. 4.6 days, $p = 0.005$).

Association of Patient Characteristics with Pain and Pain Management

Age—Patients aged 65–79 years old reported higher pain scores on discharge (2.2 ± 2.7 vs. 1.3 ± 2.4 , $p = 0.024$ and NPRS > 1 , 49.2% vs. 31.9%, $p = 0.014$) compared to those < 80 years.

No differences were found in pharmacologic or non-pharmacologic pain management by age (all $p>0.05$).

Gender—No differences were observed in admission and discharge pain scores by gender (all $p>0.25$). Compared to males, females were more likely to be prescribed non-opioids before hospitalization, during hospitalization, and at discharge (all $p<0.05$). Females were also more likely to be prescribed other analgesics during hospitalization and at discharge (all $p<0.05$). There was no difference in non-pharmacologic pain management by gender ($p=0.15$).

Race—Admission and discharge pain scores between white and non-white patients were not significantly different (all $p>0.25$). However, white patients were more likely to be prescribed opioids before and during hospitalization (all $p<0.05$). White patients were less likely to be prescribed acetaminophen at discharge compared to non-white patients ($p=0.022$). No differences were observed in non-pharmacologic interventions by race ($p=0.80$).

Chronic Pain—Patients with a history of chronic pain were more likely to live alone (63.6% vs. 43.6%, $p=0.002$), have a history of depression (33.3% vs. 20.1%, $p=0.019$), and a history of sleep apnea (18.2% vs. 8.1%, $p=0.017$). In an a priori logistic regression model, depression was the only factor associated with a history of chronic pain (odds ratio, 1.94; 95% confidence interval, 1.05–3.59; $p=0.035$) after adjusting for age, sex and body mass index.

No differences were found between admission pain scores for patients with and without a history of chronic pain ($p=0.83$). However, at discharge, patients with chronic pain reported a lower numeric reduction in pain compared to patients without chronic pain (mean change score 3.7 ± 2.9 vs. 4.9 ± 2.8 , $p=0.002$). Across the inpatient hospitalization, before hospitalization, and discharge settings, patients with a history of chronic pain were significantly more likely to receive opioids, co-analgesics, and other analgesics (all $p<0.05$). While no differences were found in non-pharmacologic interventions (50% in each group) and non-opioids prescriptions during hospitalization, patients with chronic pain were more likely to receive non-opioids before hospitalization and at discharge (all $p<0.05$, Table 2). A total of 38.9% of patients without chronic pain received opioid prescriptions prior to admission, of which 51.7% had a history of a cancer diagnosis.

Dementia—In this sample, 10.1% of patients had a documented history of dementia. Patients with dementia were more likely to be older (79.5 ± 10.8 vs. 74.5 ± 7.8 years, $p=0.034$) and have a higher CIRS-G score (19.8 ± 5.7 vs. 17.0 ± 5.5 , $p=0.016$). Compared to patients without dementia, those with dementia had similar pain scores on admission ($p=0.45$), but reported lower pain scores on discharge (0.5 ± 1.4 vs. 2.1 ± 2.7 , $p<0.001$) and achieved higher reduction in pain from admission to discharge (mean change score 5.6 ± 2.2 vs. 4.3 ± 3.0 , $p=0.035$). Patients with dementia were less likely to be prescribed opioids prior to hospitalization (32.0% vs. 52.9%, $p=0.047$) and during admission (64.0% vs. 82.1%, $p=0.032$). Non-pharmacologic interventions during hospitalization and prescription of non-

opioids, co-analgesics, and other analgesics before hospitalization, during hospitalization and at discharge did not differ between patients with and without dementia.

Depression—A total of 63 (25.4%) patients had a documented history of depression. No differences were found in pain scores at admission ($p=0.45$) or numeric reduction of pain from admission to discharge ($p=0.23$) between patients with and without depression. Patients with depression were more likely to receive opioid prescriptions prior to admission (63.5% vs. 46.5%, $p=0.02$) and during hospitalization (93.7% vs. 75.7%, $p=0.002$), but not at discharge (65.1% vs. 54.6%, $p=0.15$). Patients with depression were more likely to receive co-analgesics (34.9% vs. 21.6%, $p=0.035$) before hospitalization and more likely to be discharged with other analgesics (39.7% vs. 21.6%, $p=0.005$). There were no differences in non-pharmacologic interventions among patients with and without depression ($p=0.42$).

Because CNPI scores were converted to NPRS scores, we conducted a sensitivity analysis where patients with CNPI scores on admission (8.5%) were excluded. The overall results were essentially unchanged. The magnitude of the effect remained similar; however, age group differences in discharge pain scores and CIRS-G score differences by dementia group were no longer statistically significant. VDS scores at discharge (13.7% of sample) were converted to equivalent NPRS scores.

Discussion

This study expands our understanding of pain characteristics and current pain management practices in older adults admitted to a medicine service. We found that one in five older medical patients reported moderate to severe pain. The majority of these patients received opioid therapy for pain management. Finally, while patients with chronic pain commonly reported pain in the hospital, their pain was often not as responsive to multiple pharmacologic agents.

Our study offers a unique focus on the pain management of moderate to severe pain among older medical patients. Other samples of hospitalized patients have been either smaller, investigated specific analgesics (i.e., opioids), or included more heterogeneous groups (e.g., mixed age groups or combined medical and surgical patients).^{34–37} Although the prevalence identified in our study (20%) is lower than estimates of pain among community dwelling adults (24–72%),^{2–4} this difference is likely because we specifically focused on moderate to severe pain, whereas other studies reported any level of pain. If patients with mild pain were included, the total prevalence would be 26%, similar to previous estimates. In addition, because pain was identified through chart abstraction, pain prevalence may be underestimated relative to self-report.

The most common analgesics in our sample were acetaminophen and opioids, whereas NSAIDs were rarely used. Opioid use has grown substantially in the general population, including among older adults.³⁸ One study showed that between 1999–2010, outpatient opioid prescriptions among older adults were almost doubled from 4 to 9%,³⁸ and another study reported a 2% annual increase in opioid prescriptions for older patients without cancer between 2004 and 2013.³⁹ In our study of hospitalized patients, 51% received opioids prior

to admission, and their use increased to 80% during the hospital stay, which was higher than a recent study of opioid prescription in the emergency department (35%).⁴⁰ Our study also reported a higher use of opioids at discharge compared to admission. Among 536,767 opioid-naïve patients who filled an opioid prescription in Oregon, 5% continued with long-term use.^{41, 42} While not evaluated in our study, it is possible that increased prescription of opioids in the hospital may contribute to persistent use in these older adults.⁴²

Almost one-third of patients in our study received high doses of opioids (MEDD ≥ 50 mg) during admission. While often needed to adequately control pain, higher doses of opioids are associated with more adverse outcomes. The 2016 Centers for Disease Control guidelines and other national and state-based initiatives to curb opioid use have highlighted concerns related to higher doses of opioids and have led to an overall plateauing of opioid use nationally.^{25, 43} How these new initiatives to restrict opioid use affect older adults' pain and pain management remains to be determined.

Opioid therapy is one of the most frequently implicated medications in adverse drug reactions in the hospital.⁴⁴ A recent study showed that hospitalized older adults who received opioids had longer hospital stays and were more likely to be readmitted.³⁷ In our study, patients who received outpatient opioids before hospitalization experienced longer lengths of hospital stay compared to those who did not. Further research is necessary to clarify the impact of opioid use in this population and to identify non-opioid strategies for pain management in the hospital setting.

More than one-third of patients in our study had a documented history of chronic pain. Overall, these patients received more analgesics during their hospitalization and yet reported a lower reduction in pain. Chronic pain is prevalent among older adults and often challenging to manage.⁴⁵ Factors that contribute to chronic pain include older age, Hispanic ethnicity, female gender, depression, anxiety, and obesity.^{31–33} In our study, depression was the only factor associated with chronic pain in multivariate analysis. Depression is well studied in chronic pain and thought to represent a dyad in which the two conditions coexist and may exacerbate each other.⁴⁶ Although the American Geriatrics Society guidelines recommend utilizing non-pharmacologic methods for management of persistent pain, patients with chronic pain in our study did not receive more non-pharmacologic interventions compared to their counterparts.⁴⁷ Our findings underscore the need for improved comprehensive management of older adults with chronic pain and attention to psychiatric components of the pain experience in the inpatient setting.

Our study has important implications for clinical practice. As the population ages, an increasing number of older adults will be hospitalized with moderate to severe pain. Health care providers should adopt evidence-based approaches to manage their pain. While our study indicates that opioids are the current mainstay of hospital pain management, opioids have significant risks and there are limited prospective trials examining treatment outcomes among older adults. Furthermore, the impact of opioid administration in patients with chronic pain in the hospital is unknown. Thus, health care providers should exert caution when prescribing opioids to older hospitalized patients.

Several limitations warrant consideration. Our study findings may be limited in generalizability as the sample is from a single medical center with a higher proportion of non-white patients compared to the general population. Data were abstracted from medical records, which may not reflect actual pain management practices and may underestimate pain prevalence due to missing or incomplete pain documentation. Furthermore, reliability of pain assessments may be limited among patients with cognitive impairment.^{48, 49} There is currently no validated conversion of CNPI to NPRS scores; however, our sensitivity analysis indicates that overall results were essentially unchanged when CNPI scores were excluded. Dosing information for other analgesics were not collected except for opioids. Due to the heterogeneity of admission diagnoses and the lack of clarity regarding the rationale for pain management decisions both in inpatient and outpatient settings, we could not determine with certainty the indications for analgesic prescription based on chart review. As with any retrospective study, it is difficult to determine temporal relationship among variables. Nevertheless, this study offers important new insights on pain characteristics and management among hospitalized older adults with moderate to severe pain.

Conclusions

Moderate to severe pain was present in one of five older adults admitted to the general medicine service. Opioid therapy was commonly utilized for pain management. Patients with chronic pain were often less responsive to multiple pharmacologic agents. Future research is needed to clarify factors that contribute to the pain experience of hospitalized older adults and to identify optimal pain management strategies in this population.

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Sponsor's Role

The sponsors had no role in development of the study, data acquisition, data interpretation, writing, or editing of manuscript.

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Impact Statement

1. We certify that this work is novel or confirmatory of recent novel clinical research.
2. The potential impact of this research on clinical care or health policy includes the following:
 - A dearth of studies have examined pain in hospitalized older adults. The findings from this study provide new information on the prevalence of pain in hospitalized older adults, characteristics of these patients, and how their pain was managed in the inpatient setting. This information can be used to develop interventions to improve pain management in hospitalized older adults.

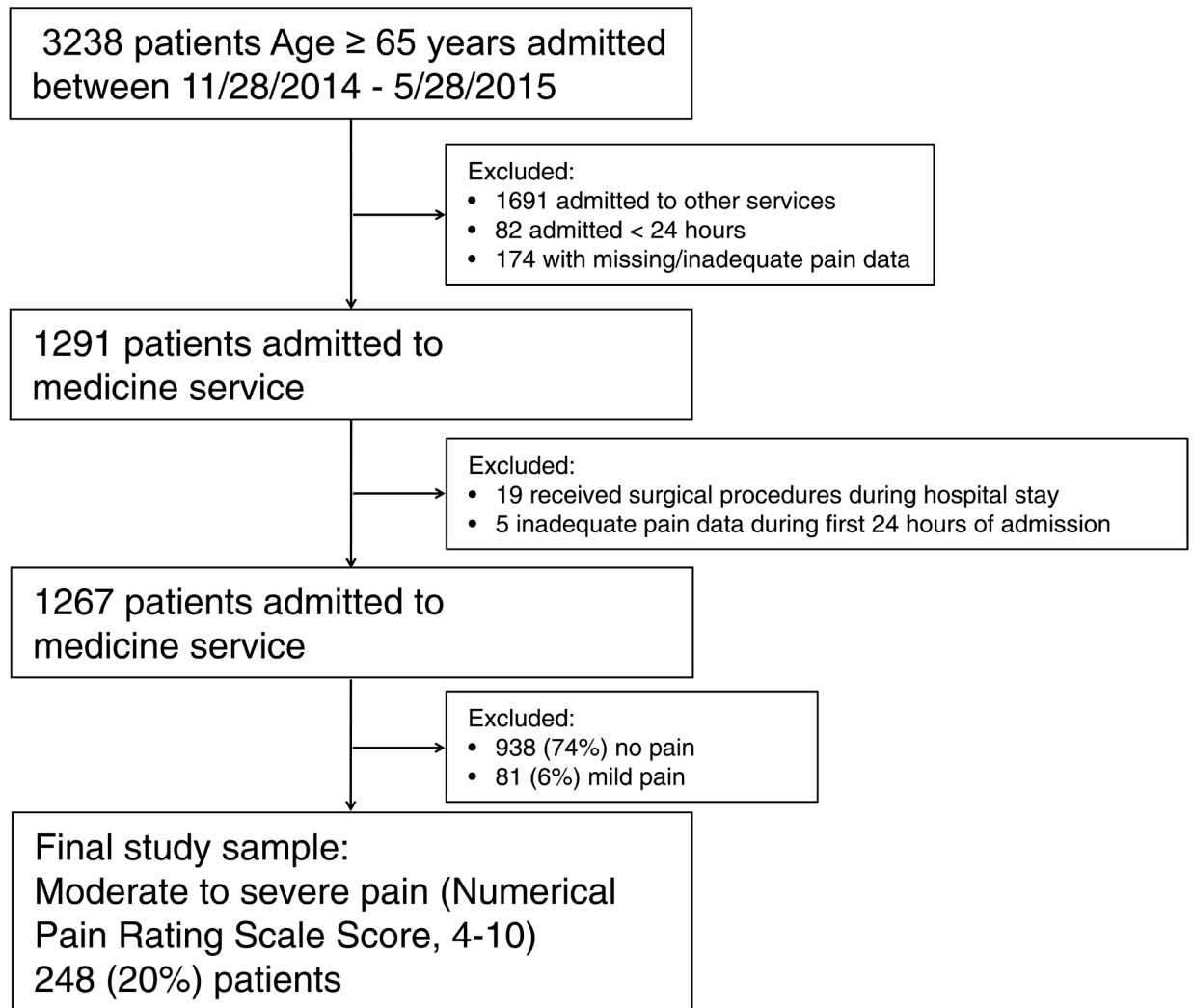


Figure 1:
Flow chart of study participants

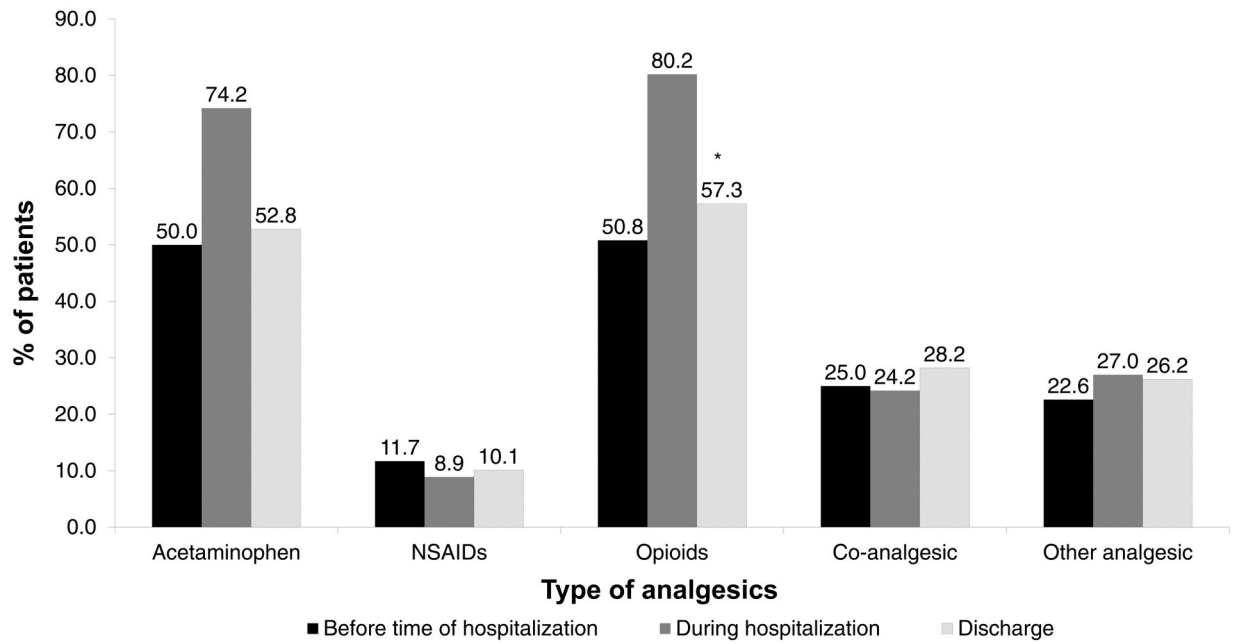


Figure 2:

Types of analgesics prescribed before the time of hospitalization, during hospitalization, and at discharge. NSAID = Nonsteroidal anti-inflammatory drug. Co-analgesics = antidepressants, anticonvulsants, and antiarrhythmic. * $p = 0.04$. P-value represents comparison between frequency of opioid analgesics prescribed before the time of hospitalization and at discharge.

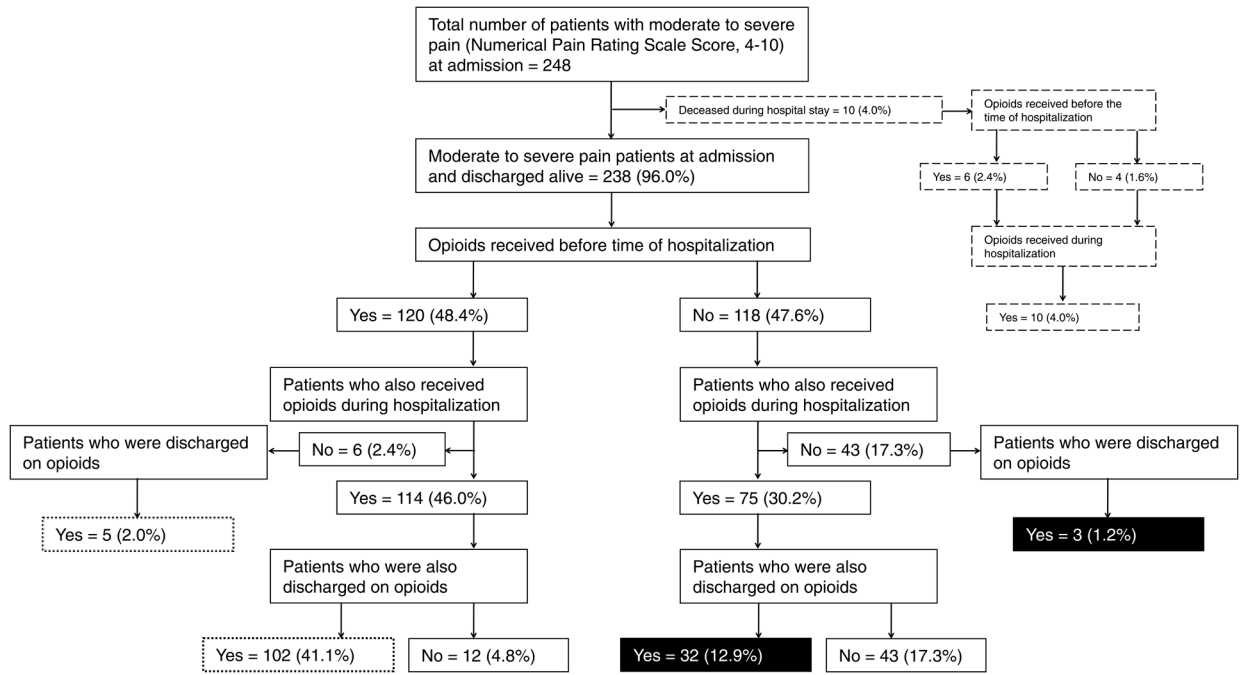


Figure 3: Flow chart of opioid prescription before the time of hospitalization, during hospitalization, and at discharge. Percentages are calculated based on total study sample (N=248). ■ Received new prescription at discharge, inception cohort, □ Received prescription before the time of hospitalization and at the discharge, prevalent cohort, ▭ Deceased during hospital stay.

Table 1.

Demographic and Clinical Characteristics of Older Adults Admitted to Medicine Service with Moderate to Severe Pain, Overall and According to Age

Characteristic	Overall, N=248	< 80, n=179	80, n=69	P-Value
Age, mean±SD	75.0±8.3	70.7±4.4	86.2±4.9	<.001
Female, n (%)	140 (56.5)	102 (57.0)	38 (55.1)	.79
White, n (%)	125 (50.4)	100 (55.9)	25 (36.2)	.01
Married, n (%)	110 (44.4)	79 (44.1)	31 (44.9)	.92
Preferred language English, n (%)	177 (71.4)	137 (76.5)	40 (58.0)	.004
Admission source community, n (%)	224 (90.3)	165 (92.2)	59 (85.5)	.11
Discharge location community, n (%)	148 (59.7)	115 (64.2)	33 (47.8)	.02
Hospital length of stay, mean±SD	5.7±6.4	5.9±7.1	5.2±4.3	.37
Comorbid conditions, n (%)				
Anxiety	56 (22.6)	47 (26.3)	9 (13.0)	.03
Cancer	91 (36.7)	74 (41.3)	17 (24.6)	.01
Cerebrovascular disease	38 (15.3)	22 (12.3)	16 (23.2)	.03
Congestive heart failure	55 (22.2)	30 (16.8)	25 (36.2)	<.001
Dementia	25 (10.1)	14 (7.8)	11 (15.9)	.06
Depression	63 (25.4)	50 (27.9)	13 (18.8)	.14
Liver disease	26 (10.5)	23 (12.8)	3 (4.3)	.05
History of falls, n (%)	59 (23.8)	33 (18.4)	26 (37.7)	.001
Charlson Comorbidity Index, mean±SD	3.1±2.3	3.2±2.4	2.6±2.1	.06
Cumulative Illness Rating Scale for Geriatrics score, mean±SD	17.3±5.6	16.9±5.6	18.2±5.5	.10
Body mass index, kg/m ² , mean±SD ¹	26.1±7.0	26.8±7.4	24.3±5.2	.005
Creatinine clearance on admission, mean±SD ¹	60.4±34.4	67.6±36.2	41.4±19.0	<.001
Admission pain score				
Mean±SD (range)	6.3±1.8 (4–10)	6.4±1.9 (4–10)	6.2±1.7 (4–10)	.45
Median (IQR)	6 (5–8)	6 (5–8)	6 (5–8)	.45
Discharge pain score				
Mean±SD (range)	1.9±2.7 (0–10)	2.2±2.7 (0–10)	1.3±2.4 (0–10)	.02
Median (IQR)	0 (0–4)	0 (0–4)	0 (0–2)	.02
History of chronic pain, n (%)	99 (39.9)	73 (40.8)	26 (37.7)	.66
Sites of pain on admission, n (%)				
Abdomen	58 (23.4)	47 (26.3)	11 (15.9)	.09
Chest	40 (16.1)	32 (17.9)	8 (11.6)	.23
Back, knee, hip, shoulder	66 (26.6)	45 (25.1)	21 (30.4)	.40
Arm, hand, wrist, leg, foot	54 (21.8)	40 (22.3)	14 (20.3)	.73
Generalized	17 (6.9)	15 (8.4)	2 (2.9)	.13

¹Data missing as follows: body mass index (n=16), creatinine clearance at admission (n=14).

SD=standard deviation; IQR=interquartile range.

Table 2.

Analgesics Prescribed to Participants with and Without a History of Chronic Pain

Drug Category	No History of Chronic Pain (n=149)			History of Chronic Pain (n=99)		
	Before Hospitalization	During Hospitalization	At Discharge	Before Hospitalization	During Hospitalization	At Discharge
Nonopioid	69 (46.3) ¹	110 (73.8)	77 (51.7) ²	67 (67.7) ¹	78 (78.8)	65 (65.7) ²
Acetaminophen	64 (43.0) ²	108 (72.5)	70 (47.0) ²	60 (60.6) ²	76 (76.8)	61 (61.6) ²
Nonsteroidal antiinflammatory drug	13 (8.7)	15 (10.1)	13 (8.7)	16 (16.2)	7 (7.1)	12 (12.1)
Opioid	58 (38.9) ¹	112 (75.2) ²	72 (48.3) ¹	68 (68.7) ¹	87 (87.9) ²	70 (70.7) ¹
Co-analgesic ³	24 (16.1) ¹	23 (15.4) ¹	28 (18.8) ¹	38 (38.4) ¹	37 (37.4) ¹	42 (42.4) ¹
Other analgesic	24 (16.1) ²	26 (17.4) ¹	26 (17.4) ¹	32 (32.3) ²	41 (41.4) ¹	39 (39.4) ¹

P-values represent comparison of analgesic prescription before the time of hospitalization, during hospitalization, and at discharge among patients with and without a history of chronic pain.

¹ P < .001, ² .05

³ Antidepressant, anticonvulsant, antiarrhythmic.