EPH121

Predictors of Persistent Opioid Use in Non-Cancer Older Adults

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Background

- Chronic (persistent) opioid use and associated adverse outcomes have increased dramatically in recent years. Older people are vulnerable to adverse effects associated with persistent opioid use (POU). However, limited research is available on the patterns and predictors of POU in older adults.

Objectives

- To determine the incidence and predictors of POU in opioid-naïve older adults (≥65 years) without a cancer diagnosis.

Methods

- This retrospective cohort study used national healthcare administrative databases held by the New Zealand Ministry of Health.
- Individuals were included if they had a hospital or ED visit and initiated a new opioid episode from January 2013 to June 2018. The first date of the opioid prescription during the study period was defined as the index date.
- All eligible individuals were followed up for 6 months after the index date. Those who died during the follow-up period or had any cancer diagnosis 1 year before or 6 months after the index date were excluded.
- The primary outcome of interest was incident POU, defined as having continuously filled ≥1 opioid prescription in the 91 to 180 days after the index opioid prescription. Multivariable logistic regression was used to determine the predictors of POU.

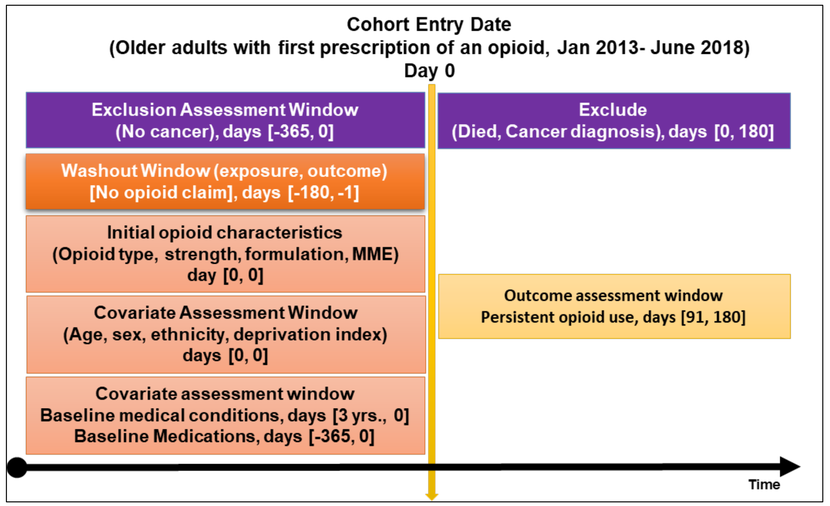

Fig. 1: Study design

Table 1: Predictors of persistent opioid use in opioid-naïve older adults

		Adjusted OR (95% CI)
Sex	Female vs. Male	1.03(0.97-1.09)
Age in years	Age 75 - 84 vs. Age 65 - 74	0.97(0.91-1.04)
	Age >85 vs. Age 65 - 74	**1.93(1.79-2.08)**
Ethnicity	Māori vs. European	1.08(0.97-1.21)
	Pacific vs. European	**0.44(0.35-0.56)**
	Asian vs. European	**0.45(0.37-0.55)**
	Other vs. European	**0.52(0.32-0.85)**
Deprivation Index	Quintile 2 vs. Quintile 1	1.05(0.95-1.16)
	Quintile 3 vs. Quintile 1	**1.17(1.06-1.28)**
	Quintile 4 vs. Quintile 1	**1.35(1.24-1.48)**
	Quintile 5 vs. Quintile 1	**1.40(1.27-1.54)**
No. of outpatient/ED visits within 1 year	1-2 visits vs. No visit	0.93(0.85-1.01)
before the index date	≥3 visits vs. No visit	**1.11(1.03-1.21)**
No. of inpatient admissions within 1 year	1-2 admissions vs. No admission	**0.82(0.76-0.87)**
before the index date	≥3 admissions vs. No admission	0.91(0.82-1.01)
Opioid type	Oxycodone vs. Codeine	0.84(0.63-1.21)
	Fentanyl vs. Codeine	**3.61(2.63-4.95)**
	Morphine vs. Codeine	1.23(0.93-1.64)
	Dihydrocodeine vs. Codeine	0.96(0.81-1.15)
	Tramadol vs. Codeine	**0.74(0.68-0.81)**
	Multiple vs. Codeine	**0.73(0.59-0.89)**
Opioid strength	Strong Opioid vs. Weak opioid	**2.03(1.55-2.65)**
Morphine Milligram Equivalents/day	51-90 vs. ≤50	**0.84(0.76-0.94)**
	91-120 vs. ≤50	1.01(0.88-1.15)
	121-200 vs. ≤50	**1.18(1.06-1.30)**
	>200 vs. ≤50	**1.78(1.61-1.98)**
Injectable preparation	Yes vs. No	**0.38(0.29-0.51)**
Slow-release preparation	Yes vs. No	**3.02(2.78-3.29)**

Results

- The final sample included 268,857 opioid-naïve non-cancer patients. Of these, 5,849 (2.2%) became persistent opioid users.
- The cohort was primarily New Zealand European (84.8%), female (54.9%), and between 65-74 years of age (58.6%).
- Initial opioid prescription characteristics were strong predictors of POU. Fentanyl (AOR=3.61) and slow-release opioid use (AOR=3.02) were the strongest predictors of POU. Strong opioid use (AOR=2.03) and high daily opioid doses (>200 MME/day) (AOR=1.784) were also associated with an increased risk of POU.

Table 1: Cont...

		Adjusted OR (95% CI)
Comorbidities		
Charlson Comorbidity Index	1 vs. 0	**1.52(1.35-1.72)**
	2 vs. 0	**1.76(1.58-1.96)**
	≥3 vs. 0	**2.09(1.78-2.46)**
Respiratory disorder	Yes vs. No	**1.14(1.01-1.29)**
Mental disorder	Yes vs. No	1.02(0.88-1.18)
Dementia/Alzheimer	Yes vs. No	1.04(0.90-1.20)
Parkinson Disease	Yes vs. No	0.92(0.69-1.22)
Seizures	Yes vs. No	1.25(0.99-1.58)
Chronic pain	Yes vs. No	**1.35(1.15-1.59)**
Gout	Yes vs. No	**1.38(1.09-1.75)**
Osteoarthritis	Yes vs. No	**0.87(0.77-0.98)**
Alcohol-related condition	Yes vs. No	**1.13(0.89-1.42)**
Substance abuse	Yes vs. No	**1.52(1.35-1.72)**
Medications		
Gout medications	Yes vs. No	0.93(0.85-1.03)
Antiepileptics	Yes vs. No	**2.07(1.89-2.26)**
Non-opioid analgesics	Yes vs. No	**2.05(1.89-2.21)**
Anxiolytics, sedatives & hypnotics	Yes vs. No	**1.31(1.23-1.39)**
Antipsychotics	Yes vs. No	**1.96(1.78-2.17)**
Mood stabilizers	Yes vs. No	**0.73(0.63-0.85)**
Antidepressants	Yes vs. No	**1.50(1.41-1.59)**
Anti-Parkinson medications	Yes vs. No	**1.47(1.23-1.74)**
Anti-dementia medications	Yes vs. No	**1.31(1.09-1.57)**

Bold text indicates a significant statistical association (p<0.05)

- On the other hand, those who were initiated on tramadol (AOR=0.74) and multiple opioids (AOR=0.72) had lower odds of developing POU than those initiated on codeine.
- Several comorbidities and concurrent medications were also associated with POU. These included a history of substance abuse (AOR=1.52), Charlson Comorbidity Index ≥3 (AOR=2.09), anti-epileptics (AOR=2.07), non-opioid analgesics (AOR=2.05), antipsychotics (AOR=1.96) and antidepressant (AOR=1.50) medication use.
- Those >85 years of age (AOR=1.93) and those who were living in more socioeconomically deprived areas (quintile 5: AOR=1.40; quintile 4: AOR=1.35; and quintile 3: AOR=1.17) had higher odds of POU.
- Pacific People (AOR=0.44) and Asians (AOR=0.45) had lower odds of developing POU compared to Europeans.

Conclusion

- This is one of the very few studies that examined predictors of persistent opioid use among general older adults.
- The findings will enable healthcare providers and policymakers to target early interventions to prevent future opioid-related adverse events.

Conflict of interest: None

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