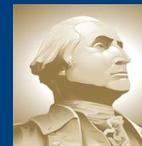


Ambulatory Care & Emergency Department Prescribing Practices Do Not Account for Differences in Opioid Analgesic-Related Deaths

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Introduction

- Data from the National Vital Statistics System (1999-2010) reported a 400% increase in deaths related to prescription opioid analgesics (OAs) in women.
- Opioid-related deaths increased 265% in men during the same time period.
- Co-prescribing of benzodiazepines has been frequently implicated in OA-related deaths.
- OA prescribing practices in US outpatient offices, clinics, and emergency departments (EDs) may reflect overdose trends, but the relationship between the two has yet to be determined.
- Research Question:* Do gender differences in OA prescribing in outpatient offices, clinics, and EDs correlate with trends in OA-related overdose deaths in women?

Methods

- A retrospective review of the CDC's National Ambulatory Medical Care Survey (NAMCS) 2001-10 and the National Hospital Ambulatory Medical Care Survey (NHAMCS) 2005-10 was performed.
- All adult ambulatory care and ED visits during which an OA was prescribed were included.
- Benzodiazepine co-prescribing was also examined.
- The proportion of visits during which an OA was prescribed was tabulated and trends analyzed using survey-weighted logistic regression.

Results

- There were an estimated 7.6 billion ambulatory care visits and 741 million ED visits during the respective study periods.
- OA prescribing in the ambulatory care setting increased 73.3% in women from 3.0% of visits in 2001 to 5.2% in 2010, $p=0.001$.
- ED discharge prescriptions for OAs increased 21.5% in women from 7.6% to 9.2% of visits ($p=0.018$).
- Although similar increases in OA prescribing were found in men, no statistically significant gender differences in OA prescribing were found (Table).
- The most common OAs prescribed in both settings were hydrocodone followed by oxycodone, then codeine.
- Concomitant use of benzodiazepines remained stable in women in both the outpatient setting (13.2% to 15.6%, $p=0.356$) and ED (5.1% to 6.8%, $p=0.063$) from 2001-10.
- In men, concomitant use of benzodiazepines remained stable in the outpatient setting but increased in the ED. There were no significant gender differences in concomitant use.
- There was a 23% increase in opioids administered in the ED to women ($p=0.001$) and a 20% increase in men ($p=0.009$); however, there was no significant gender differences over time.

Table

Gender Differences in Opioid Prescribing Patterns from 2001 -2010, NHAMCS and NAMCS Data			2001	2005	2010	Relative % Change	p-Value for Trend	p-value for Gender Difference
Percentage of Visits with OA Prescriptions	Ambulatory Clinics	Women	3.0%	3.9%	5.2%	73.3%	0.001	0.637
		Men	3.1%	4.3%	6.0%	93.5%	0.001	
	Emergency Departments	Women	-----	7.6%	9.2%	21.5%	0.018	0.322
		Men	-----	7.5%	8.6%	14.7%	0.08	

Discussion/Limitations

- The percentage increase of OA prescriptions in women was similar to the increase found in men.
- The greater increase in OA-related overdose deaths in women seen from 1999-2010 cannot be attributed to increased prescribing rates alone.
- Additional factors, such as physiologic differences, comorbidities, concomitant medications, or increased propensity for nonmedical use may be the underlying cause of OA-related deaths in women and should be explored in future studies.
- Provider and patient centered risk assessment should precede OA prescribing to mitigate rising mortality from these medications in women.
- We could not determine appropriateness of prescribing or subsequent nonmedical use of OAs.

Conclusions

- Increased rates of OA prescribing are not the sole cause of the greater percentage increase in OA-related deaths in women.

Disclosures

- The authors have no conflicts of interest to disclose.

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