

Sex Differences in Pain Medication Use Across the Cognitive Spectrum in Older Adults with Pain

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Cognitively-impaired adults with chronic pain were more likely to be prescribed opioids, gabapentinoids, & other analgesics vs. non-pharmacologic treatments, with especially high opioid prescribing for women with dementia.

INTRODUCTION	METHODS	RESULTS	RESULTS	CONCLUSIONS																																																								
- Chronic pain is highly prevalent among individuals with ADRD. - More than 50% of community-dwelling adults with dementia and 60-80% of nursing home residents with dementia experience pain. - Untreated pain contributes to behavioral and psychological symptoms of dementia, affecting quality of life and increasing care demands. - Importantly, no pain management guidelines exist specifically for individuals with ADRD - Our objective was to examine pain treatment use by cognitive status and sex among older adults with pain.	Data - Health and Retirement Study linked to Medicare Claims (2008-2018). - Participants had self-reported pain or a chronic pain diagnosis and continuous enrollment in Medicare Parts A and B for six months before the survey and Parts A, B, and D for 12 months after. We excluded those with health maintenance organization coverage. Measures - Exposure: cognitive status, categorized as no cognitive impairment, cognitive impairment no dementia (CIND), or probable dementia. - Outcome: pain treatment in the 12 months post-survey, including opioids, gabapentinoids (GABA), serotonin-norepinephrine reuptake inhibitors (SNRIs), and nonpharmacologic treatments. Statistical Analysis. We used panel multinomial logistic regression to examine associations between cognitive status and pain treatment and tested heterogeneity by sex.	Table 1: Frequency of Pain Treatments by Cognitive Status (n=5,261). <table><tr><th></th><th>Normal Cognition (n=3,353; 63.7%)</th><th>CIND (n=1,383; 26.3%)</th><th>Probable Dementia (n=525; 10.0%)</th></tr><tr><td>Any Pain Tx*</td><td>43.9%</td><td>47.7%</td><td>49.9%</td></tr><tr><td>Opioid Rx*</td><td>33.8%</td><td>39.6%</td><td>41.0%</td></tr><tr><td>GABA Rx</td><td>9.1%</td><td>12.6%</td><td>13.0%</td></tr><tr><td>SNRI Rx</td><td>4.0%</td><td>5.2%</td><td>4.8%</td></tr><tr><td>Non-Pharm Tx*</td><td>11.5%</td><td>6.0%</td><td>4.8%</td></tr></table> *p<0.05 Table 2: Adjusted odds ratios for the association of cognitive status (ref. no dementia) with pain treatment (n=5,261). <table><tr><th></th><th>Odds Ratio (95% CI)</th></tr><tr><td>Any Pain Treatment</td><td></td></tr><tr><td>CIND*</td><td>1.21 (1.07, 1.38)</td></tr><tr><td>Dementia*</td><td>1.44 (1.20, 1.73)</td></tr><tr><td>Opioid</td><td></td></tr><tr><td>CIND*</td><td>1.21 (1.07, 1.38)</td></tr><tr><td>Dementia*</td><td>1.35 (1.12, 1.62)</td></tr><tr><td>GABA</td><td></td></tr><tr><td>CIND</td><td>1.23 (0.99, 1.54)</td></tr><tr><td>Dementia*</td><td>1.66 (1.20, 2.30)</td></tr><tr><td>SNRI</td><td></td></tr><tr><td>CIND*</td><td>2.22 (1.57, 3.13)</td></tr><tr><td>Dementia*</td><td>1.75 (1.02, 3.00)</td></tr><tr><td>Non-pharma Tx</td><td></td></tr><tr><td>CIND*</td><td>0.79 (0.66, 0.96)</td></tr><tr><td>Dementia*</td><td>0.64 (0.47, 0.88)</td></tr></table> *p<0.05		Normal Cognition (n=3,353; 63.7%)	CIND (n=1,383; 26.3%)	Probable Dementia (n=525; 10.0%)	Any Pain Tx*	43.9%	47.7%	49.9%	Opioid Rx*	33.8%	39.6%	41.0%	GABA Rx	9.1%	12.6%	13.0%	SNRI Rx	4.0%	5.2%	4.8%	Non-Pharm Tx*	11.5%	6.0%	4.8%		Odds Ratio (95% CI)	Any Pain Treatment		CIND*	1.21 (1.07, 1.38)	Dementia*	1.44 (1.20, 1.73)	Opioid		CIND*	1.21 (1.07, 1.38)	Dementia*	1.35 (1.12, 1.62)	GABA		CIND	1.23 (0.99, 1.54)	Dementia*	1.66 (1.20, 2.30)	SNRI		CIND*	2.22 (1.57, 3.13)	Dementia*	1.75 (1.02, 3.00)	Non-pharma Tx		CIND*	0.79 (0.66, 0.96)	Dementia*	0.64 (0.47, 0.88)	Figure 1. Sex-stratified analysis for the association of cognitive status (ref. normal cognition) and opioids and gabapentinoids (interaction of cognition*sex p<0.05 for these two outcomes). Women Opioids: CIND (OR ~1.2, 95% CI ~1.07-1.38), Dementia (OR ~1.44, 95% CI ~1.20-1.73) GABA: CIND (OR ~1.23, 95% CI ~0.99-1.54), Dementia (OR ~1.66, 95% CI ~1.20-2.30) Men Opioids: CIND (OR ~1.21, 95% CI ~1.07-1.38), Dementia (OR ~1.35, 95% CI ~1.12-1.62) GABA: CIND (OR ~1.23, 95% CI ~0.99-1.54), Dementia (OR ~1.66, 95% CI ~1.20-2.30)	- Older adults with pain and cognitive impairment were more likely to receive pharmacologic than nonpharmacologic pain treatment. - Sex-specific patterns, including higher opioid prescribing among women, underscore the need to better understand differences in safety, analgesic effectiveness, and appropriateness of pain management approaches by cognitive status and sex.
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