Headache Burden and High-Impact Chronic Pain Among U.S. Veterans with Chronic Pain

A nationally representative analysis of 2023 National Health Interview Survey data

Alec McKheen, BS[1] Dominic Cao, BS[1] Matthew T. Foley, BS[1] Guoli Zhou, MD, PhD, MPH[2] Kyle A. Burton, MD[3]
[1]Michigan State University College of Human Medicine [2]MSU Center for Statistical Training and Consulting [3]University of Wisconsin

25th Annual Pain Medicine Meeting



WHY THIS MATTERS

- Veterans commonly have both chronic pain and headache.
- HICP captures disabling chronic pain.
  - Life/work limitation on most or all days.
- How can we identify who is most likely to have HICP?

WHAT WE DID

- 2023 NHIS Sample Adult data. Survey-weighted logistic regression.
- Cohort: 2,520 veterans → 557 with headache/migraine → 330 with chronic pain.
- Exposure: bothered "a lot" by headache/migraine. Outcome: HICP.

IMPORTANT LIMITATIONS

- Cross-sectional study.
- HICP is all-cause pain impact, not specifically headache-attributed disability.
- Self-report; no headache subtype or treatment data.

Scan for full manuscript (currently under peer review)

mckheena@msu.edu

MAIN FINDING

Greater headache bother is strongly associated with high-impact chronic pain in U.S. veterans.

46.2%

Weighted HICP prevalence
among veterans with chronic pain + headache
95% CI 39.5–52.8

4.21×

Higher adjusted odds of HICP
when bothered "a lot" by headache
OR 4.21, 95% CI 2.27–7.81; P < .001

The association persisted across sensitivity models:

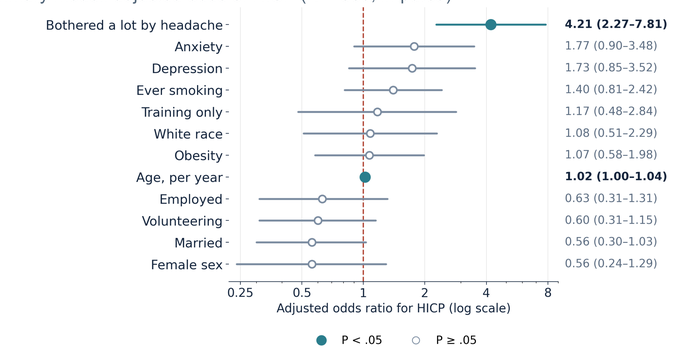
4.21	3.50	3.64	2.82
primary imputed N = 330	complete case N = 314	unrestricted N = 557	multi-site pain N = 313

All P ≤ .002. ORs shown for "bothered a lot" by headache/migraine.

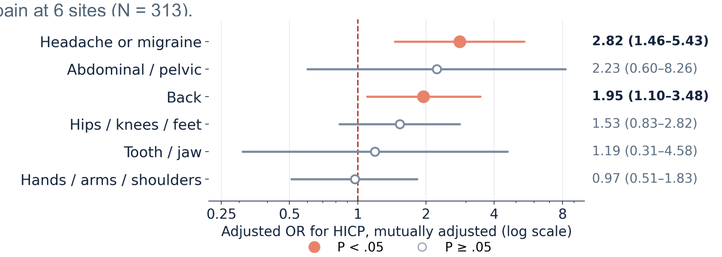
Implication: A brief headache-bother question may help identify which veterans with chronic pain warrant a more detailed functional assessment.

THE EVIDENCE

Primary model: adjusted odds of HICP (N = 330, imputed)



Headache remained the strongest site-specific signal after mutual adjustment for severe pain at 6 sites (N = 313).



TAKE-HOME

In veterans with chronic pain, headache bother showed a stronger and more consistent association with high-impact chronic pain than the demographic, psychological, and behavioral factors examined.

Obesity and ever smoking were not associated with HICP in patients with chronic pain

Data: 2023 NHIS Sample Adult public-use file. Analyses incorporated survey weights, strata, and PSUs. HICP = high-impact chronic pain.