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Benzodiazepine Use Among Low Back Pain Patients Concurrently Prescribed Opioids in the Military Health System



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Introduction

Pain is a common complaint among returning deployed service members, with 25% reporting at least one pain-related injury during Basic Combat Training. Opioids are commonly prescribed to patients with low back pain (LBP) in the military health system. Concurrently prescribed opioids and benzodiazepines (benzos) pose safety risks for patients, including over-sedation and overdose.

Despite abuse liability and long-term safety concerns of opioids for chronic pain, there are high rates (18-38%) of concurrent opioid and benzo prescribing. These high-risk prescribing patterns have contributed to the fatal opioid overdose epidemic.

There is scant evidence regarding opioid and benzo prescribing practices among Active Duty Service Member (ADSM) with LBP. It is important to understand factors associated with benzos use in this population to identify those most vulnerable to safety issues.

Objective: To investigate factors associated with benzos concurrently prescribed with opioids among ADSM with LBP, who started their first opioid episode in 2012 or 2013.

Methods

Participants

- ADSM not deployed in theater
- ADSM eligible for TRICARE coverage for at least 11 months in a calendar year of 2012 or 2013 who filled their first opioid prescription and were also prescribed a benzo during an opioid episode

Data Analysis

- A retrospective cohort analysis was conducted on de-identified administrative data between 2012 and 2013
- Data was from the Department of Defense M2 DataMart which provided prescription information and Johns Hopkins ACG system Enhanced Diagnosis Clusters
- A logistic regression was conducted to determine factors associated with concurrent prescribing of opioids and benzos among ADSM with LBP

Results

The cohort was 42,253 ADSM who received opioids with a LBP diagnosis. Out of the cohort, 36,301 were prescribed opioids only and 5,952 concurrently received opioids and benzos.

Table 1. Prescription and psychosocial characteristics of ADSM

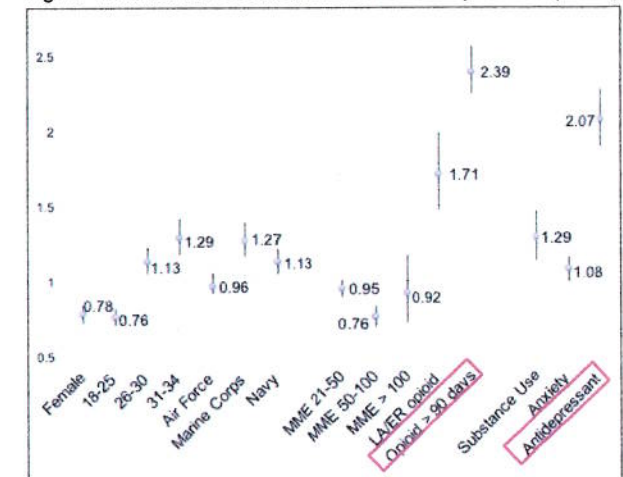
Variables	Opioid Only N (%)	Opioid and Benzodiazepine N (%)	Total N (%)
Sex			
Female	8,016 (22.08)	1,050 (17.64)	9,066 (21.46)
Male	28,285 (77.92)	4,902 (82.36)	33,187 (78.54)
Sponsor Service			
Army	18,734 (51.61)	3,118 (52.39)	21,852 (51.72)
Air Force	7,747 (21.34)	1,067 (17.93)	8,814 (20.86)
Marine Corps	3,609 (9.94)	692 (11.63)	4,307 (10.18)
Navy	6,210 (17.77)	1,075 (18.06)	7,285 (17.24)
Average MME*			
1 to 20	9,067 (24.98)	1,554 (26.11)	10,621 (25.14)
21 to 50	19,768 (54.46)	3,383 (56.84)	23,151 (54.79)
51 to 100	6,926 (19.08)	931 (15.64)	7,857 (18.60)
≥ 100	540 (1.49)	84 (1.41)	624 (1.48)
LAVER Opioid*			
< 90 days	5,266 (14.51)	1,957 (32.88)	7,223 (17.09)
≥ 90 days	31,035 (85.49)	3,995 (67.12)	35,030 (82.91)
Psychosocial			
Substance use	1,218 (3.36)	381 (6.40)	1,599 (3.78)
Anxiety	6,688 (18.42)	1,481 (24.88)	8,169 (19.33)
Antidepressants	2,282 (6.29)	1,047 (17.59)	3,359 (7.88)

*Note. Average MME = total opioid prescriptions / total days supplied; LAVER = long acting / extended release opioid prescription.

A logistic regression was conducted to determine the association of concurrent prescribing of opioids and benzos among ADSM with LBP.

Adjusted odds ratios (aORs) are presented in Figure 1. ADSM prescribed a benzo were significantly more likely to be prescribed opioids ≥ 90 days: 2.39 CI[2.24, 2.56] and an antidepressant: 2.07 CI[1.89, 2.28] and diagnosed with a substance use disorder: 1.29 CI[1.13, 1.47].

Figure 1. Likelihood of concurrent benzo and opioid use (aORs)



Note. LAVER = long acting / extended release opioid prescription; Average MME = total opioid prescriptions / total days supplied; Opioid > 90 = opioid episode.

Conclusion

Consistent with CDC guidelines, concurrently prescribed opioids and benzos may pose a greater risk for adverse events than being prescribed an opioid alone. As indicated by our logistic regression, those with long term opioid use, polypharmacy (e.g. antidepressant prescriptions), and polymorbidities (e.g. substance use or anxiety) were more likely to be concurrently prescribed an opioid and benzo.

The polymorbidities of LBP, mental health, and substance use highlight the need for a biopsychosocial approach to pain. The complexity of this population suggest additional strategies are needed to address patients' substance use and mental health status. The results are consistent with previous findings among both US veterans and civilian populations. To our knowledge, this is among the first to examine factors associated with benzo use in a ADSM with LBP receiving opioids.