

Introduction

- Our recent review showed that the biomolecular mechanisms of pain differ between males and females, which influences their experience with pain and potentially explaining variations in terms of behavior and response towards pain and treatment¹.
- The objective of this study was to evaluate the differences in chronic pain treatment between male and female patients in an outpatient clinic setting.

Methodology

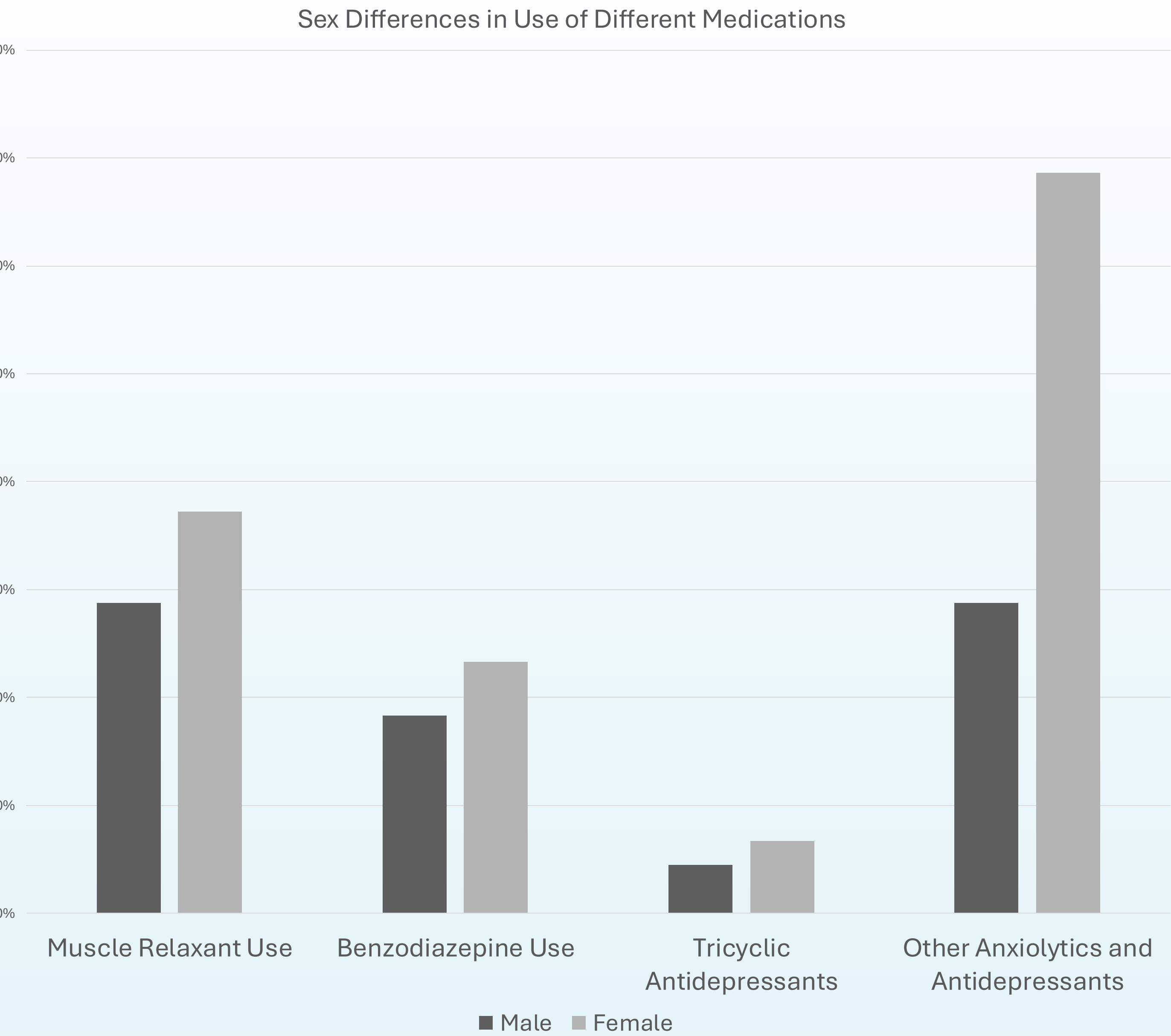
- After receiving approval from the Advocate Healthcare Institutional Review Board (IRB), we performed a retrospective analysis of 1,995 patients being treated for various types of chronic non-cancer pain (neck pain, lower back pain, osteoarthritis, etc.).
- The patients were followed for at least a year, with a minimum of four consecutive follow up appointments where they were evaluated.
- They were initially classified by sex and subsequently subclassified by age, BMI, duration of pain, number of visits, morphine milligram equivalents (MMEs) at first and last visits, consumption of gabapentinoids, non-steroidal anti-inflammatory drugs (NSAIDs), muscle relaxants, tricyclic antidepressants, benzodiazepines, and other anxiolytics and antidepressants.
- Statistical analysis was performed with IBM SPSS 27 (IMB Corporation, Armonk, NY) with independent t-tests, frequency tables, and crosstabs with χ^2 analysis.
- Differences were considered significant with a P-value of $P<0.05$. Patients with incomplete data were excluded

Results

- The study showed that, of the 1,995 patients, 61% were female and 39% were male.
- A higher percentage of females experienced chronic lower back pain, neck pain, osteoarthritis, and combinations thereof.
- There were no significant differences in age, BMI, or pain duration (Table 1). In terms of pain medication consumption, statistics indicated that women used more muscle relaxants (37.22%) than men (28.77%) $P<0.001$. Women also displayed higher consumption of benzodiazepines (23.34%) and tricyclic antidepressants (6.66%) (Table 2).
- Results demonstrated that male patients used higher amounts of opioids with mean MMEs of 23.61 and 20.83 in their first and last visits, respectively, in comparison to women whose values were 18.77 and 16.07 ($P= 0.002$) .

Variable	Male	Female	p-Value
N(%)	778 (39%)	1217 (61%)	
Age (Mean ± SD)	62.28 ± 14.16	63.86 ±14.97	0.052
BMI (Mean ± SD)	30.15 ± 12.16	30.73 ± 7.45	0.127
Duration of Pain (Mean ± SD)	47.71 ±73.82	50.02 ± 68.14	0.460
Number of Office Visits (Mean ± SD)	14.41 ± 17.715	13.26 ± 12.69	<0.001

Table 1: Sex Differences in Demographics



Treatment	Male	Female	p-Value
Muscle Relaxant Use	28.77%	37.22%	<0.001
Benzodiazepine Use	18.30%	23.34%	0.007
Tricyclic Antidepressants	4.51%	6.66%	0.046
Other anxiolytics and antidepressants	28.77%	68.61%	<0.001

Table 2: Sex Differences in Use of Different Medications

Discussions

- The study reveals clinical and statistical differences in chronic pain treatment between both sexes.
- Evidence indicates a higher prevalence of pathologies associated with chronic pain conditions in females compared to males^{2,3}.
- Previous research suggests that females consume more prescription and over-the- counter medications, as well as higher doses because of the intensity of their pain⁴
- Our results showed a higher consumption of muscle relaxants, benzodiazepines, and tricyclic antidepressants in females in comparison to males.
- In terms of other medications, a significant number of patients had an opioid prescription when initially seen in our clinic.
- Our results indicated a significant difference in opioid doses between sexes, being higher in males compared to women throughout the study.

References

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