

Discrepancies Between Electronic Medical Record Documentation and Brief Pain Inventory Scores Following Elective Surgery

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INTRODUCTION

- Pain scores guide postoperative analgesic titration.
- However, pain scores documented, typically by nursing staff, in the electronic medical record (EMR) documentation may not fully capture patients' lived pain experience.
- The Brief Pain Inventory (BPI) is a validated, patient-reported questionnaire assessing current, average, least, and worst pain in the last 24 hours.

OBJECTIVE

To evaluate discrepancies between EMR-documented and patient-reported BPI pain scores on postoperative day 1 (POD1), and to examine potential moderators.

METHODS

- This prospective, IRB-approved study involved inviting longitudinal perioperative self-reporting of pain and other symptoms, in a cohort of adults undergoing elective non-day surgery (July 2024–October 2025).
- Comparative analysis of practitioner-assess vs self-reported pain scores, including those participants who:
 - Completed BPI questionnaire on POD1
 - Had length of stay ≥ 2 days, ensuring capture of nursing-recorded pain scores
- Extracted daily average, minimum, and maximum reported pain scores on POD1 from the EMR, for the same 24-hour period preceding the BPI administration
- Paired t-tests compared EMR and BPI scores.
- Linear regression examined moderators (age, sex) of EMR-BPI association

RESULTS

Figure 1. EMR vs BPI Pain Scores on POD1

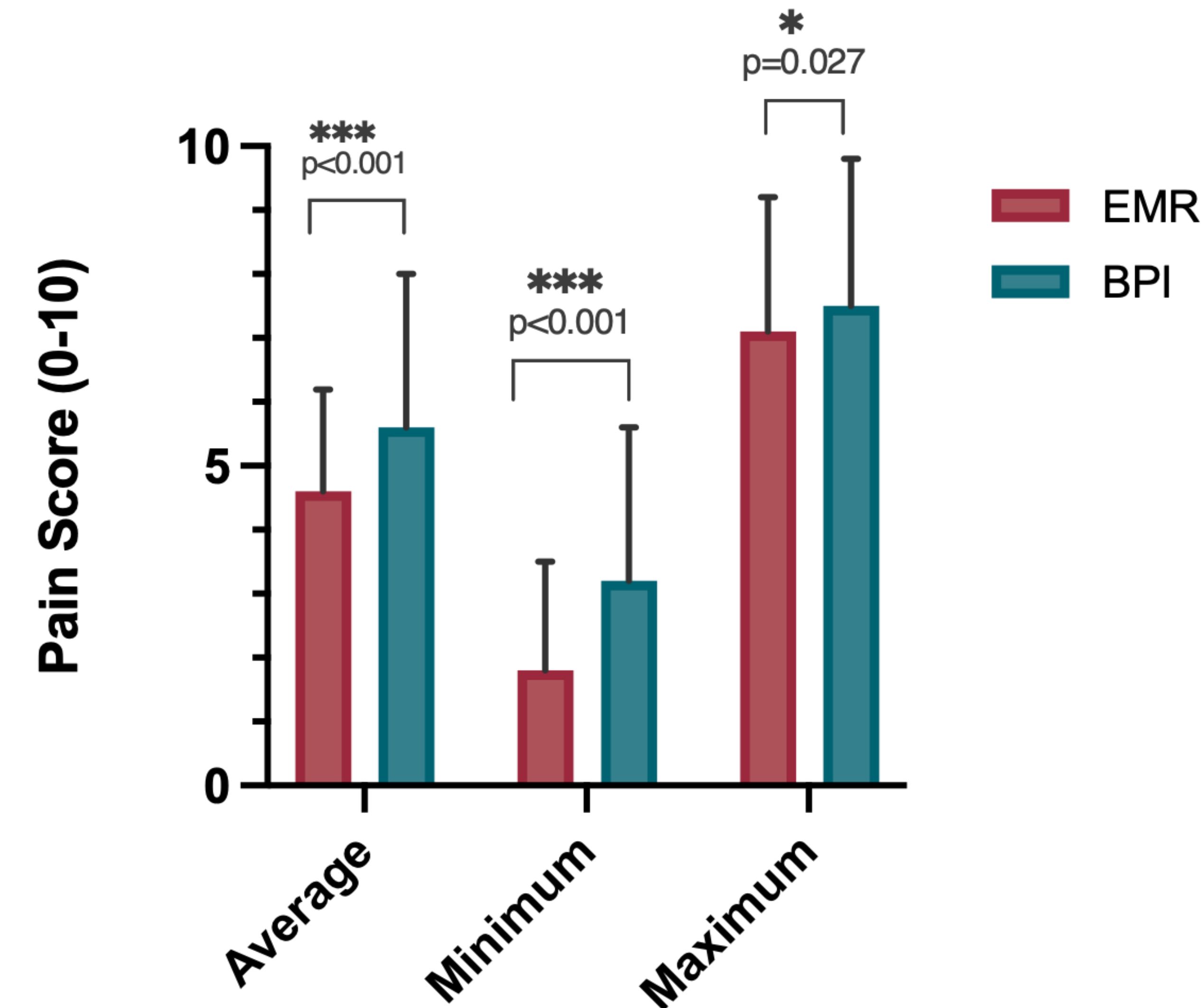
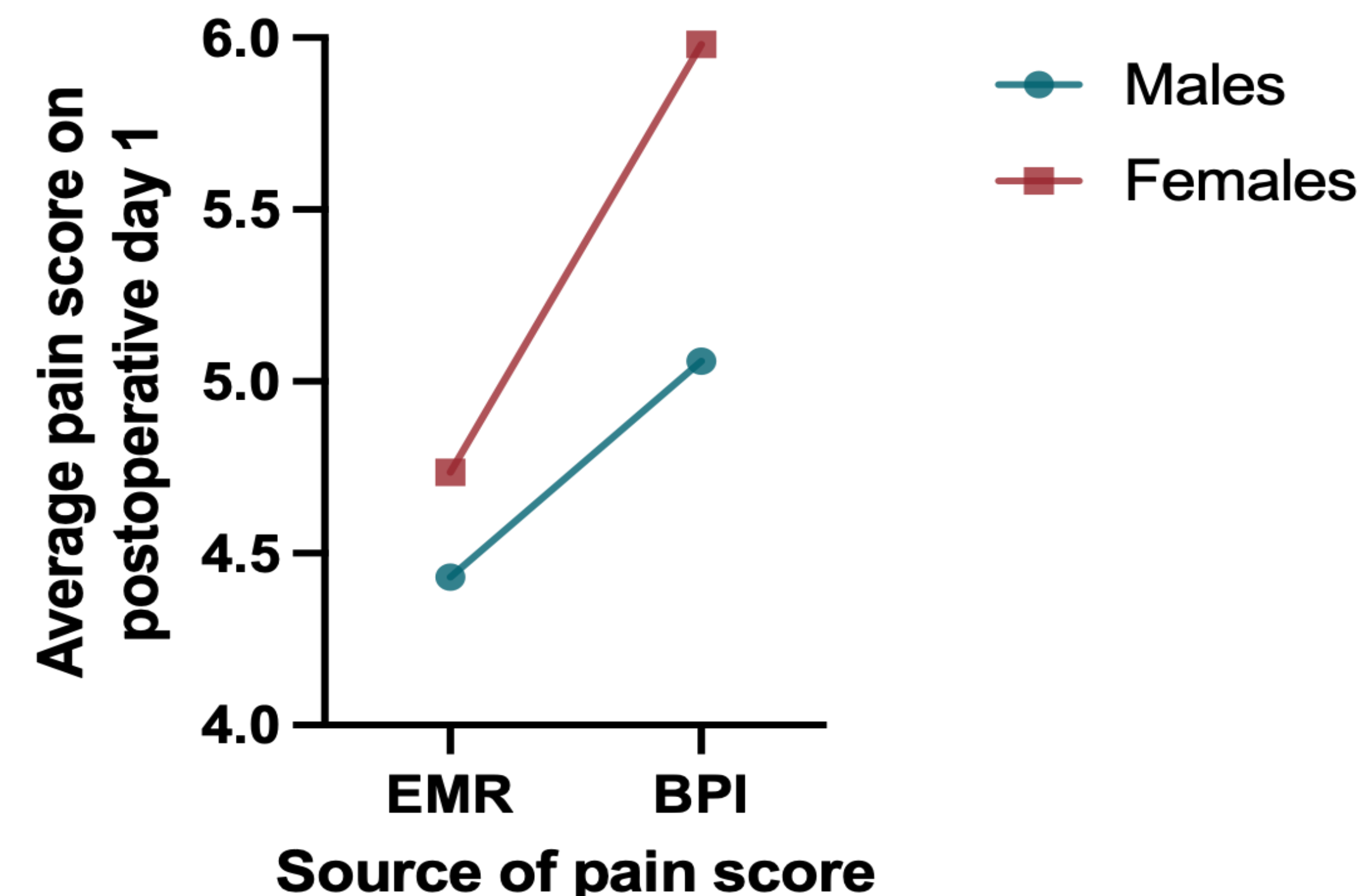


Figure 2. Moderation analysis to assess for sex differences in EMR–BPI Pain score association on POD1



- Of 364 enrolled patients, 184 had sufficient BPI pain score reporting for analysis.

EMR scores were significantly lower than BPI scores for average, minimum and maximum pain scores on POD1.

Sex was a significant moderator of the association between EMR and BPI pain scores, such that there was a greater discrepancy between EMR and BPI pain scores among female patients.

- Females (n=101): -1.2 ± 1.7 ; Males (n=83): -0.6 ± 1.7 (p = 0.014)
- Age was not a significant moderator of the relationship between EMR and BPI pain scores.

CONCLUSION

- Nursing-assessed pain scores documented in the EMR were consistently lower than patients' self-reported pain on the BPI.
- The discrepancy in average pain was greater among females, suggesting potential sex-related differences in pain reporting, assessment, and/or documentation

EMR pain scores may underestimate BPI reported pain, especially in female patients.