

Relationship Between PROMIS Depression and PROMIS Pain Interference Scores in Patients Recovering from Ankle Surgery

Marissa Pazik, Ahmet T. Yildirim, Jennifer E. Hagen, Rull J. Toussaint, MaryBeth Horodyski

Department of Orthopaedic Surgery & Sports Medicine, University of Florida, Gainesville, FL



OBJECTIVE

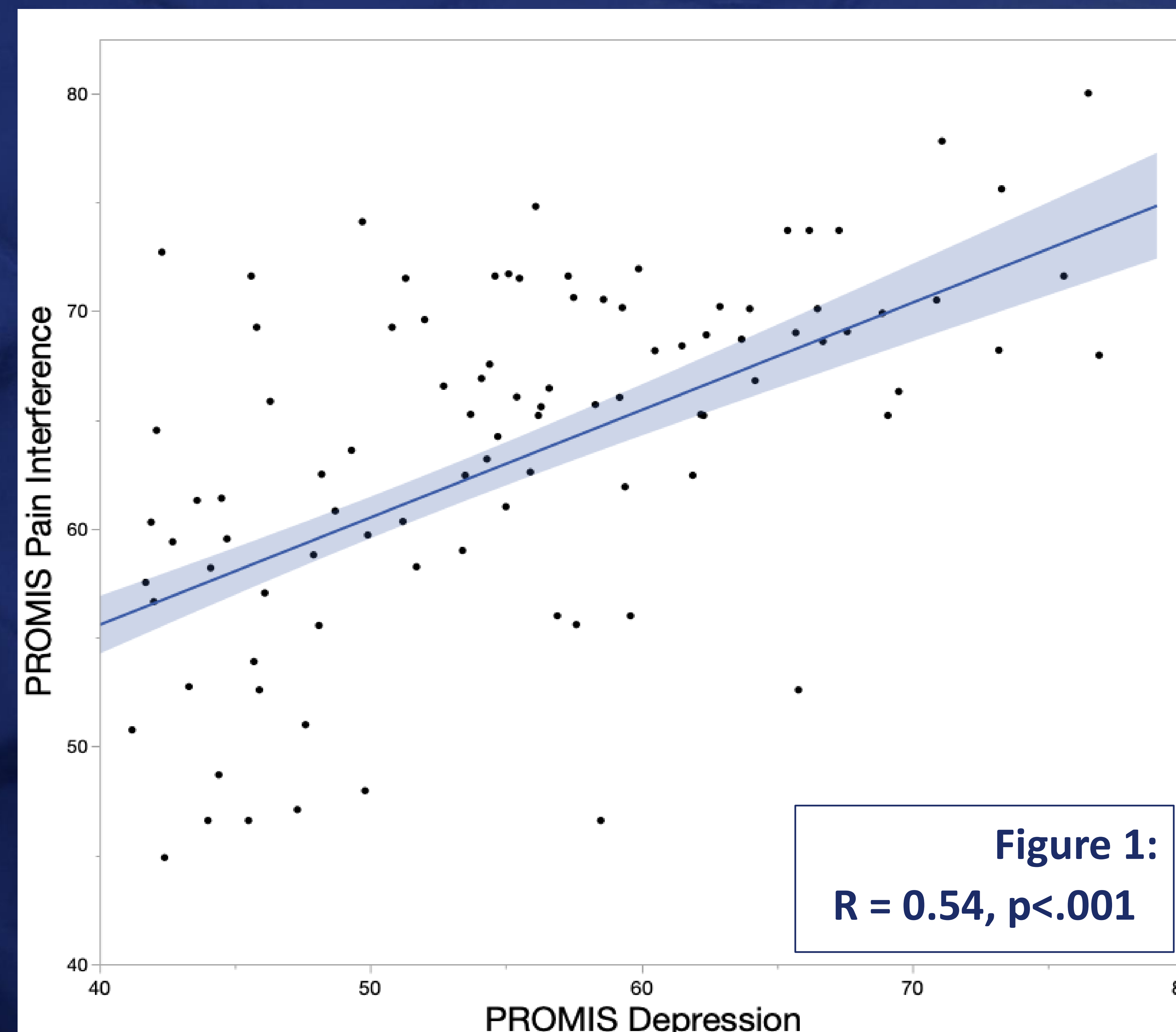
- Ankle fractures are debilitating orthopaedic injuries that often require surgical intervention and months of rehabilitation.
- As such, monitoring physical health and mental well-being during recovery is essential in minimizing post-operative complications.
- Here, we evaluate the relationship between PROMIS Depression and PROMIS Pain Interference scores in patients recovering from ankle injuries requiring surgery and examine differences in sex of the strength of relationship.

METHODS

- *Study Design:* Retrospective Review
- *Patient Population:* 97 subjects (52 females, 45 males, average age 42.9 ± 16.7) presenting to an orthopaedic clinic for an ankle injury requiring surgery between 3/1/2019 – 6/30/2024.
- *Outcomes:* PROMIS Pain Interference and PROMIS Depression outcome scores collected before and after surgery.
- *Statistical Analysis:* Wilcoxon Signed-Rank Tests, Correlations, and Fisher's r-to-z transformations.

RESULTS & CONCLUSIONS

Table 1	Pre-Op (n=97)	2 Weeks (n=71)	6 Weeks (n=55)	3 Months (n=45)	6 Months (n=24)	1 Year (n=12)
Depression						
Females	57.6 ± 10.5	53.9 ± 11.4	52.0 ± 10.2	45.6 ± 10.1	43.1 ± 7.2	43.2 ± 8.9
Males	55.0 ± 11.0	50.8 ± 11.9	48.6 ± 13.1	49.3 ± 11.0	45.4 ± 11.3	40.5 ± 12.5
Pain Interference						
Females	68.6 ± 5.7	60.8 ± 9.0	56.0 ± 9.9	55.7 ± 7.6	53 ± 8.7	49.6 ± 9.9
Males	69.2 ± 6.0	63.6 ± 9.6	57.6 ± 10.6	56.4 ± 7.8	56.1 ± 10.3	52.8 ± 12.7



- **Table 1:** PROMIS Depression and PROMIS Pain Interference Scores from before surgery to 1 year postoperative by Sex.
- We found improvements in both PROMIS Depression ($S = -1957.5$, $p < .0001$) and PROMIS Pain Interference ($S = -2190.0$, $p < .0001$) from pre-operative visit to the longest completed follow-up visit.
- **Figure 1:** We found an overall moderate to strong positive correlation ($r = 0.54$, $p < .001$) between PROMIS Depression and PROMIS Pain Interference Scores.
- Fisher's r-to-z transformation revealed no statistical significance (all $p > 0.05$) between male and female correlations at follow-up time points.