Greater than 2 years of pharmacologic treatment for depression/anxiety improves post-TJA Patient-Reported Outcomes

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INTRODUCTION:
Pharmacologic treatment of depression and anxiety, common in osteoarthritis (OA) patients, may influence outcomes after total joint arthroplasty (TJA). This study investigates the impact of depression or anxiety pharmacologic treatment on post-TJA patient-reported outcome measures (PROMs).
METHODS:
A retrospective study was conducted across a network of tertiary hospitals from 1/1/2015-3/31/2023. We identified patients who underwent elective hip and knee TJA with diagnoses of depression or anxiety. PROMs were collected at 3 and 6 months preoperatively and 3, 6, and 12 months postoperatively. PROMs of patients receiving pharmacologic treatment for depression/anxiety were compared to patients who did not. Statistical analyses included chi-squared tests, ANOVA, t-tests, Mann-Kendall trend tests, multivariate logistic regressions, and mixed effect models to assess the impact of pharmacologic treatment duration on achieving the minimal clinically important difference (MCID) for each PROM, defined as half a standard deviation.
RESULTS:
Among 8,588 eligible patients, 720 (8.4%) received pharmacologic treatment. Patients with over two years of treatment had higher odds of achieving MCID in PROMIS Physical (OR=1.87; 95%CI: 1.24-2.83), PROMIS Mental (OR=4.04; 95%CI: 2.579-6.338), and KOOS-PS scores (OR=7.43; 95%CI: 3.89-14.2) compared to patients not receiving treatment (Table 1). Patients treated for under one year also showed high odds for achieving MCID in PROMIS Physical (OR=9.63; 95%CI: 2.147-43.178) compared to the no-treatment cohort, albeit with a wide confidence interval. Trend analysis up to 12-month follow-up showed that the two-year treatment cohort had significant improvement trends in PROMIS Physical and Mental, and KOOS-PS scores, compared to the one-year and no-treatment groups.
DISCUSSION AND CONCLUSION:
Greater than 2 years of pharmacologic treatment for depression or anxiety positively influenced post-TJA outcomes up to one-year follow-up, particularly in likelihood of achieving MCID in PROMIS Mental, PROMIS Physical, and KOOS-PS scores. Managing psychiatric comorbidities before TJA may improve outcomes and inform the duration of treatment approaches.

Table 1. Outcomes from Mixed Effect Model analyses on the likelihood of reaching the Minimum Clinically Important Difference (MCID) in Patient-Reported Outcome Measures (PROMs) Scores following total joint arthroplasty. The reference for this analysis is patients with a diagnosis of anxiety or depression and without medical treatment before their surgical procedure. Individual variation was treated as a random effect, while treatment time was a fixed effect.

			95% confidence interval		
Outcome Score	**Treatment Time**	**Odds Ratio**	**Lower Limit**	**Upper Limit**	**P value**
PROMIS Physical	<1 year	9.629	2.147	43.178	0.003
	1 year	0.241	0.084	0.691	0.008
	2 years	1.868	1.235	2.825	0.003
PROMIS Mental	<1 year	1.896	0.661	5.433	0.234
	1 year	0.937	0.310	2.834	0.909
	2 years	4.042	2.579	6.338	<0.001
Physical Function	1 year	3.794	1.218	11.814	0.021
	2 years	1.215	0.824	1.790	0.326
HOOS	2 years	0.308	0.124	0.763	0.011
KOOS	1 year	0.324	0.089	1.184	0.088
	2 years	7.431	3.888	14.204	<0.001

Note: Covariates for fixed effects included in the analysis but not displayed were Sex, Employment Status, Race, Marital Status, Smoking Status, Insurance Coverage, Charlson Comorbidity Index, Joint.

Instances where an odds ratio could not be determined thanks to a value of zero patients not achieving MCID, were not included in this table