Quantifying Patient Expectations for Total Knee Arthroplasty (TKA): Is it Time to Rethink Minimal Clinically Important Difference (MCID) or Reset Expectations?

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INTRODUCTION:

Achieving a minimal clinically important difference (MCID) in patient-reported outcomes (PROs) following total knee arthroplasty (TKA) is common, yet up to 20% patient dissatisfaction persists. Unmet expectations may explain post-TKA dissatisfaction. No prior studies have quantified patient expectations using the same PRO metric as used for MCID to allow direct comparison.

METHODS:

This was a prospective study of patients undergoing TKA with five fellowship-trained arthroplasty surgeons at one academic center. Baseline Patient-Reported Outcomes Measurement Information System (PROMIS) Physical Function (PF) and Pain Interference (PI) domains were assessed. Expected PROMIS scores were determined by asking patients to indicate the outcomes they were expecting at 12 months postoperatively. Predicted scores were generated from a predictive model validated in the Function and Outcomes Research for Comparative Effectiveness in Total Joint Replacement (FORCE-TJR) dataset. T-tests were used to compare baseline, expected, and predicted PROMIS scores. Expected scores were compared to PROMIS MCID values obtained from the literature. Regression models were used to identify patient characteristics associated with high expectations.

RESULTS:

There were 93 patients included. Mean age was 67.1+/-8.9 years and 55% were female. Mean baseline PROMIS PF and PI was 34.4+/-6.7 and 62.2+/-6.4, respectively. Patients expected significant improvement for PF of 1.9 times the MCID (MCID=11.3; mean expected improvement=21.6, 95%CI 19.6-23.5, P<0.001) and for PI of 2.3 times the MCID (MCID=8.9; mean expected improvement=20.6, 95%CI 19.1-22.2, P<0.001). Predicted scores were significantly lower than expected scores (mean difference=9.5, 95% CI 7.7-11.3, P<0.001). No unique patient characteristics were associated with high expectations (p>0.05).

DISCUSSION AND CONCLUSION:

This study is the first to quantify preoperative patient expectations using the same metric as MCID to allow for direct comparison. Patient expectations for improvement following TKA are ~2x greater than MCID and are significantly greater than predicted outcome scores. This discrepancy challenges currently accepted standards of success after TKA and indicates a need for improved expectation setting prior to surgery.