Are Patients with Pre-existing Psychiatric Diagnoses Less Likely to Achieve the Centers for Medicare & Medicaid Services Defined Substantial Clinical Benefit following Total Hip and Total Knee Arthroplasty?

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INTRODUCTION: Psychiatric disorders are highly prevalent, affecting nearly one in four adults in the United States, and are increasingly recognized as important determinants of surgical outcomes. Prior studies suggest associations between mental health diagnoses and adverse outcomes after orthopaedic procedures, but few have explored their impact on patient-reported outcome measures (PROMs) or functional recovery following total joint arthroplasty (TJA). In 2024, the Centers for Medicare and Medicaid Services (CMS) implemented new guidelines requiring the collection of PROMs following total hip arthroplasty (THA) and total knee arthroplasty (TKA). These include specific thresholds for substantial clinical benefit (SCB), defined as a ≥22-point improvement in the Hip disability and Osteoarthritis Outcome Score for Joint Replacement (HOOS-JR) and a ≥20-point improvement in the Knee injury and Osteoarthritis Outcome Score for Joint Replacement (KOOS-JR). This study examines whether psychiatric diagnoses influence the likelihood of achieving SCB after primary TJA and their association with secondary outcomes such as emergency department (ED) visits, length of stay (LOS), and discharge disposition.

METHODS: A retrospective cohort study was conducted at a large academic health system using data from 2021 to 2023. Patients who underwent primary THA or TKA were included. Psychiatric diagnoses—including schizophrenia, bipolar disorder, major depressive disorder (MDD), generalized anxiety disorder, post-traumatic stress disorder (PTSD), and antisocial personality disorder—were identified using ICD-10 codes. The primary outcome was the achievement of SCB, using PROMs collected preoperatively and at one-year postoperatively. Secondary outcomes included 90-day ED visits, discharge to a facility, and prolonged LOS. Multivariable regression models were used to assess associations between psychiatric diagnoses and each outcome, adjusting for patient demographics, comorbidities, and surgical characteristics.

RESULTS:

In the THA cohort (n = 3,017), 30% had both preoperative and postoperative PROMs available, and 39% of these patients had a documented psychiatric diagnosis. Psychiatric comorbidity was not associated with a lower likelihood of achieving SCB (OR 0.67, $p = 0.6$), but patients with MDD had significantly higher 90-day ED utilization (4.3 versus 2.4%, $p = 0.015$) and were more likely to be discharged to a facility (19 versus 5.3%, $p < 0.001$). Psychiatric diagnoses were independently associated with increased LOS (OR 1.96, $p < 0.001$) in the multivariate model. In the TKA cohort (n = 4,720), 32% had complete PROM data, and 9.8% had psychiatric diagnoses. In contrast to the THA group, psychiatric comorbidities were significantly associated with failure to achieve SCB after TKA (OR 3.06, $p = 0.013$). These patients were also more likely to return to the ED (6.4 versus 4.4%, $p = 0.011$), require facility-based discharge (17 versus 4.3%, $p < 0.001$; adjusted odds ratio [OR] 3.49, $p = 0.010$), and have an increased LOS (adjusted OR 2.48, $p < 0.001$).

DISCUSSION AND CONCLUSION:

Psychiatric comorbidities significantly impact outcomes following TJA. Although these diagnoses did not reduce the likelihood of functional recovery in THA, they were associated with increased LOS, more frequent ED visits, and increased discharge to non-home settings. In TKA patients, psychiatric diagnoses were independently associated with lower odds of achieving SCB. These findings suggest that mental health status plays a critical role in postoperative recovery and highlight the need for early identification and intervention. Routine preoperative mental health screening and integration of psychiatric care into perioperative planning may improve both patient-centered and healthcare utilization outcomes following TJA.