Poor Pre-Operative Emotional Health Limits Gain in Function after Total Hip Replacement

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Disclosures:

Introduction: Total hip replacement (THR) is a common and effective procedure to eliminate advanced arthritis pain. Despite uniform pain relief, improvement in function after THR varies widely. Total knee replacement patients report that poorer pre-operative emotional health is associated with poorer post-surgical functional improvement. To assess the role of emotional health in THR functional outcomes, we evaluated the association between pre-operative emotional health and 6 month post-THR function in a national cohort of primary unilateral THR patients with osteoarthritis.

Methods: Patients undergoing primary THR between 7/1/11 and 12/6/13 were identified from the FORCE-TJR (Function and Outcomes Research in Comparative Effectiveness in Total Joint Replacement) national research consortium, which enrolls patients from 121 surgeons in 22 states in the US. The registry data includes patient demographics, type of arthritis, body mass index (BMI), comorbid conditions based on the Charlson Comorbidity Index, arthritic pain in lower extremity large joints (contralateral hip and bilateral knees), low back pain, operative joint severity based on the Hip Disability and Osteoarthritis Outcome Score (HOOS), global function based on the Short Form 36 (SF-36) Physical Component Score (PCS) and emotional health using the SF-36 Mental Component Score (MCS). Descriptive statistics were performed as well as multivariable linear regression models to identify factors associated with 6-month postoperative PCS global function scores.

Results: We identified 1,426 THR patients with osteoarthritis and 6 month follow-up data. The majority of patients were female (60.7%), white (95.0%), and married (70.8%). The mean age was 65.3 years (±10.2) and mean BMI of 29.0 (±5.7). Mean preoperative surgical joint pain, stiffness and function reflect significant pain and impairment (HOOS score of 50.1 (± 19.2), 38.7 (± 21.9), and 46.4 (±19.2) respectively). Mean pre-operative emotional health was 51.56 (± 12.2) and pre-operative global function 31.6 (± 8.9). As shown in Figure 1, 6 month post-operative function (PCS) was greater for patients with stronger emotional health (MCS ≥50) than for patients with poorer emotional health. In multivariable models, pre-operative emotional health was directly correlated with function at 6 months (coefficient of 0.18. 95% CI 0.14-0.22) after controlling for demographics, medical comorbidity, baseline physical function and burden of musculoskeletal disease in the back, knees, and contralatal hip.

Discussion: Emotional health prior to THR is a significant factor in predicting 6 month function following THR with poorer pre-operative emotional health associated with poorer global function following surgery. Surgeons may consider screening for poor emotional health in THR surgical candidates and refer for emotional support to ensure optimal functional gain after THR.

Significance: Previous studies have identified baseline emotional health influences post-operative function in patients undergoing total knee replacement. Similarly, in this national cohort of THR patients, pre-operative emotional health was directly associated with post-operative function at 6 months after controlling for demographic characteristics, baseline function, medical comorbidity, and burden of arthritis. To ensure optimal functional gain in all THR patients, emotional support may be provided to patients reporting poorer emotional health.
Acknowledgments:

References:

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