

Predictive Factors of Quality of Life after Total Hip Arthroplasty

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INTRODUCTION:

THA effectively improves hip pain and function in patients with end-stage arthritis, and a substantial percentage of THA patients are satisfied with their quality of life (QoL) at 1-year. Patient factors affecting (QoL) after THA have not been adequately studied in the literature. The purpose of this study was to identify factors predictive of QoL 1-year after THA.

METHODS:

A prospective, multi-center cohort of 4,249 primary unilateral THA patients were enrolled. Demographic data, comorbidities, and patient-reported outcome measures (PROMs) were collected pre-op and post-op at 1-year using an internet-based platform including the HOOS-12 total score (TS) and sub-scores including QoL. Multivariate logistic regression model with 95% confidence interval (CI) was used to identify independent predictors of 1-year postop HOOS QoL score

RESULTS:

Patient satisfaction was 87.3% at 1 year after THA. The multivariate regression identified the following predictor factors (variables with significance at $P < 0.05$) of HOOS QoL score: age [Regression co-efficient (β) for age ≥ 75 years vs < 55 years, 6.55; 95% CI (3.87, 9.22)], gender [β for female vs male, 2.00; 95% CI (0.68, 3.32)], insurance [β for private/HMO vs Medicare, 2.19; 95% CI (0.25, 4.14)], race [β for non-White vs White, -6.53; 95% CI (-9.16, -3.90)], Charlson comorbidity index (CCI) [β for CCI of ≥ 3 vs 0, -2.24; 95% CI (-4.06, -0.41)], back pain [β for moderate/severe Oswestry back pain severity vs none, -2.32; 95% CI (-3.95, -0.69)], number of other knee and hip painful joints [β for the presence of 3 other painful joints vs none, -5.51; 95% CI (-9.47, -1.55)], pre-op SF-36 MCS [$\beta=0.28$; 95% CI (0.22, 0.34)] and PCS [$\beta=0.21$; 95% CI (0.11, 0.30)] scores, and baseline KOOS QoL [$\beta=0.10$; 95% CI (0.05, 0.14)] score.

DISCUSSION AND CONCLUSION: We have identified several patient factors that predict less improvement in quality of life after THA. Potentially modifiable factors such as CCI, back pain, preoperative physical function and emotional status can be targeted with preoperative patient optimization programs to improve quality of life and patient satisfaction after primary THA. This data can also be used during shared decision making and when setting realistic expectations for patients pre-operatively.