

Patient Personality Influences Preoperative Expectations Before Primary Total Hip and Knee Arthroplasty

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INTRODUCTION:

Satisfaction with primary total hip (THA) and knee (TKA) arthroplasty is correlated with expectations for improved pain and function, but less is known about factors influencing patient expectations. Dispositional personality traits are related to health behaviors and outcomes. We evaluated the relationship between personality and expectations for primary THA and TKA.

METHODS: Elective primary THAs (n = 160) and TKAs (n = 240) performed for osteoarthritis at an academic hip and knee center were prospectively enrolled in the study. The THA sample consisted of 52% women, with average age and body mass index (BMI) of 66 (range: 31-88) years and 32.5 (range: 14.0-59.3) kg/m². For TKAs, these statistics were 67%, 66 (range: 43-86), and 35.6 (range: 18.0-67.9). Measures were completed preoperatively. Independent and dependent measures were the Big Five Inventory-2 Short Form (BFI-2-S) and Knee Society expectations for pain and functional improvement (modified for hip patients), respectively. Covariates included HOOS JR and KOOS JR joint health, health literacy, PROMIS mental and physical health, patient sex, race, age, BMI, and ASA-PS classification. Variables significantly related to preoperative expectations were analyzed in multivariable analyses.

RESULTS: In multivariable analyses, each unit increase in the personality domain extraversion increased expectation scores .453 (95% CI .089, .816, *P* = .015) points for THA and .350 (95% CI .004, .696, *P* = .048) points for TKA. Each unit increase in conscientiousness increased expectation scores .528 (95% CI .219, .837, *P* = .001) points for THA with no effect for TKA. In bivariate analyses, mean extraversion (*P* = .004 and .008) and conscientiousness (*P* = .003 and .012) were higher in THA and TKA patients, respectively, with the highest expectation scores (15) and lowest in THA (*P* ≤ .027) and TKA (*P* ≤ .001) patients with the lowest expectation scores (≤ 10). For both THA (*P* = .051) and TKA (*P* = .023), mean negative emotionality was significantly higher in patients with the lowest expectation scores.

DISCUSSION AND CONCLUSION:

Expectations, and hence possibly satisfaction, are influenced by patient personality. Understanding the influence of personality is crucial with the increasing use of patient-reported outcomes to assess surgical effectiveness and reimbursement.