

Positive Screening For Social Determinants of Health Disparities Does Not Lead to Increased Total Joint Arthroplasty Complications

Lucas Y Kim¹, Sebastian Romero¹, Daniel H Wiznia¹
¹Yale Department of Orthopaedics and Rehabilitation, New Haven, CT
Lucas.kim@yale.edu

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INTRODUCTION:

Knee and hip osteoarthritis are common orthopaedic conditions that can be disabling. For refractory osteoarthritis, total joint arthroplasty (TJA) is the definitive treatment. There is increasing literature surrounding the relationship between social determinants of health (SDOH) and access to TJA. The impact of SDOH disparities is of increasing interest, especially as the Centers for Medicare & Medicaid Services (CMS) and the Joint Commission each recently published requirements to screen for and report SDOH data.

As greater social determinants of health (SDOH) screening data become available through requirements from the Joint Commission and Centers for Medicare & Medicaid Services, the correlation of SDOH disparities on complications following TJA is of increasing interest. SDOH screening requirements were implemented at our institution in 2020, with previous studies utilizing institutional data showing that patients with positive SDOH screening were less likely to receive TJA. The present study aims to determine if patients with SDOH hardship that subsequently received TJA faced higher complication rates within 90 days of surgery.

METHODS:

Adult patients undergoing TJA with diagnoses of knee or hip osteoarthritis that underwent SDOH screening from 2020 to 2023 were identified from our institutional record. The dimensions of SDOH that were assessed in the screening questionnaire included financial strain, difficulty with transportation to medical appointments or transportation in daily living, food insecurity, and issues in housing quality. The present study and all of its analysis were approved for medical record review by our Institutional Review Board.

The study population was divided into those who screened positive for at least one SDOH question (SDOH positive), and those who were negative in all SDOH arenas (SDOH negative). The two sub-cohorts were then matched 1:2 on age, sex, Charlson comorbidity index (CCI), and race. The incidence of adverse events within 90-days of surgery between these two matched cohorts were then evaluated using univariable analysis with chi-square analysis and multivariable logistic regression controlling for age, gender, race, and ethnicity.

RESULTS SECTION:

A total of 387 TJA patients were identified, of which 110 were SDOH positive (28.4%). The SDOH positive cohort was significantly younger and more likely to be of Black race. After matching, there were 109 SDOH positive and 218 SDOH negative patients that were statistically no longer different across the matched criteria. After matching, 50.5% of SDOH positive patients were female, while 52.8% of SDOH negative patients were female. There was no significant difference in incidence of individual or aggregate adverse events between the SDOH negative and SDOH positive cohorts.

DISCUSSION:

While previous studies have demonstrated that patients screening positive for SDOH disparities were significantly less likely to undergo TJA compared to SDOH negative patients, the present study demonstrates that SDOH patients do not face increased risk of complications following TJA. This finding illustrates that this disparity is not justified medically and that more effort should be placed to ensure adequate access to TJA for all patients in need.

SIGNIFICANCE/CLINICAL RELEVANCE: (1-2 sentences): Patients with osteoarthritis screening positive for SDOH difficulties have previously been shown to be less likely to receive TJA. The present study indicates that this disparity is not justified by the 90-day complication rate for TJA.