Associations between socio-demographic factors and patient-reported outcomes in primary total hip and knee arthroplasty

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INTRODUCTION:

Socio-demographic factors impact patient experiences and outcomes. We sought to characterize patients undergoing hip or knee primary total joint arthroplasty (pTJA) at an urban Musculoskeletal Integrated Practice Unit (IPU). We evaluated the impact of IPU social work interventions (SWI) on outcomes for disadvantaged communities. We hypothesized that socioeconomic disparities lead to unfavorable perioperative measures, which may be positively influenced through targeted SWI.

METHODS: A retrospective review was performed of patients undergoing pTJA from January 2017 to May 2021. Variables collected included race, ethnicity, marital status, Area Deprivation Index (ADI), SWI claims, time to surgery (TTS), preoperative hemoglobin (p-Hb), and hospital length of stay (LOS). High ADI (H-ADI) was defined as > 50th percentile for disadvantage. Baseline Patient Health Questionnaire (PHQ) and Patient Reported Outcomes Measurement Information System (PROMIS) Physical Function, and baseline and postoperative Patient Reported Outcome Measures (PROMs; HOOS, JR and KOOS, JR) were collected for analysis. Linear and logistic regression models were performed to assess the impact of SWI on H-ADI patients.

RESULTS: 470 patients were analyzed. Black patients presented with higher PHQ (7 vs 4, p = 0.005) and lower p-Hb (12.7 vs 13.6, p = 0.013) compared to white patients. White patients had higher baseline PROMs (39.2 vs 28.8 and 27.9, p < 0.0000009) and PROMIS (36.6 vs 33.5 and 33.2, p = 0.004) compared to all other races. Compared to non-Hispanic patients, Hispanic ethnicity was associated with higher ADI, (49th vs 33rd percentile, p = 0.0000000056), lower baseline PROMs (27.7 vs 35.7, p = 0.001), lower PROMIS (32.8 vs 35.1, p = 0.042), and longer average TTS (5.7 vs 4.1 months, p = 0.040). Married patients exhibited the highest baseline PROMs (42.6, p = 0.000003) and PROMIS (38.0, p = 0.002) compared to all other marital statuses. H-ADI patients were twice as likely to be anemic (OR 2.3, 95% CI 1.51-5.32, p = 0.05). H-ADI patients undergoing SWI had greater postoperative PROM changes (45.6 vs 33.4, p = 0.017) and shorter LOS (0.29 vs 1.09 days, p = 0.011).

DISCUSSION AND CONCLUSION: This study demonstrates the differential baseline characteristics among disadvantaged populations prior to undergoing pTJA. H-ADI patients who underwent SWI had favorable postoperative results. This underscores the value of holistic, multidisciplinary care in overcoming socioeconomic barriers and optimizing outcomes in pTJA.