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Differences between Women and Men undergoing TKR and THR in a national research consortium

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Introduction:

Prior studies reported higher prevalence of arthritis, greater disability, lower rate of utilization of total knee replacement (TKR) and total hip replacement (THR) in women as compared to men,¹ as well as differences in outcomes after surgery². We examined sex differences in terms of demographic and clinical factors that influence surgical outcomes in a national sample of patients who underwent TKR or THR.

Methods:

Patients undergoing primary THR and TKR from 7/1/11 through 12/03/12 were identified from a national research consortium that gathers demographic data, the Western Ontario and McMaster Universities Arthritis Index (WOMAC) estimated from the Knee injury and Osteoarthritis Outcome Score (KOOS) or the Hip injury and Osteoarthritis Outcome Score (HOOS), Short Form 36 Physical Component Score (PCS) and Mental Component Score (MCS) and musculoskeletal burden of illness. Descriptive statistics were performed.

Results:

Primary TKR patients included 2042 women and 1276 men. Women were more likely nonwhite (11.2% vs. 7.5%), unmarried (40.3% vs. 17.8%), lower income ($p < 0.000$), heavier (mean BMI 31.8 vs. 31.0). In women as compared to men, severity of arthritis in the operative knee was significantly greater based on the WOMAC pain, stiffness and function scores, and overall function was worse (mean PCS 31.7 vs. 34.1).

Primary THR patients included 1394 women and 1036 men. Women were more likely older (mean age 65.2 vs. 63.6), unmarried (40.0% vs. 19.9%), thinner (mean BMI 28.8 vs. 29.7) and lower income. Operative hip pain, stiffness and function were significantly worse in women as was overall function as measured by the SF-36 PCS (mean 30.5 vs. 32.3).

Conclusion: In this national sample, women undergoing primary THR and TKR have more severe arthritis, greater functional impairment and greater burden of musculoskeletal disease as compared to men. Understanding these differences will help tailor peri-operative care to the needs of the patients.

1. Hawker, G. A., Wright, J. G., Coyte, P. C., Williams, J. I., Harvey, B., Glazier, R., et al. (2000). Differences between men and women in the rate of use of hip and knee arthroplasty. *N Engl J Med*, 342(14), 1016-22.

2. Lubbeke, A., Stern, R., Garavaglia, G., Zurcher, L., & Hoffmeyer, P. (2007). Differences in outcomes of obese women and men undergoing primary total hip arthroplasty. *Arthritis and Rheumatism*, 57(2), 327-334.