

# Influence of Race/Ethnicity on Route of Hysterectomy and Inpatient Surgical Complications

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Introduction: There is a strong motivation to increase the minimally invasive hysterectomy (MIH) rate in order to improve patient outcomes. When compared to abdominal hysterectomy, MIH is associated with a reduced risk of complications and faster patient recovery. The objectives of this study were to examine the association between race and (1) route of hysterectomy and (2) risk of inpatient surgical complications.

## Methods:

From the 2013 Nationwide Inpatient Sample (NIS), we obtained data on 35,532 women who underwent elective hysterectomy for benign indications using ICD-9-CM. The NIS is 20% stratified sample of all patient discharges from acute care hospitals in the United States designed to be nationally representative. A cross-sectional analyses examined the association between race/ethnicity and hysterectomy route as well as inpatient surgical complications. Multivariable regression models were used to compute estimates, odds ratios and 95% confidence intervals using Stata survey procedures.

## Results:

Compared to white women, black women had 0.56 (95% CI: 0.51 -0.62) odds of receiving minimally invasive hysterectomy, adjusted for age, Median household income national quartile for patient ZIP Code, primary payer, hospital location/teaching status, Elixhauser comorbidity index, and indication for surgery (fibroids vs other benign conditions). This finding remained consistent across household income quartile for patient ZIP Code, primary payer and having fibroids.

In our sample of women, 1913 experienced a complication, representing 9565 women nationwide. Compared to white women, the odds of black women experiencing a surgical complication was 1.11 (95% CI: 0.97-1.28) after adjusting for age, median household income national quartile for patient ZIP Code, primary payer, hospital location/teaching status, Elixhauser comorbidity index, and route of surgery. There was an observed trend of increasing odds of having a complication in black women compared to white women, with increasing household income quartile for patient ZIP Code. In the lowest income quartile, the odds of surgical complication for black women compared to white women was 0.95 (95%: 0.74- 1.22), while in the highest income quartile this was 1.50 (95% CI: 1.11-2.02). There was no evidence of effect modification on this outcome by primary payer or route of hysterectomy.

## Conclusions and Discussion:

Among women who underwent hysterectomy for benign indications, black women were less likely to receive minimally invasive hysterectomy compared to white women. Although there was an observed trend towards increased rate of surgical complications among black women, this was not found to be statistically significant. Future studies are needed to further explore the factors responsible for this possible racial disparity in hysterectomy options, which may include patients' medical complexity, size of uterine fibroids, and limited training for surgeons to perform MIH in the presence of uterine fibroids.

Keywords : minimally invasive hysterectomy, surgical complications, socioeconomic determinants of health

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