Racial/Ethnic Disparities in Hysterectomy Route in Women Likely Eligible for Minimally Invasive Surgery

Lisa M. Pollack, PhD, MPH, R21DK110530, and AHRQ Grant K01HS022330. JL Lowder was supported by National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK) NIH Grant R21DK110530, and AHRQ Grant K01HS022330. JL Lowder was supported by NIH NIDDK Plus Consortium Grant U01DK130053. The funding sources played no role whatsoever in designing, planning, conducting, analyzing, or reporting the results, nor in the final draft and presentation of the data.

Abstract

The Agency for Healthcare Research and Quality (AHRQ) was charged by the Affordable Care Act with evaluating the impact of race and ethnicity on health outcomes, including surgical complications. Racial/ethnic disparities in hysterectomy have been linked to increased surgical complications, higher costs, longer hospital stays, and return to routine activities. Understanding and improving hysterectomy care to reduce disparities is essential. This study was funded as part of the AHRQ-funded Health Disparities Research Network (HRDNet) and is a collaboration of 11 large-scale data sets from academic and government sources. The objective of this study is to examine disparities in hysterectomy route using large, national, population-based data sets to identify disparities in hysterectomy route between 2010 and 2014, excluding Medicaid and Children’s Health Insurance Program (CHIP) enrollees. The study included the Ambulatory Surgery and Services Databases (SASD), State Inpatient Databases (SID), and the National Cancer Institute’s Surveillance Epidemiology and End Results Program (SEER).

Methods

This research utilized administrative databases from 11 large-scale data sets, including the Agency for Healthcare Research and Quality (AHRQ) Healthcare Cost and Utilization Project (HCUP) State Inpatient Databases (SID) and State Ambulatory Surgery and Services Databases (SASD).

Figure 1: Hospital Stay Rates per 100,000 Adult Women/Year Among Women Likely Eligible for MIGS

Figure 2: Surgical Rate for Hysterectomy by Race/Ethnicity in Hospitals That Serve a Higher (Quintile 5) Versus Lower (Quintile 1) Proportion of Black Patients Among Women Likely Eligible for MIGS

Figure 3: aPRs and 95% Bootstrap CIs for (A) Vaginal Versus Abdominal Hysterectomy (B) Laparoscopic Versus Abdominal Hysterectomy Among Women Likely Eligible for MIGS

Figure 4: aPRs and 95% Bootstrap CIs for (A) Vaginal Versus Abdominal Hysterectomy (B) Laparoscopic Versus Abdominal Hysterectomy Among Women Likely Eligible for MIGS

Results

The final analytic cohort included 133,082 adult women who underwent hysterectomy for benign conditions from 2010 to 2014.

Conclusions

After adjusting for confounding factors and controlling for clustering of procedures within hospitals, compared with White women, Asian/Pacific Islander (API), Black, and Hispanic women were less likely to receive laparoscopic hysterectomy. The proportion of all women undergoing abdominal hysterectomy was highest at hospitals serving higher proportions of Black women. These differences in treatment type can lead to disparities in outcomes, in part due to their association with complications, exacerbated by increased length of stay in the hospital. These analyses can be used to guide changes in practice to reduce disparities and help reduce complications after hysterectomy, shorten stays, and return women to routine activities.

Acknowledgments

Source of funding: Access to data and additional services were provided by the Center for Administrative Data Research, which is a supported in part by the Washington University Institute of Clinical and Translational Sciences (Icahn School of Medicine at Mount Sinai, New York, NY). The funding sources played no role whatsoever in designing, planning, conducting, analyzing, or reporting the results, nor in the final draft and presentation of the data.

References

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Publication Citation


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Methods

Objective

• Failure to exclude women predisposed to benign gynecologic conditions is typically preferred over hysterectomy for benign conditions due to faster return to normal activities, lower complication rates, and shorter hospital stays.

• Black women in particular are less likely than White women to undergo MIGS.

• Previous studies did not include women with conditions that predispose them to abdominal hysterectomy (i.e., uterine fibroids, obesity, or prior abdominal surgery).

• Black women have higher prevalence of obesity and larger and more numerous fibroids than White women.

• Failure to exclude women predisposed to abdominal hysterectomy could yield biased estimates of racial disparity in receipt of MIGS.

Background

• >400,000 hysterectomies for benign gynecologic conditions are performed annually in the United States.

• Minimally invasive gynecologic surgery (MIGS; vaginal, laparoscopic, and robotic hysterectomy) is more often performed in women likely eligible for MIGS than with more abdominal and fewer vaginal procedures across all groups. More Black, Hispanic, and Asian/Pacific Islander (PI) women sought care at those hospitals than White women (Figure 2).

• We included adult women aged ≥18 years who underwent hysterectomy for benign gynecologic conditions between 2010 and 2014, excluding those with diagnoses of obesity, fibroids, or history of pelvic reconstructive surgery.

• Procedures were classified as abdominal, vaginal, or laparoscopic (including robotic) using International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) procedure codes (SID) and Current Procedural Terminology (CPT) codes (SASD).

To determine the association of hysterectomy surgical route by race/ethnicity in hospitals that serve a higher versus lower proportion of Black hospitalizations among all hospitalizations at the individual hospital level: quintile 1 (0 to 2% Black), quintile 2 (2 to 5%), quintile 3 (5 to 9%), quintile 4 (9 to 16%), and quintile 5 (≥16%).

We calculated hysterectomy rates per 100,000 adult women per year by surgical approach and race/ethnicity. Denominators were adjusted for the proportion of women with prior hysterectomy using survey-weighted hysterectomy prevalence estimates from the Behavioral Risk Factor Surveillance System.

• A marginal structural log binomial regression model was used to estimate adjusted standardized prevalence ratios (aPRs) for vaginal or laparoscopic versus abdominal hysterectomy, controlling for clustering within hospitals.

An annual laparoscopic rates increased more slowly for Black women (1.6-fold) than for White (1.8-fold) and Hispanic (1.9-fold) women (Figure 1).

• Hospitals serving a higher proportion of Black women performed more abdominal and fewer vaginal procedures across all groups. More Black, Hispanic, and Asian/Pacific Islander (PI) women sought care at those hospitals than White women (Figure 2).