Extended abstract

Reproductive factors and the likelihood of hysterectomy in India: Evidence from the National Family Health Survey, 2019-21

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Introduction

Hysterectomy remains one of the most performed surgical procedures worldwide. The surgery is commonly performed for benign gynaecological morbidities such as excessive menstrual bleeding, fibroids, and endometriosis. In recent years, due to increased usage of alternative treatment methods such as hormonal contraceptives, hysterectomy rates have declined in most high-income countries (HICs).

According to the National Family Health Survey (NFHS-5), 3.3% of women aged 15-49 reported having undergone a hysterectomy at a median age of 34. Hysterectomy, even without oophorectomy or removal of the ovaries, may be associated with a decline in ovarian functioning, resulting in early menopause. Further, studies have found several health impacts of undergoing a hysterectomy, especially at younger ages, including increased risk of cardiovascular disease and frailty.

A vast body of literature in India has explored the sociodemographic correlates of hysterectomy, which include lower education, higher household income, higher number of children, and rural residence. However, the reproductive correlates of hysterectomy remain less explored. Research in HICs has shown that reproductive factors across a woman's life course, such as usage of hormonal contraceptives, history of terminated pregnancy, and age at first birth, influence a woman's odds of undergoing a hysterectomy later in life. Hence, in this paper, we investigate the association between usage of hormonal contraceptives, history of terminated pregnancy, age at first birth, and hysterectomy.

Data and methods

Data source

Data from the fifth round of the National Family Health Survey (NFHS-5) was used in this study. The survey collected information from 724,115 women aged 15-49 and was conducted in all 28 states and eight union territories in India.

Outcome variable

The outcome variable in this study is whether women reported they had ever undergone a hysterectomy coded as yes/no.

Independent variable(s)

The primary independent variables of interest in this study, i.e., the reproductive factors, include whether the woman had ever used OCPs (yes, no), IUD (yes, no), or injectable contraceptives (yes, no), history of terminated pregnancy (yes, no), and age at first birth (<=18, 19-23, 24-28, >=29, no child).

Based on previous literature, we controlled for sociodemographic factors such as age, place of residence, education, household income, caste, religion, and number of children in the analysis.

Methods

Bivariate analysis and multivariable binary logistic regression analysis were used. STATA 16 software was used for the analysis, and appropriate sampling weights were applied.

Results

Both the unadjusted and adjusted odds ratios showed an inverse association between usage of hormonal contraceptives and hysterectomy. Women who have ever used IUDs, OCPs, or injectable contraceptives have a lower likelihood of hysterectomy. The odds of hysterectomy were higher among women who ever had a terminated pregnancy and an earlier age at first birth. The likelihood of hysterectomy was higher among women who had their first birth at ≤ 18 years than those who had their first birth between 19-23 years. Also, women who had their first birth between 24-28 years and ≥ 29 years have lower odds of hysterectomy than those women who had their first birth between 19-23 years.

Discussion and conclusion

The findings of this study have substantial health policy relevance and highlight the importance of life-course research. Our study is the first in India to explore the association between usage of hormonal contraceptives and hysterectomy. IUDs and OCPs regulate heavy menstrual bleeding (HMB) and are recommended initial treatment methods specified for heavy bleeding in many countries, including India. However, only 5% and 2% of currently married women use pills and IUDs, and hysterectomy remains the widely used treatment method for benign gynaecological conditions in India. In this context, the results of this study highlight the need

to promote awareness about the non-contraceptive benefits of hormonal contraceptives as a treatment for HMB and provide training to health providers in the insertion of IUDs. The identification of early and mid-life factors associated with hysterectomy, such as history of terminated pregnancy and early age at first birth, can also help in the recognition of women with an increased likelihood of hysterectomy.