

SYNOPSIS

Comparative Analysis of Contraceptive Use Among Low and High Parity Women in India: Insights from NFHS-4 and NFHS-5

Ashutosh Surendra Singh Pal

Introduction

Family planning is an essential component of public health policies that aim to improve mother and child health, reduce unplanned pregnancies, and promote long-term population development. In India, the government has sponsored a number of initiatives to improve the availability and use of contraceptive techniques. Contraception is an essential component of reproductive health, providing several benefits such as preventing unplanned pregnancies, lowering mother and infant mortality, and empowering women to make informed decisions about family planning. Female sterilization remains the most common form of contraception in India. Female sterilization, also known as tubal ligation, is a permanent type of contraception in which surgical techniques are used to block or close the fallopian tubes, preventing fertilization.

According to data from the National Family Health Survey (NFHS-4), female sterilization accounted for 36% of contraceptive use among married women, highlighting its dominance as a family planning method in the country. However, the reliance on female sterilization poses challenges, particularly for low parity women (women with no or one children) and high parity women (women with two or more children). High parity women, who have typically completed their desired family size, often opt for sterilization as a definitive solution to prevent further pregnancies. In contrast, low parity women have a significant unmet need for spacing methods of contraception—methods that allow for intervals between births rather than permanent solutions.

To address these issues, the Indian government introduced Mission Parivar Vikas in 2016. This initiative targets high-fertility districts with the aim of accelerating access to high-quality family planning services and information. Mission Parivar Vikas aims to address the unmet need for contraception by providing a range of contraceptive options, ensuring the availability of trained service providers, and fostering an enabling environment for family planning. The initiative focuses on increasing the Contraceptive Prevalence Rate (CPR) and Modern Contraceptive Prevalence Rate (MCPR), thereby promoting the use of modern contraceptive methods with a focus on need of low parity women.

Rationale

Low parity women have gotten comparatively little attention in research, despite having a large window of opportunity. Because low parity women are often in their early reproductive years, using effective contraception at this critical juncture can have a major positive impact on their health, family planning outcomes, and overall well-being. By focusing on low parity women, we may be able to address the unmet need for spacing measures and dispel myths and misconceptions regarding contraception. Understanding the factors driving low parity women's use of contraceptives, such as the influence of husbands, cultural norms, and knowledge levels, would enable the creation of focused treatments that are specific to the needs of this population. Consequently, the purpose of this study is to offer a thorough evaluation of the use of contraceptives among low and high parity women, leveraging data from NFHS-4 and NFHS-5 to uncover critical insights. This will inform future family

planning initiatives, ensuring that they are inclusive of low parity women and effectively address the challenges they face.

Review of literature

1. **Author:** Shalu Yadav¹ and T. Longkoi Khamniungan²

Title: Assessing trends in women's reproductive health and family planning in haryana: insights from nfhs-4 and nfhs-5

Source: Journal of South Asian Research

Purpose: To enhance family planning and reproductive health outcomes, the study highlights the need for focused interventions that address cultural attitudes and offer educational opportunities.

Findings: A healthy reproductive system lowers the likelihood of problems during pregnancy and childbirth, so enhancing the health of the mother and the child. Ultimately, spending money on women's reproductive health is spending money on the health and welfare of whole communities and families.

2. **Author:** Gupta, S., & Desai, S.

Title: "Impact of Family Planning Programs on Contraceptive Use in India: A Comparative Analysis of NFHS-4 and NFHS-5"

Source: Population Studies, 2020

Purpose: To compare the changes in contraceptive use and method mix between NFHS-4 and NFHS-5, with a focus on Mission Parivar Vikas districts.

Findings: According to the data, there was a notable rise in the districts of Mission Parivar Vikas regarding the usage of contemporary contraceptives between the two surveys. The provision of family planning services improved generally, and there was a decrease in the unmet need for spacing.

3. **Author:** Fernanda Ewerling , Lotus McDougal , Anita Raj, Leonardo Z. Ferreira, Cauane Blumenberg , Divya Parmar and Aluisio J. D. Barros

Title: Modern contraceptive use among women in need of family planning in India: an analysis of the inequalities related to the mix of methods used.

Source: doi.org

Purpose: To evaluate the type of contraceptives used by women in need of family planning in India and the inequalities associated with that use according to women's age, education, wealth, subnational region of residence and empowerment level.

Findings: Findings from this study demonstrate that nearly three in every four (72%) partnered women in need of contraception in India are using a modern method.

Research Question:

- What are the differences in contraceptive use in India as observed from NFHS-4 and NFHS-5 data?
- What are the factors affecting the uptake of contraceptive methods across India?
- Are there any differences in use of contraceptive across low and high parity women of reproductive age?

Objective:

- To assess the use of contraceptives in India in two rounds of NFHS-4 and NFHS-5.
- To compare the use of contraceptive in low and high parity women of reproductive age across two rounds of NFHS-4 and NFHS-5.
- To study the factors affecting the uptake of contraception in India.

Study Methodology:

Study Design:

- This analytical study is based on the extracted secondary data from the National Family Health Survey (NFHS) rounds 4 and 5.
- The National Family Health Survey (NFHS) is a large-scale survey that gathers information from a representative sample of Indian families on a range of health indicators, including the use of contraceptives. We suggest utilizing secondary data from NFHS for our research because of its excellent quality, extensive coverage, and dependability. We can do robust longitudinal analyses to monitor changes in contraceptive use and method mix over time by utilizing data from NFHS-4 (2015–16) and NFHS-5 (2019–21). The NFHS data is made publicly available to guarantee affordability and accessibility, which removes the need for substantial primary data collecting. Large sample sizes and strict data gathering procedures used in the survey improve statistical power and accuracy. Researchers, international organizations, and policymakers all acknowledge the reliability of NFHS data because of its consistent methodology and the reputable institutions behind it.

Study Population

- **Inclusion Criteria:** Reproductive age married women (15–49 years old)
- **Exclusion Criteria:** Women of reproductive age who are single, divorced, or separated

Duration of Study:

Secondary data analysis was undertaken between 15th March to 15th June 2024.

Sample Size

- The sample size will include women of reproductive age (15-49) from the NFHS-4 and NFHS-5 datasets

Study variables:

The following socioeconomic variables: age, religion, caste, education level, wealth index, parity, etc. will be employed in the secondary data analysis: ever-used contraception, contraceptive use, unmet need (limited and spacing), method mix, and preference for son.

Data Collection Method

The data for this study is already collected. We will be using secondary data, publicly available in DHS portal for secondary analysis purposes.

Operational Definition

- **Modern Contraceptive Prevalence Rate:** The "Modern Contraceptive Prevalence Rate" refers to the proportion of married or cohabiting women between the ages of 15 and 49 who either use or have a sexual partner who utilizes at least one kind of contraception. Modern methods such as injectables, intrauterine devices (IUDs/PPIUDs), birth control pills, implants, foam/jelly, diaphragm, condoms for both sexes, the lactational amenorrhea method, and emergency contraception should all be mentioned here.
- **Method Mix:** The percentage of users of contraceptives by method over a specified time frame.
- **Contraceptive Prevalence Rate (CPR)**_- The percent of women of reproductive age who are using (or whose partner is using) a contraceptive method at a particular point in time among women ages 15-49 who are married or in-union.
- **Unmet need for Family Planning**- The number or percent of women currently married or in union who are fecund and who desire to either terminate or postpone childbearing, but who are not currently using a contraceptive method. The total number of women with an unmet need for family planning (FP) consists of two groups of women: those with an unmet need for limiting, and those with an unmet need for spacing.
- **Low Parity**- Low parity women are defined as those having 0 or 1 delivery. This group includes newly married women who have never been pregnant. Additionally, women with a history of miscarriage or abortion will be classified as low parity if they have given birth to 0 or 1 child in their lifetime, regardless of their history of miscarriage or abortions.
- **High Parity**- High parity women are defined as those who have had 2 or more deliveries, including both stillbirths and live births. This category encompasses women who have given birth to two or more children in total.

Data Analysis Plan:

The data will be analysed using Stata software version 13.0.

Data Preparation – In order to ensure consistency and compatibility in STATA format, the dataset for both NFHS 4 and NFHS 5 will be extracted from the DHS website along with the DO file that the website provides. As needed, the appropriate variables will be tagged and extracted to generate a subset of data for the study covering both NFHS cycles.

- **Descriptive Statistics** - Appropriate descriptive statistics will be done - mean along with Standard deviation (SD) will be used for continuous variables such as current age whereas frequency and proportion will be used for categorical variables such as Contraceptive Prevalence Rate (CPR), Modern Contraceptive Prevalence Rate (mCPR), and method mix.
- **Tests of significance using Chi-Square tests:** To determine population estimates of the indicators and confidence intervals of all the relevant variables, inferential statistics will be investigated. To remark on the importance of the observed differences, significance tests comparing the various groups, such as parity (number of children), will be carried out. A decrease in power for sub-group analyses could occur, though. The significance of the link will be investigated using the chi square test. P-value of less than 0.05 indicates significance.
- **Report and Visualization-** The data will be analysed using STATA version 13.0. Necessary tables will be made and for visualization purposes, key findings will be presented as graphs – bar charts and pie charts.

Ethical Consideration:

Data from the DHS website was extracted in STATA format for the study's needs. We suggested using the dataset without first undergoing an ethical review because the NFHS data for both rounds is publically accessible and kept as deidentified data, meaning that personal information cannot be traced back. This is compliant with the National Ethical Guidelines for Biomedical and Health Research Involving Human Participants guideline published by the Indian Council of Medical Research (ICMR).

References

1. https://nhm.gov.in/images/pdf/programmes/family-planning/guidelines/MPV/MPV_guidelines.pdf
2. <https://www.data4impactproject.org/>

National Family Health Survey (NFHS-4), 2015-16: India. International Institute for Population Sciences (IIPS), Mumbai.

National Family Health Survey (NFHS-5), 2019-21: India. International Institute for Population Sciences (IIPS), Mumbai.