International Journal of Applied Social Science
(An International Double Blind Peer Reviewed / Refereed Research Journal of Social Science)
Volume 12 (11 & 12), November & December (2025) : 928-934
Received : 10.10.2025; Revised : 25.10.2025; Accepted : 10.11.2025

RESEARCH PAPER
ISSN : 2394-1405 (Print)
DOI : https://doi-ds.org/doilink/01.2026-93315743/IJASS/12.11&12/928-934

From Fertility to Family Planning: A Comparative Analysis of Women's Reproductive Health in Kerala Based on NFHS-4 and NFHS-5 Data

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ABSTRACT

Background
Women's reproductive health is critical to overall well-being and social progress. It ensures safe pregnancy, reduces maternal mortality, and empowers women to make informed health decisions. Women's reproductive health, the cornerstone of well-being, involves a complex whole that includes menstrual cycles, sexual activity, and an intricate process of hormonal fluctuations. It is through this lens that women make their fertility choices, pregnancy, and the continuum of life stages, ultimately shaping their ability to design their families and life paths. This paper aims to assess the Fertility and Family Planning Trends in Women's Reproductive Health by comparing data on trends from NFHS-4 and NFHS-5. Focusing on Kerala, this research has analysed primary data collected in the fourth (2015-16) and sixth (2019-21) rounds of the National Family Health Survey. In Kerala, the reproductive health and family planning scenario is mixed. It managed to have a TFR of 1.8, which is well below replacement level, though births have slightly increased from NFHS-4 to NFHS-5. Early marriage, though declining, still persists among 6.3% of the women aged 20-24 who married before the age of 18. Further, childbearing begins early for a significant percentage of young women. Although the rise in the demand for family planning assumes alarming proportions, Kerala fares well in terms of contraceptive prevalence, increasing from 53.1% in NFHS-4 to 60.7% in NFHS-5. This calls for sustained efforts in early marriage and childbearing, apart from ensuring family planning services for all categories of women in Kerala.

Keywords: Fertility Rate, Reproductive Health, Family Planning, NFHS – 4, NFHS- 5, Kerala

INTRODUCTION

The health of women and girls is changing; while there have been significant advancements in the last several decades in many areas, there are still challenges that persist in ensuring the well-being of all women and girls. The cohabitation of disease burdens linked to nutrition, infections, and reproductive health has grown due to population ageing and changes in the socioeconomic determinants of health. Additionally, the concerning rise in Chronic and Non-communicable diseases (NCDs) has led to epidemics. International goals for women's health now encompass a holistic life-course perspective, recognizing sexual and reproductive health and rights as essential components of overall well-being.

This wider perspective takes into account health problems that uniquely affect women when they enter reproductive age, in addition to those shared with males whose manifestations and consequences fall disproportionately on women due to biological, gender, and other social causes (Langer *et al.*, 2015).

Reproductive health encompasses more than just physical health. It's about having the knowledge, resources, and freedom to make informed choices about your body, sexuality, and family planning. This definition emphasizes the importance of autonomy and self-determination in reproductive decision-making (Organization, 1997).

How to cite this Article: Pavithran, Sneha and Sultana, A. Shahin (2025). From Fertility to Family Planning: A Comparative Analysis of Women's Reproductive Health in Kerala Based on NFHS-4 and NFHS-5 Data. *Internat. J. Appl. Soc. Sci.,* **12** (11 & 12) : 928-934.

A global review of reproductive health highlights the main issues that needs to be addressed; between 60 and 80 million couples have infertility problems globally. Developing nations have a startling unmet demand for contraception at the same time: every year, unsafe abortion is a kind of female genital mutilation. Sexually transmitted infections are presently the most prevalent category of illnesses that need to be reported in most nations due to the evolution of new species (Fathalla, 1992).

Even after the Indian government reaffirmed its adherence to the Programme of Action that emerged from the (1994) International Conference on Population and Development's principles, policymakers, program managers, and the general public in India still have a limited knowledge of the idea of reproductive and sexual health. Despite some positive developments, legislators, activists for women's rights, and service providers continue to prioritize stabilizing population growth rates above achieving a common agenda (García-Moreno and Stöckl, 2009).

Rich people tend to adopt family planning methods more quickly than poor people, especially, when it comes to the use of modern contraceptive methods. While this is a positive trend, it also signals that the rich-poor divide will widen regarding resources and advantages brought forth by lower fertility. As indicators of societal injustices and a reflection of health systems' inability to meet the needs of their most vulnerable citizens, these disparities in health outcomes and healthcare utilization pose serious challenges for public health initiatives, policymakers, and civil societies. It is well-established that poverty and poor reproductive health are related (Malarcher and Organization, 2010).

Worldwide, over 186 million people experience infertility, meaning they are unable to get pregnant despite having regular unprotected sex for a year. Majority of those affected reside in developing countries (Vander Borght and Wyns, 2018).

There are notable distinctions between the status and availability of reproductive health care in industrialized and poor nations. Among these is the availability of contraception, prenatal care, secure birthing environments with skilled personnel, diagnosis, and treatment of STDs like HIV, infertility treatment, and care for unplanned or unsafe pregnancies.

Reproductive health efforts worldwide seek to address the intricate relationship between health conditions, economic, socio-demographic, and healthcare determinants linked to an increased susceptibility to illness and death from reproductive milestones during life. The major risks to life are those that are directly connected to pregnancy, delivery, and the puerperium. These risks include haemorrhage, infection, undesired pregnancy termination, pregnancy-related illnesses, and difficulties during childbirth. However, there isn't much research done on the relationship between mental health and reproductive morbidity and death, particularly in underdeveloped nations (Ouahid *et al.*, 2023).

Research on Kerala's sharp drop in fertility dates back to the 1970s. At the time, the state's high rates of female literacy and the ensuing increase in women's effective marriage age were recognized as the main causes of the decline. However, in spite of their high levels of education, women do not appear to be capable of making autonomous, well-informed decisions about reproduction and contraception. In Kerala's family planning program, the dissemination of contraceptive information is not a high priority, likely due to the state's below-replacement-level fertility rates. According to NFHS-4 data, only 17% of women in Kerala who were not using contraception had received information about contraceptives from health workers (Women and Contraceptive Decision-Making in Kerala, 2021).

To assess the impact of women's reproductive health and family planning, this paper examined the National Family Health Survey (NFHS) data, particularly rounds 4 (2015–16) and 5 (2019–2021). This data encompasses information on India's population, healthcare, nutrition, and detailed specifics about each state and union territory. The Ministry of Health and Family Welfare (MoHFW), a branch of the Indian Government, oversees the implementation of this survey, appointing the International Institute for Population Sciences (IIPS) in Mumbai as the central organization responsible for leading the survey (IIPS & ICF, 2017; IIPS & ICF, 2021).

Analyzing NFHS data revealed significant differences in Total Fertility Rate among women with varying education levels, emphasizing the need for educational programs and increased awareness to bridge these gaps. The study underscores the importance of addressing socio-economic and cultural factors that limit women's independence in making reproductive health decisions. Promoting education and providing family planning and contraceptive services can empower women to make informed decisions, leading to healthier and more fulfilling lives.

METHODOLOGY

This paper uses data from two surveys conducted by the Society for Promotion of Youth and Masses (SPYM): the NFHS-4 (2016) and the NFHS-5 (2019). The NFHS-4 surveyed 11,555 households, 11,033 women aged 15-49, and 2,086 men aged 15-54 in Kerala between March and October 2016. The NFHS-5, conducted between July 2019 and December 2019, gathered information from 12,330 households, 10,969 women, and 1,473 men in the same region.

RESULTS AND DISCUSSION

This paper compares fertility and family planning from the NFHS-4 survey to the NFHS-5 survey. Indian Institute for Population Sciences (IIPS) and ICF (2020) reported that Kerala, a state in southern India, reached replacement level fertility in the late 1980s, but since then, the state's total fertility rate, or Total Fertility Rate (TFR), has steadily decreased. With a TFR of 1.8 in 2019–21, the state is currently experiencing fertility below replacement level. Nair (2010) noted that the improvement in social sector and health investments, along with structural improvements in the political economy, have been credited with the fall in TFR in Kerala. In particular, increased female education has contributed to an increase in the marriageable age, which has enhanced children's health care. Couples are now adopting family planning techniques as a result of the increased number of surviving children as a result of better health care provided to children. Despite the possibility of these causes, the drop did not occur in the circumstances necessary for a demographic shift (Thomas and Ramanathan, 2022).

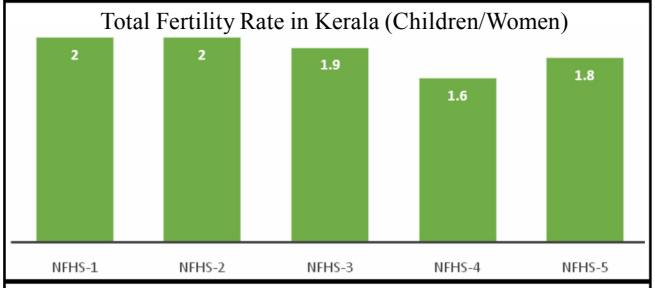

Fig. 1 : Trends of Total Fertility Rate in Kerala for the Last Five Rounds of NFHS

Note : Figure 1 depicts the trends in Total Fertility Rate of Kerala for the last five rounds of NFHS conducted from (1992-93) to (2019-21) by the International Institute of Population Sciences, Mumbai.

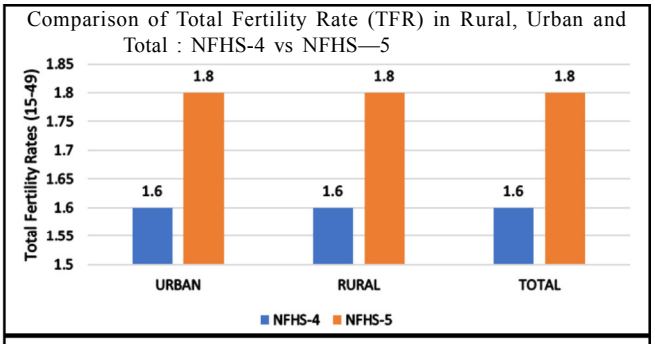

Fig. 2 : Comparison of Total Fertility Trends in Rural and Urban Areas in NFHS-4 and NFHS—5

Note: *Figure 2 depicts the changes in Total Fertility Rate across urban and rural areas as reported in NFHS-4 and NFHS-5 surveys conducted by the International Institute of Population Sciences, Mumbai*

Kerala's fertility rate is below the replacement level, with women having an average of 1.8 children. This indicates a slight increase of 0.2 children per woman since the last National Family Health Survey (NFHS-4). Kerala's fertility rate remains below the replacement level across rural and urban areas, with an average of 1.8 children per woman. Interestingly, there has been a rise in the proportion of families having three or more children, increasing from 13% to 17%. While most social groups have fertility rates below 2.0, there are some exceptions. Muslim women and women from Scheduled Tribes have higher fertility rates, at 2.3 and 2.2 children per woman, respectively. This highlights the influence of socio-cultural factors on family size in Kerala.

Early marriage affects young women's social, economic, and health outcomes, and the effects are profound and long-lasting. It frequently interferes with their education, resulting in decreased academic achievement. Young brides may also have a more challenging time asserting themselves in their relationships, which makes them more vulnerable to domestic abuse. Additionally, early marriage usually leads to early pregnancy, which is dangerous for the mother's and the unborn child's health. It may potentially increase the risk of sexually transmitted according to the mounting data (Santhya *et al.,* 2010).

Early marriage and childbearing are often indicative of low female status, whereas later marriages are linked to greater female autonomy and a higher societal value placed on women. Female education is a significant predictor of the age at which women marry and have their first child, with higher education levels leading to

delayed marriage and childbirth and resulting in women having fewer children overall. However, the generally upper age of marriage in Kerala is not uniform across the state. A recent statewide study indicates an increase in child marriage in four northern districts, with over one-third of brides being under the legal age of 18 years. Since 1988, Kerala's total fertility rate has been below the replacement level of 2.1 children per woman. This rate declined from 1.78 children per woman in 1993 to 1.51 in 1999. Kerala also has the highest median interval in India (38 months) between the most recent birth and the preceding one. The ages at which women begin and end childbearing reflect the total number of children they have and indicate their ability to control their childbearing and rearing periods (Chacko, 2003).

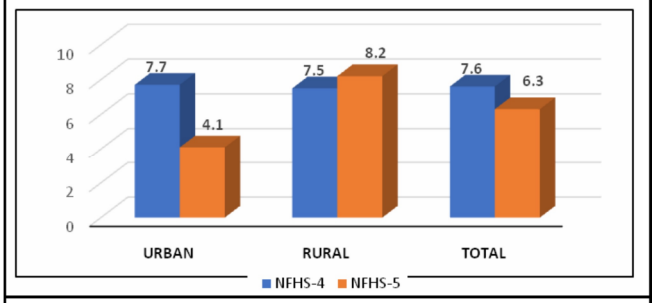

Fig. 3 : Comparison of Age at First Marriage in the NFHS-4 and NFHS-5 Survey

Figure 3 illustrates the variations in the Age at First Marriage in the NFHS-4 and NFHS-5 Survey.

In Kerala, the median age at first marriage for women aged 25-49 years is 21.5 years. Among women aged 20-24 years, 6.3% were married before reaching the legal minimum age of 18, a decrease from 7.6% in the NFHS-4 survey.

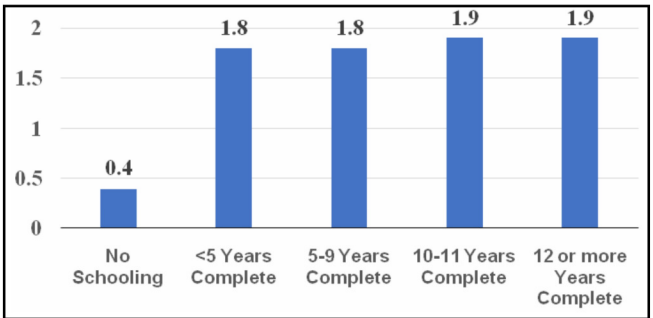

Fig. 4 : Variation of Total Fertility Rate with Schooling in NFHS-5 Survey

Figure 4 illustrates the variation of Total Fertility Rate with Schooling in NFHS-5 Survey

Women's education is widely recognized as a crucial factor influencing fertility and children's health. Education impacts fertility and infant health through various mechanisms. Educated women typically have higher permanent incomes, which raises the opportunity cost of their time, leading them to have fewer children but invest more in their quality (Becker and Lewis, 1973).

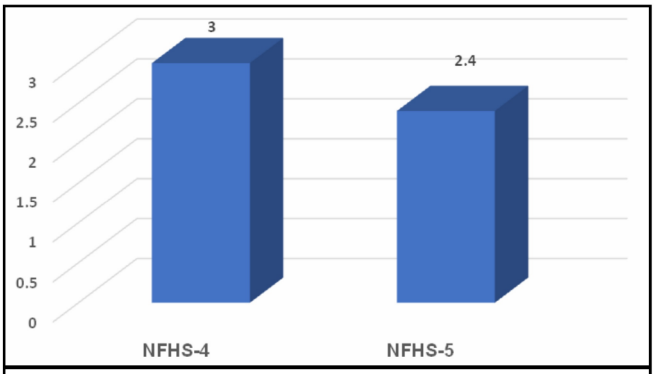

Fig. 5 : Prevalence of Teenage Pregnancy in NFHS-4 and NFHS-5 Survey

Figure 5 illustrates the Prevalence of Teenage Pregnancy among young women age 15-49 Years as per NFHS-4 and NFHS-5 Survey

In Kerala, among young women aged 15-19, 2% have already commenced childbearing, meaning they have given birth or are expecting their first child. The prevalence rate has shown little change since the NFHS-4 survey, though there is a significant rise in childbearing between the ages of 18 (3%) and 19 (9%). Further analysis reveals that Muslim women and those from Scheduled Tribes within the 15-19 age group are more likely to have started childbearing compared to their Hindu, Christian, and other caste counterparts, respectively.

Teen pregnancy is a global concern that poses severe health and socioeconomic consequences to both mother and child. Teen mothers are also found to show more significant risks of medical complications, such as low birth weight, prematurity, and infant death. They are also more likely to experience socioeconomic challenges, such as lower educational attainment, earning capacity, and overall well-being. The children of adolescent parents are prone to developmental delay, problems with school achievement, and behavioural disorders as well. It is concluded by the paper that comprehensive prevention programs ought to be designed to address the root causes of teen pregnancy and to help support the parenting of

adolescents (Dangal, 2008).

According to the World Health Organization, it is also estimated that the death risk following pregnancy is double as high for women aged 15-19 than for those aged 20-24. Early motherhood stunts the normal process of psychological development in infants, and developmental problems occur more often in children born to teenage mothers. Early motherhood tends to be associated with disadvantages in education and employment in many industrialized countries. However, improved female literacy and educational prospects brought about added factors that increased the age at first birth in countries like Iran, Indonesia, and the Indian state of Kerala. (Organization, 2004).

The average birth interval in Kerala has risen slightly to 50.7 months, reflecting a gradual trend toward longer spacing between births. However, a notable proportion of births still occur after relatively short intervals, with 4% happening within 18 months and 12% within 24 months, particularly among mothers aged 20–29. Extended birth intervals are vital for maternal and child health, as they provide mothers sufficient time to replenish their nutritional reserves and ensure adequate care for each child. Conversely, shorter intervals can increase the risk of premature births, low birth weights, and growth retardation in children due to depleted maternal nutrients. They may also limit the quality of care provided to older siblings, adversely affecting their health and overall development (Chungkham *et al.,* 2020).

Research indicates that son preference remains deeply ingrained in India, particularly in rural regions. Many couples aim to have at least one, often two, sons, while their preference for daughters is either limited to one or absent altogether. This strong bias towards sons is rooted in their perceived value as contributors to household labour, providers of support during crises and old age, and as bearers of the family name and performers of traditional family rituals (Rajaretnam and Deshpande, 1994).

In Kerala, the desire for no more children among women with two children is slightly higher when they have two sons (83%) than two daughters (80%). Interestingly, the overall % of married women with two children who do not want more has remained consistent at 83% since NFHS-4. This suggests effective family planning practices in Kerala, as evidenced by the negligible difference between the desired fertility rate (1.7 children) and the actual fertility rate (1.8 children),

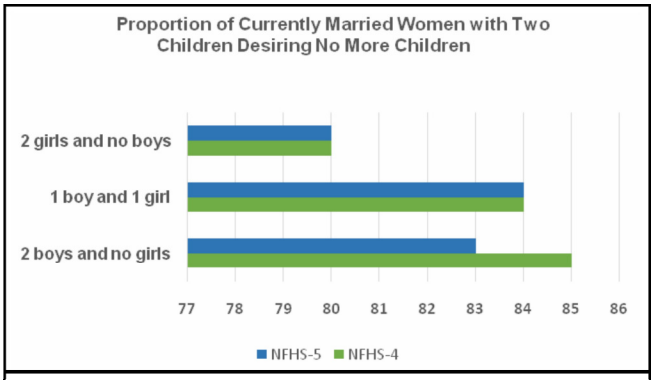

Fig. 6 : Indicates the Gender Composition of Families with Two Living Children

indicating a low prevalence of unplanned pregnancies.

In 1952, India pioneered the introduction of a National Programme for Family Planning. Over the years, the implementation and strategies of this program have evolved. Today, it is aimed at achieving population stability, enhancing reproductive health, and reducing maternal, newborn, and child mortality and morbidity rates. According to NFHS-5, 23.3% of girls in India marry before the age of 18, and 6.8% of all births occur among teenagers aged 15 to 19 (Ministry of Health and Family Welfare, Government of India (2011). *Family Welfare statistics in India - 2011*. Statistic Division.)

India's family planning program has shifted its focus from population control to improving maternal and child health, emphasizing the importance of spacing pregnancies. This includes promoting reversible and spacing contraceptives to prevent mistimed or unwanted pregnancies and reduce health risks. The rise in institutional deliveries presents an opportunity to offer family planning services to women after childbirth, helping them prevent unintended pregnancies or space out future births (Alukal *et al.*, 2018).

In 2016-2017, India's family planning budget heavily favoured female sterilization, with 85% of the total expenditure allocated to it and 95.7% of that amount going towards compensation. Spacing methods received only 1.45% of the funding, while the remaining 13% was for operational expenses like equipment, IEC, and staff. The National Health Mission's total family planning budget for that period was 12,220 million INR (*Financial Management Report (FMR): National Health Mission*, 2024)

The Table 1 examines the evolving patterns in the use of contraceptive methods among women in Kerala, based on data from the National Family Health Survey

Table 1: Percentage of Currently Married Women Aged 15-49 using Family Planning Methods

Methods	NFHS-4	NFHS-5
Any Method	53.1	60.7
Any Modern Method	50.3	52.8
Female Sterilization	45.8	46.6
Male Sterilization	0.1	0.1
IUD/PPIUD	1.6	1.5
Pill	0.2	0.4
Condom	2.6	3.4

(NFHS-4) conducted in 2015-16 and NFHS-5 conducted in 2019-21. The focus is on the prevalence of various contraceptive methods, including both traditional and modern methods, and how their usage has shifted over time.

There was a significant increase in the overall use of contraceptive methods from 53.1% in NFHS-4 to 60.7% in NFHS-5. The use of modern contraceptive methods saw a moderate rise from 50.3% in NFHS-4 to 52.8% in NFHS-5. The prevalence of Female Sterilization slightly increased from 45.8% to 46.6%.

The prevalence of male sterilization remained extremely low, with no change observed between the two surveys, remaining at 0.1%. IUDs/PPIUDs slightly decreased from 1.6% in NFHS-4 to 1.5% in NFHS-5. The use of oral contraceptive pills doubled from 0.2% in NFHS-4 to 0.4% in NFHS-5, although the overall usage remains low.

In summary, women's health profiles in Kerala are significantly better than those of women across India. This suggests that the health issues women face in Kerala differ from those addressed nationally. As a result, the priorities, approaches, and strategies designed at the national level may not necessarily be the need in Kerala. Kerala requires a strategy tailored to its specific goals. It is also crucial to assess whether the state's health policies have been responsive to women's diverse healthcare needs with a gender-sensitive approach that extends beyond reproductive age. Women's health is often narrowly equated with reproductive health, but it's important to recognize that women are not a homogenous group. Differences in socioeconomic status, living conditions, and work environments create varying health vulnerabilities. The state must develop strategies that address the needs of these specific vulnerable groups.

Conclusion:

This paper sheds light on the critical aspects of women's reproductive health by comparing data from NFHS-4 and NFHS-5. The analysis of total fertility rates, early marriage, age at first marriage, teenage pregnancy, birth intervals, fertility preferences, and current trends in family planning provides valuable insights into the evolving landscape of reproductive health in India. Understanding these trends is crucial for shaping policies that address the persistent challenges faced by women, especially in terms of health equity, access to reproductive services, and empowerment.

The significance of this paper lies in its ability to highlight the progress made and the gaps that remain in achieving reproductive health goals. The findings underscore the need for targeted interventions to reduce early marriage and teenage pregnancies, which continue to pose risks to women's health and socio-economic well-being. The observed shifts in fertility preferences and family planning trends suggest a transition that policymakers must consider to ensure that reproductive health services are aligned with the changing needs of women.

To address the challenges highlighted in the analysis, it is imperative to strengthen sexual and reproductive health education through the implementation of comprehensive programs that tackle issues related to early marriage, teenage pregnancy, and informed fertility choices. Enhancing access to family planning services is also crucial, particularly for women in rural and marginalized communities, ensuring they have easy access to a broad range of contraceptive options and reproductive health services. Moreover, promoting delayed marriage and childbearing can be achieved through the development of community-based initiatives, supported by incentives and awareness campaigns. Focusing on adolescent health by investing in targeted programs that cater to the reproductive health needs of adolescents, including access to contraception and education on sexual health, is essential. Lastly, the establishment of continuous monitoring and evaluation frameworks will allow for the assessment of policy impacts on reproductive health outcomes, enabling timely adjustments to strategies as needed.

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