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# FACTORS AFFECTING SOURCE OF FAMILY PLANNING SERVICES IN ASPIRATIONAL DISTRICTS OF UTTAR PRADESH, INDIA

Public Health

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## ABSTRACT

Family planning is a critical component of reproductive health and a key determinant of maternal and child well-being, particularly in regions with high fertility and socio-economic disparities. This study examines the factors influencing the choice of public and private sector sources for modern contraceptive methods in Aspirational districts of Uttar Pradesh, using data from the National Family Health Survey (NFHS-5, 2019-21). The analysis focuses on currently married women using modern contraceptive methods, including sterilization, intrauterine devices (IUDs), pills, injectables, and condoms. The analysis is based on 3,124 women currently using modern contraceptive methods. The analysis is based on secondary data. The findings reveal that only 46.47% of women reported using a modern contraceptive method, while 53.53% were not using any modern method, indicating a substantial gap in contraceptive coverage. Among contraceptive users, 69.6% obtained services from the public sector, whereas 30.4% relied on private providers, demonstrating the dominant role of government health facilities in delivering family planning services. Public sector utilization was consistently higher among women residing in rural areas, those with lower educational attainment, women from poorer households, and women with more than two children. In contrast, reliance on private providers increased with higher levels of education and household wealth. Multivariate logistic regression analysis identified several significant determinants of private sector utilization. Rural residence, Hindu religion, higher parity, and television exposure were associated with lower odds of using private family planning services. Conversely, women with secondary and higher education and those belonging to wealthier households were significantly more likely to seek contraceptive services from private providers. Caste and radio exposure were not found to have a statistically significant association with private sector use. The findings highlight the critical role of the public health system in ensuring access to family planning services, particularly for socially and economically disadvantaged populations. Strengthening public sector services while addressing socioeconomic inequalities in access to contraceptive care is essential for improving family planning coverage and achieving equitable reproductive health outcomes in Aspirational districts of Uttar Pradesh

## KEYWORDS

Aspirational Districts, Contraception, Private Sector, Public Sector, Uttar Pradesh

## INTRODUCTION

Family planning constitutes a fundamental component of reproductive health and is essential for improving maternal and child health outcomes, reducing fertility rates, and achieving sustainable socio-economic development. In India, since independence, government health services have been the primary providers of modern contraceptive methods, largely through subsidized programs aimed at increasing accessibility among diverse population groups. Historically, these programs were characterized by a target-driven approach with a strong emphasis on permanent methods, particularly female sterilization. However, a major paradigm shift occurred following the International Conference on Population and Development (ICPD) held in Cairo in 1994, which advocated a rights-based approach emphasizing voluntary and informed choice in reproductive health. In response, India transitioned from a centralized, target-oriented framework to a decentralized, community needs assessment approach, thereby promoting demand-driven and client-centred family planning services [1-2].

This transition resulted in a gradual shift from permanent methods toward temporary and spacing methods, necessitating diversification in service delivery mechanisms. Consequently, the role of the private sector and social marketing of contraceptives expanded significantly. Factors such as service quality, method availability, accessibility, and affordability increasingly determine whether individuals seek services from public or private providers [3-5]. The increasing preference for private-sector services is also associated with rising levels of education, urbanization, and income, which enhance awareness and demand for quality healthcare [6-7].

Despite this expansion, the public sector continues to play a dominant role, particularly among economically disadvantaged populations, due to subsidized or free services. According to the National Family Health Survey (NFHS-5), in Uttar Pradesh, approximately 54% of women using modern contraceptive methods obtain them from the public sector, while 25% rely on private providers and about 20% depend on other sources [8]. The public sector remains the primary provider of clinical methods such as sterilization, whereas the private sector plays a significant role in providing spacing methods including pills, condoms, and injectables.

Uttar Pradesh, the most populous state in India, exhibits considerable heterogeneity in reproductive health indicators, with aspirational districts facing persistent challenges such as poor infrastructure, low awareness, and socio-economic deprivation [9-10]. These disparities highlight the need to understand the factors influencing women's choice of family planning service sources.

The coexistence of public and private sectors in family planning services has created a dual system wherein the choice of service provider is influenced by a complex interaction of socio-economic, demographic, and institutional factors [4].

Empirical evidence suggests that the public sector continues to dominate the provision of contraceptive services in India, particularly among low-income populations, due to the availability of free or subsidized services [11]. However, the private sector has emerged as an important alternative, especially in urban and semi-urban contexts, where individuals often perceive private providers as offering higher quality services, greater confidentiality, and reduced waiting times [6]. This preference is closely associated with rising levels of education, income, and urbanization, which not only increase awareness but also enhance the ability to pay for services [7,12].

Socio-economic status remains a critical determinant in shaping access to and utilization of family planning services. Women belonging to higher wealth quintiles are more likely to access private-sector services, while those from lower socio-economic backgrounds rely predominantly on public facilities [11,13]. This disparity is further exacerbated in rural and aspirational districts, where limited availability of private providers and infrastructural constraints restrict access to diverse service options [9]. In such contexts, the effectiveness of public health systems becomes crucial in ensuring equitable access to contraceptive services.

Education and awareness play a pivotal role in influencing contraceptive behaviour and the choice of service source. Studies indicate that educated women are more likely to have knowledge of various contraceptive methods and are better equipped to make informed decisions regarding their reproductive health [7]. Conversely, lack of awareness, misinformation, and cultural misconceptions continue to hinder the uptake of family planning services, particularly in underserved regions [14]. Media exposure and community-based interventions have been shown to significantly improve awareness and utilization patterns.

Health system factors, including service availability, accessibility, and quality, are equally important in determining the source of family

planning services. Public health facilities often face challenges such as inadequate infrastructure, stock-outs of contraceptives, and shortages of trained personnel, which can negatively impact service utilization [2]. In contrast, private-sector facilities, although often more expensive, are perceived to provide better quality services, thereby attracting clients who can afford them [6]. Additionally, frontline health workers such as ASHAs and ANMs play a critical role in bridging the gap between communities and health systems by providing counselling and facilitating access to services.

Cultural and gender dynamics further complicate the decision-making process related to family planning. Patriarchal norms limited female autonomy, and spousal opposition often restrict women's ability to access and utilize contraceptive services [15]. These socio-cultural barriers are particularly pronounced in northern states like Uttar Pradesh, where traditional norms continue to influence reproductive behavior. Furthermore, fear of side effects, misconceptions about contraceptive methods, and lack of trust in healthcare systems contribute to low utilization rates [14].

Finally, global and national policy frameworks continue to emphasize the importance of improving access to family planning services as a means of achieving broader development goals. International organizations such as the World Health Organization and the United Nations highlight the critical role of family planning in reducing maternal mortality, improving child health, and promoting gender equality [16,12]. In the Indian context, continued efforts to strengthen both public and private sector participation, enhance service quality, and address socio-cultural barriers are essential for improving reproductive health outcomes, particularly in underserved regions.

## DATA AND METHODOLOGY

The National Family Health Survey-5 (NFHS-5) dataset for Uttar Pradesh was used for the analysis. The 2019-2021 survey collected for Uttar Pradesh collected data from 70,710 households across all 75 districts.

The survey successfully interviewed 93,124 women aged 15-49 and 12,043 men aged 15-54. This study focused on 3,124 currently married women from eight aspirational districts of Uttar Pradesh who were using any modern method of contraception. Multivariate logistic regression was employed to examine the determinants influencing the choice of source private versus public sector for obtaining modern contraceptive methods among family planning users. In the analysis, the public sector was coded as '0', while the private sector was coded as '1'. The eight aspirational districts included in the study are Bahraich, Balrampur, Chandauli, Chitrakoot, Fatehpur, Shravasti, Siddharthnagar, and Sonbhadra.

## FINDINGS

The analysis of family planning utilization in aspirational districts of Uttar Pradesh reveals important patterns in both the prevalence of contraceptive use and the source of services. As shown in Table 1, only 46.47% of women reported using any modern contraceptive method, while a majority (53.53%) were not using any method, indicating a substantial gap in contraceptive coverage in aspirational districts.

Table 2 shows the distribution of women currently using modern contraceptive methods according to whether they obtained services from the public or private sector, across different socio-demographic characteristics (N=3,124). Overall, nearly seven out of ten women (69.6%) received their contraceptive method from the public sector, while 30.4% (n=949) obtained services from the private sector. This indicates that government health facilities remain the main source of modern contraceptive services.

The majority of contraceptive users were 30 years of age or older (69.7%), followed by women aged 20-29 years (29.0%). Only 1.3% of users were below 20 years of age. Across all age groups, public health facilities were used more frequently than private facilities. Majority of the respondents lived in rural areas (90.0%), and a large proportion of them relied on the public sector (64.2%) for contraceptive services. In comparison, 25.8% accessed services from private providers. Women living in urban areas made up only 10.0% of the sample. Religion-wise, Hindu women accounted for the majority of contraceptive users (86.1%), with most obtaining services from the public sector (61.0%). Women belonging to other religions represented 13.9% of the study population.

Among caste groups, Other Backward Classes (OBCs) formed the largest share of users (53.5%), followed by Scheduled Castes/ Scheduled Tribes (27.0%) and the General category (19.4%).

Regardless of caste, public health facilities were the most common source of contraceptive services. More than half of the respondents (52.4%) were illiterate. Most of these women received contraceptive services through the public sector (39.8%). As educational attainment increased, the proportion of contraceptive users generally declined, with women having higher education accounting for only 8.5% of the total sample. Among these women, the use of public and private facilities was almost equal. Women with more than two children made up the largest proportion of contraceptive users (62.5%), followed by women with up to two children (33.4%). Women with no children accounted for only 4.1% of the sample. Public-sector facilities remained the primary source of services across all parity groups.

The distribution by household wealth showed that contraceptive use was highest among women from the poorest households (41.0%), followed by the poorer (26.0%) and middle (15.5%) wealth groups. The proportion gradually decreased among wealthier households, with the richest group accounting for only 6.8% of users. Although the public sector was the main provider across all wealth categories, reliance on private facilities was relatively higher among women from better-off households. Regarding media exposure, 82.1% of women reported not listening to the radio, while 17.9% did. Television exposure was more evenly distributed, with 51.8% not watching television and 48.2% watching television. Irrespective of media exposure, most women continued to obtain contraceptive services from public health facilities.

Results show that the public sector plays a central role in providing modern contraceptive services across all socio-demographic groups. Government health facilities were particularly important for women living in rural areas, those with lower levels of education, women from poorer households, and those with higher parity, highlighting their continued importance in ensuring access to family planning services.

The multivariate logistic regression analysis provides further insights into the determinants of private sector utilization. Rural residence significantly reduces the likelihood of using private services (OR = 0.69, $p < 0.01$), indicating limited access or affordability in rural areas. Religion also plays a significant role, with Hindu women less likely to use private services compared to other religious groups (OR = 0.63, $p < 0.001$).

Education shows a strong positive association with private sector use. Women with secondary education (OR = 1.48, $p < 0.001$) and higher education (OR = 2.06, $p < 0.001$) are significantly more likely to access private services compared to illiterate women. Wealth status also exhibits a clear gradient, with women in the richest quintile being more than twice as likely to use private services (OR = 2.21, $p < 0.001$) compared to the poorest.

Parity has a negative association with private sector use, with women having more than two children being less likely to use private services (OR = 0.62, $p < 0.05$), likely reflecting the dominance of public-sector sterilization services. Interestingly, exposure to television reduces the likelihood of private sector use (OR = 0.76, $p < 0.01$), suggesting that media exposure may strengthen awareness and trust in public health services. Other variables such as caste and radio exposure were not statistically significant.

## DISCUSSION

The findings of this study reaffirm the continued dominance of the public sector in the provision of family planning services in aspirational districts of Uttar Pradesh. This is consistent with national-level evidence, which indicates that government facilities remain the primary providers of clinical contraceptive methods due to subsidized services and established infrastructure [2,8]. Earlier studies have also highlighted that public-sector dominance in sterilization reflects historical programmatic focus and supply-side prioritization of permanent methods in India [1]. At the same time, the growing role of the private sector in spacing methods such as condoms, pills, and injectables aligns with previous research suggesting that private providers are often preferred for short-term methods due to convenience, confidentiality, and perceived quality of care [3,6]. The near-equal distribution observed for condom use between public and private sources further supports the argument that easily accessible and

over-the-counter methods tend to be more privatized [7]. The strong influence of socio-economic factors, particularly education and wealth, on the choice of service provider is consistent with existing literature. Women with higher education levels were significantly more likely to utilize private-sector services, which corroborates findings that education enhances awareness, decision-making capacity, and demand for quality healthcare services [7, 13].

Similarly, the positive association between wealth status and private-sector utilization reflects the ability of economically advantaged groups to afford paid services, as documented in previous studies [11, 12]. This gradient underscores the persistent inequality in access to family planning services across socio-economic strata. The reduced likelihood of private sector use among rural women highlights structural barriers such as limited availability of private providers and lower purchasing power in rural areas. This finding aligns with evidence that rural populations are more dependent on public health systems due to infrastructural constraints and affordability issues [9,10]. Similarly, the negative association between higher parity and private-sector use reflects the dominance of public-sector sterilization services, as women with more children are more likely to opt for permanent methods provided by government facilities [1,9].

Cultural and social determinants also play an important role in shaping service utilization patterns. The lower likelihood of private sector use among Hindu women compared to other religious groups may reflect underlying socio-cultural norms and economic differences, consistent with earlier findings on the influence of social structures on reproductive behavior [15]. Additionally, persistent barriers such as misconceptions, fear of side effects, and gender dynamics continue to influence contraceptive choices, particularly in underserved populations [14].

An interesting finding of this study is the negative association between television exposure and private-sector use. This may indicate the effectiveness of public health campaigns disseminated through mass media in promoting awareness and trust in government services. Previous studies have highlighted the role of media exposure in improving knowledge and uptake of family planning methods, particularly through government-led awareness programs [2, 16]. Overall, the findings support the notion that family planning service utilization in India is shaped by a dual system involving both public and private sectors, with the choice of provider influenced by a combination of socio-economic, demographic, and institutional factors [4-5]. The observed patterns in aspirational districts of Uttar Pradesh reflect broader national trends, while also highlighting region-specific challenges that require targeted policy interventions.

## CONCLUSIONS

This study provides important insights into the utilization of modern contraceptive methods and the choice of public and private family planning service providers among women in the Aspirational districts of Uttar Pradesh. The findings reveal that the overall use of modern contraceptive methods remains relatively low, with more than half of the women not using any modern method. This indicates that significant gaps in family planning coverage continue to exist despite the availability of contraceptive services. Improving the uptake of modern contraception remains essential for achieving better reproductive health outcomes and meeting the family planning needs of women in these districts.

Findings suggest that the public health sector is the primary provider of modern contraceptive services. Nearly seven out of ten contraceptive users obtained their method from government health facilities, highlighting the central role of the public healthcare system in delivering family planning services. Public facilities were particularly important for women living in rural areas, women with lower educational attainment, those from economically disadvantaged households, and women with higher parity. These findings indicate that government health services continue to play a crucial role in ensuring equitable access to contraception among socially and economically vulnerable populations.

The analysis also shows that the utilization of private family planning services varies considerably across socio-demographic groups. Women with higher levels of education and those belonging to wealthier households were more likely to seek contraceptive services from private providers, suggesting that education and economic status improve women's ability to access a wider range of healthcare options. In contrast, women residing in rural areas were significantly less likely to use private services, which may reflect limitations in the availability, accessibility, or affordability of private healthcare facilities in these settings. The lower likelihood of private sector utilization among women with more than two children further suggests the continued importance of public-sector family planning programmes, particularly for permanent contraceptive methods.

The multivariate logistic regression findings reinforce these patterns by identifying education, household wealth, place of residence, religion, parity, and television exposure as significant determinants of private sector utilization. Higher education and greater household wealth were associated with increased use of private services, whereas rural residence, Hindu religion, higher parity, and television exposure were associated with lower use of private providers. Caste and radio exposure were not significantly associated with private sector utilization, indicating that these factors did not independently influence provider choice after controlling for other characteristics.

Overall, the findings emphasize that the public health system remains the backbone of family planning service delivery in the aspirational districts of Uttar Pradesh. At the same time, persistent socioeconomic differences in provider choice highlight the need to improve equitable access to quality contraceptive services for all women. Strengthening government health facilities, ensuring the consistent availability of contraceptive methods, improving service quality, and expanding awareness and counselling services, particularly in rural and underserved areas, can help increase modern contraceptive use. Such efforts will contribute to reducing unmet need for family planning and advancing reproductive health outcomes in the aspirational districts of Uttar Pradesh.

**Table 1: Contraceptive use among current users of Family Planning method in Aspirational District of Uttar Pradesh**

| Currently using any modern method | N (%) |
|---|---|
| No | 3599 (53.5%) |
| Yes | 3124 (46.5%) |

**Table 2: Percentage distribution of source (public or private) of any method of modern contraception by background characteristics (Total N=3124)**

| Background Characteristics | Public Sector | | Private Sector | | Total | |
|---|---|---|---|---|---|---|
| | N | % | N | % | N | % |
| Current Age (CMW) | | | | | | |
| <20 | 21 | 0.67 | 19 | 0.61 | 40 | 1.28 |
| 20-29 | 543 | 17.38 | 364 | 11.65 | 907 | 29.03 |
| >=30 | 1611 | 51.57 | 566 | 18.12 | 2177 | 69.69 |
| Place of Residence | | | | | | |
| Urban | 170 | 5.44 | 142 | 4.55 | 312 | 9.99 |
| Rural | 2005 | 64.18 | 807 | 25.83 | 2812 | 90.01 |
| Religion | | | | | | |
| Others (Muslims, Christian, Skih) | 268 | 8.58 | 166 | 5.31 | 434 | 13.89 |
| Hindu | 1907 | 61.04 | 783 | 25.06 | 2690 | 86.11 |
| Caste | | | | | | |
| General | 398 | 12.74 | 208 | 6.66 | 606 | 19.39 |
| SC/ST | 631 | 20.19 | 212 | 6.79 | 843 | 26.98 |
| OBC | 1142 | 36.56 | 529 | 16.93 | 1671 | 53.49 |
| Education | | | | | | |
| Illiterate | 1242 | 39.76 | 396 | 12.68 | 1638 | 52.43 |
| Primary Competed | 295 | 9.44 | 118 | 3.78 | 413 | 13.22 |
| Secondary completed | 505 | 16.17 | 302 | 9.67 | 807 | 25.83 |
| Higher | 133 | 4.26 | 133 | 4.26 | 266 | 8.51 |
| Children ever born | | | | | | |
| '0 | 66 | 2.11 | 63 | 2.02 | 129 | 4.13 |
| Upto2 | 653 | 20.9 | 391 | 12.52 | 1044 | 33.42 |
| >2 | 1456 | 46.61 | 495 | 15.85 | 1951 | 62.45 |
| Wealth Quintile | | | | | | |
| Poorest | 979 | 31.34 | 302 | 9.67 | 1281 | 41.01 |
| Poorer | 569 | 18.21 | 244 | 7.81 | 813 | 26.02 |
| Middle | 316 | 10.11 | 168 | 5.38 | 484 | 15.5 |
| Richer | 199 | 6.37 | 136 | 4.35 | 335 | 10.72 |
| Richest | 112 | 3.59 | 99 | 3.17 | 211 | 6.75 |
| Listen Radio | | | | | | |
| No | 1792 | 57.36 | 772 | 24.71 | 2564 | 82.07 |
| Yes | 383 | 12.26 | 177 | 5.67 | 560 | 17.93 |

| | | | | | | |
|---|---|---|---|---|---|---|
| Watch TV | | | | | | |
| No | 1150 | 36.81 | 469 | 15.01 | 1619 | 51.82 |
| Yes | 1025 | 32.81 | 480 | 15.36 | 1505 | 48.18 |
| Total | 2175 | 69.62 | 949 | 30.38 | 3124 | 100.00 |

**Table 3: Source of any method of modern contraception by background characteristics. Aspirational Districts, Uttar Pradesh : Multivariate Logistic Regression Estimates**

| Background Characteristics | Odds Ratio | Std. Err. | z | P>z | [95% Confidence interval] | |
|---|---|---|---|---|---|---|
| Current Age (CMW) | | | | | | |
| <20 (Ref.) | | | | | | |
| 20-29 | 0.79 | 0.2756 | -0.69 | 0.491 | 0.3945 | 1.5625 |
| >=30 | 0.52 | 0.1887 | -1.79 | 0.073 | 0.2586 | 1.0615 |
| Religion | | | | | | |
| Others (Muslims, Christian, Skih) (Ref.) | | | | | | |
| Hindu | 0.63 | 0.0743 | -3.92 | 0.000 | 0.499 | 0.7931 |
| Caste | | | | | | |
| General (Ref.) | | | | | | |
| SC/ST | 0.98 | 0.1294 | -0.13 | 0.893 | 0.7587 | 1.2718 |
| OBC | 1.12 | 0.1212 | 1.01 | 0.311 | 0.9022 | 1.3809 |
| Education | | | | | | |
| Illiterate (Ref.) | | | | | | |
| Primary Competed | 1.07 | 0.1389 | 0.55 | 0.583 | 0.8331 | 1.3837 |
| Secondary completed | 1.48 | 0.1614 | 3.62 | 0.000 | 1.1976 | 1.8353 |
| Higher | 2.06 | 0.3364 | 4.43 | 0.000 | 1.4968 | 2.8381 |
| Children ever born | | | | | | |
| ‘0 (Ref.) | | | | | | |
| Upto2 | 0.76 | 0.1575 | -1.35 | 0.178 | 0.5016 | 1.1367 |
| >2 | 0.62 | 0.1335 | -2.23 | 0.026 | 0.4035 | 0.9428 |
| Wealth Quintile | | | | | | |
| Poorest (Ref.) | | | | | | |
| Poorer | 1.23 | 0.1304 | 1.93 | 0.054 | 0.9963 | 1.5114 |
| Middle | 1.60 | 0.2024 | 3.69 | 0.000 | 1.2451 | 2.0467 |
| Richer | 1.90 | 0.2837 | 4.32 | 0.000 | 1.4208 | 2.549 |
| Richest | 2.21 | 0.4034 | 4.34 | 0.000 | 1.5433 | 3.1587 |
| Listen Radio | | | | | | |
| No (Ref.) | | | | | | |
| Yes | 1.02 | 0.1124 | 0.21 | 0.837 | 0.8246 | 1.2686 |
| Watch TV | | | | | | |
| No (Ref.) | | | | | | |
| Yes | 0.76 | 0.0719 | -2.94 | 0.003 | 0.6274 | 0.9111 |

Dependent Variable = Source of Family Planning Method (Public=0 (Ref), Private =1) Odds Ratio < 1 indicates use of Public Sector as source of contraceptives with respect to reference category while Odds Ratio >1 indicates preference for private sector as source of contraceptives with respect to reference category of the background characteristics.

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