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Comparative Study of Utilisation of Contraceptives among Married Women in Rural and Urban Communities in Rivers State

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Abstract

Introduction: Nigeria, Africa's most populous country with over 200 million people, faces challenges in reproductive health, particularly regarding contraceptive utilisation among married women. Despite efforts to promote family planning services, substantial disparities persist between urban and rural areas in Nigeria. This study assessed contraceptive utilisation among married women in Rivers State, Nigeria, comparing rural and urban populations

Methods: A cross-sectional survey of 326 respondents (163 urban, 163 rural) assessed utilisation of contraceptives employing structured questionnaires and multistage sampling. Statistical analysis using SPSS version 25 compared demographic and socio-economic factors influencing contraceptive use, with statistical significance set at $p < 0.05$.

Results: Most of the respondents were within the age group 40 to 49 years: 67 (41.1%) in urban and 61 (37.4%) in rural. The difference in the proportions was not significant, likewise with other socio-demographic characteristics. Contraceptive use was higher in urban areas (102, 62%) compared to rural areas (70, 42.9%) ($\chi^2 = 12.6$; $p < 0.001$). Contraceptive use was also significantly associated with higher education ($\chi^2 = 15.270$; $p < 0.002$) and income levels ($\chi^2 = 32.24$; $p < 0.001$) in rural areas. In contrast, no significant associations were found in urban areas between contraceptive use and demographic or socio-economic factors. Overall, neither cultural beliefs, religious influences, accessibility, nor fear of side effects significantly predicted contraceptive adoption in either setting.

Conclusion: The study underscores the necessity for targeted interventions, particularly in rural communities, to address socio-economic and educational disparities. Strengthening family planning programs through education, improved access, and male involvement could enhance contraceptive uptake and reduce unintended pregnancies, supporting Nigeria's reproductive health goals.

Keywords: Modern Contraceptive, Married Women, Rivers State, Nigeria

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Background

The utilisation of modern contraceptive methods remains central to effective reproductive health strategies, empowering individuals and couples to make informed decisions about childbearing, manage birth spacing, and prevent unintended pregnancies.¹ These benefits are essential not only for the well-being of women and their families but also for advancing broader goals of public health objectives and socio-economic development.² Contraceptive methods such as oral pills, injectables, intrauterine devices (IUDs), implants, and barrier methods are widely recognised for their role in reducing maternal and infant mortality, limiting unsafe abortions, and enhancing the overall quality of life for women.³ However, access to and utilisation of these modern methods vary significantly, especially in low- and middle-income countries like Nigeria.⁴

Nigeria, Africa's most populous country, is home to over 200 million people, with projections estimating the population could exceed 400 million by 2050.⁵ This rapid growth presents serious challenges, including increased demand for healthcare services, food insecurity, environmental degradation, and heightened socio-economic pressures.^{3,6} Compounding these issues is the country's persistently high fertility rate, averaging 5.3 children per woman,^{6,7} an even higher rate in rural areas due to deeply rooted cultural norms and limited access to family planning services.⁸ Despite governmental and donor-supported efforts to improve access to contraception, uptake remains low. According to the 2021 National Bureau of Statistics, only 12.5% of married women of reproductive age in Nigeria use modern contraceptive methods.^{4,7}

This low usage rate has far-reaching public health implications, including a high incidence of unintended pregnancies, and unsafe abortions.⁹ These outcomes contribute substantially to the country's high maternal mortality rate, further straining an already overburdened healthcare system.¹⁰ Modern contraceptives play a vital role in mitigating these challenges, yet numerous barriers ranging from lack of access and affordability to cultural and religious opposition limit their widespread adoption.^{10,11}

In Rivers State, located in the oil-rich Niger Delta region of Nigeria, these national trends are starkly mirrored. Although the state has seen improvements in healthcare infrastructure, disparities in contraceptive use remain deeply entrenched, particularly between urban and rural populations.^{12,13} Urban areas enjoy relatively better access to healthcare facilities, trained personnel and educational resources. In contrast, rural areas in Rivers State are typified by lower population density, limited access to healthcare services, and predominantly agrarian livelihoods. These communities often exhibit lower levels of contraceptive awareness and utilization, with polygamous marriages and higher fertility rates being common.¹⁴

Research consistently shows that urban women are significantly more likely to use modern contraceptives than their rural counterparts.^{10,11} Several factors account for this disparity. Firstly, rural communities often have limited access to healthcare facilities equipped with family planning services, and where such facilities exist, they are frequently understaffed or under-resourced.¹¹ Secondly, financial constraints are more pronounced among rural women, who are less likely to possess health insurance or the disposable income necessary to afford contraceptives and associated medical consultations.¹⁵

Moreover, cultural and religious norms in many rural communities discourage the use of contraceptives, promoting large family sizes as symbols of wealth, blessing, or social standing.⁸ In such settings, women may face opposition from spouses or community leaders, limiting their reproductive autonomy.¹⁶ Low literacy levels and widespread misinformation further exacerbate these challenges. Many rural women harbour misconceptions about the side effects of contraceptives, including fears of infertility, cancer, or other health complications, beliefs that are often reinforced by community narratives and lack of formal education.¹⁷

This persistent urban–rural divide in contraceptive use underscores the need for targeted public health interventions. Understanding the root causes of these disparities is essential for designing context-specific policies and programmes that can bridge the gap. Without such efforts, Nigeria will continue to face mounting reproductive health challenges, including

high rates of maternal mortality, unsafe abortions, and unintended pregnancies, particularly in underserved rural areas.^{18,19}

Despite numerous governmental and non-governmental efforts to promote family planning in Nigeria, a significant disparity in contraceptive use persists between couples in the urban and rural areas of Rivers State.^{12,14} Urban women generally benefit from improved healthcare infrastructure, greater educational attainment, and increased awareness of reproductive health options.¹² On the other hand, rural women face a myriad of systemic barriers that inhibit their ability to access and utilize modern contraceptive methods. These barriers include poor access to healthcare facilities, scarcity of trained providers, high out-of-pocket costs, sociocultural resistance, and limited autonomy in reproductive decision-making.^{15,18}

As a result, rural areas record disproportionately higher rates of unintended pregnancies, unsafe abortions, and maternal mortality.¹² If these disparities are not addressed through evidence-based and community-sensitive interventions, they will continue to undermine Nigeria's progress toward its national health targets and global sustainable development goals.^{11,12}

This timely study examines contraceptive use disparities between rural and urban married women in Rivers State. By highlighting the factors influencing uptake and identifying barrier specific to rural communities, the research will contribute to the evidence base for designing effective, community sensitive interventions aimed at reducing maternal mortality and minimising unintended pregnancies through improved access to modern contraception.⁶

Results

Table 1: Social Demographic Characteristics of the participants

Variable	Urban n=163	Rural n=163	χ^2 (p-value)
Age group			
15-19	24(14.7)	28(17.2)	0.640(0.887)
20-29	38(23.2)	40(24.5)	
30-39	34(20.9)	34(20.9)	
40-49	67(41.1)	61(37.4)	
Marital Status			
Married	134(82.2)	128(78.5)	0.700(0.705)
Divorced	15(9.2)	18(11.0)	
Widowed	14(8.6)	17(10.4)	
Religion			
Christianity	62(38.0)	64(39.3)	0.112(0.990)
Muslim	38(23.3)	38(23.3)	
Africa traditional	37(22.7)	37(22.7)	
Others	26(16.0)	24(14.7)	
Education			
No formal education	35(21.5)	39(23.9)	7.575(0.056)
Primary	33(20.2)	47(28.8)	
Secondary	53(32.5)	53(32.5)	
Tertiary	42(25.8)	24(14.7)	
No of children			
None	12(7.4)	13(8.0)	0.457(0.928)
1-2	74(45.4)	70(42.9)	
3-4	52(31.9)	51(31.3)	
5 or above	25(15.3)	29(17.8)	
Income			
≤30,000	67(41.1)	73(44.8)	1.096(0.578)
31,000-60,000	63(38.7)	64(39.3)	
≥61,000	33(20.2)	26(16.0)	
Culturally inclined			
Yes	97(61.8)	105(64.4)	0.238(0.625)
No	60(38.2)	58(35.6)	

Table 1 shows the socio-demographic characteristics of the 326 participants, evenly distributed between urban (n=163) and rural (n=163) areas. With respect to age distribution, participants in both urban and rural settings were represented across all age groups with no significant difference between them ($\chi^2 = 0.640$, $p = 0.887$), suggesting a balanced representation of participants across the age categories in both settings.

A high proportion of participants were married in both urban (134, 82.2%) and rural (128, 78.5%) areas ($p=0.700$), consistent with the strong cultural emphasis on marriage in the region. Christianity was the predominant religion, with similar distributions in urban (62, 38.0%) and rural (64, 39.3%) areas. The proportions of Muslims 38(23.3%) and adherents of African traditional religion 37(22.7%) were identical in both groups ($p=0.990$), reflecting similar religious landscapes. Although not statistically significant ($p=0.056$), urban participants had higher tertiary education rates 42(25.8%) compared to rural participants 24(14.7%), while primary education was more common in rural areas 47(28.8%) than urban 33(20.2%). This trend mirrors typical urban–rural educational disparities. The most common family size was 1–2 children in both settings—urban 74(45.4%) and rural 70(42.9%)—with no significant difference ($p=0.928$), suggesting similar fertility trends. Most participants reported monthly incomes of $\leq 30,000$ naira—urban 67(41.1%) and rural 73(44.8%)—with no significant variation ($p=0.578$), indicating comparable economic conditions.

Table 2: Utilisation of contraceptives by the participants

Variables	Urban n=163	Rural n=163	χ^2 (p-value)
Currently using contraceptives			
Yes	102(62.6)	70(42.9)	12.603(<0.001)
No	61(37.4)	93(57.1)	
Type of contraceptive use			
Others	0(0.0)	7(10.0)	19.913(0.003)
Oral	31(30.3)	15(21.4)	
Contraceptive Injections	27(26.5)	14(20.0)	
Condom	15(14.7)	10(14.3)	
Intrauterine devices	15(14.7)	8(11.4)	
Natural	14(13.7)	11(15.7)	
Implants	0(0.0)	5(7.1)	
Reason for not using a contraceptive			
Lack of awareness	11(18.0)	23(24.7)	23.503(<0.001)
A desire for more children	6(9.8)	23(24.7)	
Cost	9(14.8)	17(18.3)	
Accessibility issues	8(13.1)	16(17.2)	
Health Concerns	9(14.8)	8(8.6)	
Religious beliefs	9(14.8)	5(5.4)	
Partners disapproval	9(14.8)	1(1.1)	

Table 2 shows the comparison between urban and rural participants. Among urban respondents, 102(62.6%) reported current contraceptive use, which was significantly higher than the 70(42.9%) recorded in rural areas ($\chi^2 = 12.6$; $p < 0.001$). This indicates that urban residents are more inclined toward contraceptive adoption. In terms of method preference, oral contraceptives 31(30.3%) and injectables 27(26.5%) were most commonly used

among urban participants. In contrast, rural participants showed a more diverse usage pattern, including implants 5(7.1%) and other unspecified methods 7(10.0%), which were absent in the urban group. Condom use was nearly equal in both settings, urban 15(14.7%) and rural 10(14.3%). The differences in preferred methods between urban and rural areas were statistically significant ($\chi^2 = 19.9$; $p < 0.003$), indicating that regional factors influence contraceptive choices.

The reasons for non-use also varied. Rural participants cited lack of awareness and the desire for more children 23(24.7%) each as leading barriers, followed by issues of access and cost 17(18.3%). Meanwhile, urban non-users were more likely to mention partner disapproval and religious beliefs 9(14.8%) each. These findings reflect the differing socio-cultural and structural challenges in both settings.

Regarding healthcare engagement, urban participants had more regular hospital visits for contraceptive services 41(25.2%) than their rural counterparts 36(22.1%). However, occasional visits were more frequent in rural areas 73(44.8%) compared to urban areas 41(25.2%). Surprisingly, 50(30.7%) of rural and 40(24.5%) of urban participants reported never visiting a hospital for such services. While regular visits were more common in urban areas 41(25.2%), rural participants were more likely to seek care sporadically 73(44.8%) or not at all 50(30.7%). These differences were also statistically significant ($\chi^2 = 40.8$; $p < 0.001$).

Table 3a shows that education ($p=0.002$) and income ($p<0.001$) were significantly associated with contraceptive use in rural areas. Specifically, a higher proportion of those with tertiary education in the rural

areas used contraceptive 16(66.7%) ($\chi^2 = 15.27$; $p < 0.001$). In urban areas, no significant associations were found between contraceptive use and demographic factors.

Table 3b presents findings on factors associated with contraceptive utilisation among urban and rural participants. Overall, none of the examined factors showed a statistically significant difference between the two groups ($p > 0.05$), although some patterns were observed.

Cultural beliefs influenced contraceptive use among 107 (65.6%) of urban and 116(71.2%) of rural participants ($\chi^2 = 1.150$, $p = 0.284$), while religious teachings were cited by 109(66.9%) in urban areas and 57.1% in rural areas ($\chi^2 = 3.332$, $p = 0.068$), a difference that approached statistical significance. Education was identified as a factor by 95(58.3%) of urban and 105(64.4%) of rural respondents ($\chi^2 = 1.294$, $p = 0.255$). An identical proportion of participants in both urban and rural settings 119(73.0%) reported fear of side effects as a barrier to contraceptive use, with no difference observed ($\chi^2 = 0.000$, $p = 1.000$).

Accessibility was reported by 109(66.9%) of urban and 104(63.8%) of rural participants ($\chi^2 = 0.339$, $p = 0.561$), while stigma was noted by 96(58.9%) and 100(61.3%) respectively ($\chi^2 = 0.205$, $p = 0.651$). These findings suggest that while the prevalence of these factors varies slightly between settings, their influence on contraceptive use is broadly similar across urban and rural populations.

Table 3a: Utilization of Contraceptives by the participants

Variable	Urban		χ^2 (p value)	Rural		χ^2 (p value)
	Yes	No		Yes	No	
Age group(years)						
<30	36(58.1)	26(41.9)	0.870(0.351)	29(42.6)	39(57.4)	0.004(0.948)
≥30	66(65.3)	35(34.7)		41(43.2)	54(56.8)	
Marital Status						
Married	86(64.2)	48(35.8)	0.826(0.363)	57(42.5)	77(57.5)	0.051(0.821)
Divorced/widowed	16(55.2)	13(44.8)		13(44.8)	16(55.2)	
Religion						
Christianity	38(61.3)	24(38.7)	0.071(0.790)	27(42.2)	37(57.8)	0.025(0.875)
Others	64(63.4)	37(36.6)		43(43.4)	56(56.6)	
Education						
No formal education	23(65.7)	12(34.3)	0.938(0.186)	15(38.5)	24(61.5)	15.270(0.002)
Primary	19(57.6)	14(42.4)		11(23.4)	36(76.6)	
Secondary	35(66.0)	18(34.0)		28(52.8)	25(47.2)	
Tertiary	25(59.5)	17(40.5)		16(66.7)	8(33.3)	
No of children						
None	6(50.0)	6(50.0)	4.345(0.227)	6(46.2)	7(53.8)	4.319(0.229)
1-2	45(60.8)	29(39.2)		24(34.3)	46(65.7)	
3-4	31(59.6)	21(40.4)		27(52.9)	24(47.1)	
5 or above	20(80.0)	5(20.0)		13(44.8)	16(55.2)	
Income (₦)						
≤30,000	42(62.7)	25(37.3)	0.373(0.830)	14(19.2)	59(80.8)	32.237(<0.001)
31,000-60,000	38(60.3)	25(39.7)		37(57.8)	27(42.2)	
≥61,000	22(66.7)	11(33.3)		19(73.1)	7(26.9)	
Culturally inclined						
Yes	60(61.9)	37(38.1)	0.053(0.818)	46(43.8)	59(56.2)	0.090(0.764)
No	42(63.6)	24(36.4)		24(41.4)	34(58.6)	
Knowledge						
Poor/fair	52(64.2)	29(35.8)	0.181(0.671)	38(43.7)	49(56.3)	0.041(0.840)
Good	50(61.0)	32(39.0)		32(42.1)	44(57.9)	
Attitude						
Positive	58(59.8)	39(40.2)	0.792(0.373)	18(40.0)	27(60.0)	0.220(0.639)
Negative/Neutral	44(66.7)	22(33.3)		52(44.1)	66(55.9)	

Table 3b: Factors Associated with the utilisation of Contraceptives by the participants

Variables	Urban	Rural	$\chi^2(p \text{ value})$
Cultural beliefs			
Yes	107(65.6)	116(71.2)	1.150(0.284)
No	56(34.4)	47(28.3)	
Religious Teachings			
Yes	109(66.9)	93(57.1)	3.332(0.068)
No	54(33.1)	70(42.9)	
Education			
Yes	95(58.3)	105(64.4)	1.294(0.255)
No	68(41.7)	58(35.6)	
Fear of side effects			
Yes	119(73.0)	119(73.0)	0.000(1.000)
No	44(27.0)	44(27.0)	
Accessibility			
Yes	109(66.9)	104(63.8)	0.339(0.561)
No	54(33.1)	59(36.2)	
Stigma			
Yes	96(58.9)	100(61.3)	0.205(0.651)
No	67(41.1)	63(38.7)	

Discussion

Understanding contraceptive use across rural and urban populations is essential to addressing disparities in reproductive health access and outcome. This study compared urban and rural contraceptive behaviours and explored the social, economic, and cultural determinants influencing usage.

In this study, there were no statistically significant differences in age, marital status, religion, or family size between urban and rural respondents, suggesting that these factors may not independently influence contraceptive use. This aligns with findings by Alo et al., who similarly downplayed these factors as major

determinants, possibly due to shared cultural norms, reproductive intentions and awareness levels across both settings.²¹ However, in India,²² Tanzania,²³ and Northern Nigeria,¹¹ early marriage, religious orthodoxy, and large family norms were found to play decisive roles in limiting contraceptive utilisation, likely due to variation in cultural attitude, programme reach, and stage of demographic transition.

In contrast, education and income had a significant influence, particularly in rural areas, where tertiary education was associated with increased contraceptive use. This supports the findings of Ogbonna et al. and Adebimpe et al., who argue that education enhances health literacy and empowers women to make informed reproductive choices.^{12,24} However, this finding diverges from Mutumba et al., stating that education alone does not alter pro-natalist expectations in some African cultures, where a woman's fertility is often tied to her social identity.²⁵ This contradiction suggests that the relationship between education and contraceptive use may be context-dependent, influenced by other mediating factors such as parity, health system exposure, and community norms.

Similarly, income was a strong predictor of contraceptive use in rural settings, consistent with Nitai's assertion that financial capability determines access to health services.²⁶ While this aligns with the economic theory of health behaviour—where cost influences access—it also suggests that subsidised or free contraceptives may improve uptake in low-income communities. The fact that income remained a key determinant in rural areas highlights ongoing health inequities, despite public health efforts to make contraceptives more accessible.^{11,26}

Interestingly, cultural inclination did not significantly affect contraceptive uptake. This is somewhat surprising given the longstanding emphasis in Nigerian literature on cultural and religious opposition to family planning.^{24,27} This could suggest a gradual shift in community attitudes, possibly due to successful health promotion campaigns or the increasing influence of digital media and peer education. Nonetheless, it diverges from earlier studies where cultural norms were deeply entrenched.

This may reflect a changing social landscape where younger populations are less influenced by traditional gatekeepers.

The most commonly used methods among respondents were injectables, oral contraceptives, condoms, and natural family planning. These align with findings by Muzaffar et al. and Ajayi et al where these methods were favoured for their accessibility and perceived safety.^{1,28} However, differing patterns were reported in studies by Abah et al. and Yey P et al., which was likely due to regional, socio-cultural and economic variations.^{29,30} Subdermal implants were the most preferred method, followed by intrauterine contraceptive devices (IUCD), while hormonal injectables were the least preferred.²⁹

Barriers to contraceptive use identified—limited access, cost, partner opposition, desire for more children, fear of side effects and religious beliefs align with findings from Southwest Nigeria and studies by Ajayi et al.,¹ Tunau¹¹ and Adgboyega.³¹ Unlike earlier works that treat barriers as static, our study highlights their dynamic interplay, as they can change over time and across contexts. Partner opposition, especially among urban women, mirrors Alemayehu et al.'s observation that male dominance in educated urban households can suppress women's autonomy due to socio-religious expectations.¹⁶ This challenges the assumption that urbanisation automatically enhances reproductive freedom, with our quantitative evidence improving on Alemayehu largely qualitative approach.¹⁶

While religious opposition and fear of side effects remain, system-level barriers such as access and cost now predominate, echoing a shift from ideological to pragmatic constraints.^{1,19,32} The risk of unintended pregnancies, rapid population growth, higher maternal and infant mortality rates, unsafe abortions, and economic strain on families increases, placing additional pressure on already strained healthcare systems and resources.^{12,28} This calls for a multi-faceted approach, including health system strengthening and male partner involvement, rather than cultural education alone.

Conclusion

The study underscores the persistent disparities in contraceptive use between rural and urban women, driven by differences in knowledge, access, affordability, and socio-cultural norms. Without

targeted interventions, these gaps will continue to hinder family planning efforts, leading to adverse health outcomes. Policymakers and public health practitioners must prioritize rural healthcare improvements, education, and community engagement to ensure equitable contraceptive access and promote informed reproductive health choices. By addressing these barriers, progress can be made toward improved modern contraceptive utilization and achieving sustainable family planning goals

Limitation of the Study

The strength of this study lies in its comparative, community-based approach, assessment of both contraceptive use and preference, providing multidimensional insights into socio-demographic, cultural, economic and health system factors influencing contraceptive behaviour. However, the relatively small sample size of 326 may not be representative of the normal population of Rivers State. Data collection relied on self-report, which is susceptible to recall bias and social desirability bias. The rural-urban dichotomy may have masked other important geographical or socio-economic variations. In addition, the cross-sectional design limits the ability to infer causality or assess changes over time. Finally, the disproportionately high proportion of respondents aged 40 – 49 years may be due to chance or to inherent constraint in the sampling procedure, which may have inadvertently skewed the age distribution.

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