Assessing Contraceptive Knowledge, Attitudes, and Usage Among Teenagers and Parents in Biu Local Government Area, Borno State, Nigeria

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Abstract: *This study examines contraceptive awareness, attitudes, and usage among teenagers and parents in Biu Local Government Area of Borno State, Nigeria, within the broader discourse on reproductive health in Sub-Saharan Africa where high fertility and limited family planning access persist. Using a mixed-methods design that combined surveys with focus group discussions, data were collected in November 2024 and analysed through descriptive and inferential statistics, as well as thematic content analysis. Findings reveal high awareness of condoms, pills, and injections, but this knowledge does not consistently translate into use due to fear of side effects, religious and cultural resistance, societal stigma, spousal disapproval, and inadequate health infrastructure. Results shows statistically significant associations between knowledge, attitude, education, religion, gender, and contraceptive use, indicating that respondents with higher education, better knowledge, and positive attitudes are more likely to use contraceptives. The binary logistic regression model further confirmed that respondents with good and excellent contraceptive knowledge had significantly higher odds of contraceptive use compared to those with poor knowledge. A positive attitude increased the likelihood of use threefold, while higher education, being married, Christian affiliation, and employment were also positive predictors. Conversely, males were less likely to use contraceptives. The study recommends community-led workshops to strengthen parent–child dialogue, integration of age-appropriate sexuality education into school curricula, and training programs for teachers and healthcare providers. Religious and community leaders should be engaged to contextualize family planning within cultural and moral frameworks, while women's groups and youth organizations can drive grassroots advocacy. Expanding youth-friendly services, subsidizing contraceptives for low-income groups, and leveraging digital platforms for credible, language-inclusive content are also essential. These strategies can reduce unintended pregnancies, improve maternal health, and advance Nigeria's progress toward SDG-3.*

Keywords: Contraceptive use, Family planning, Reproductive health, Social norms, Rural Nigeria

JEL Classification Code: I15, I18, J13, Z13.

Introduction and Statement of Problem

Developing countries are mostly characterized by rapid population growth usually due to high fertility and birth rates, and steady decline in mortality rate (Adegboyega, 2019). The population growth rate in Sub-Saharan Africa (SSA) is considered one of the fastest in the world with an estimation of about 2.8% (United Nations Department of Economic and Social Affairs [UNDESA], 2019). Nigeria is considered the giant of Africa being the most populated country in Africa and seventh most populated country in the world, also experience rapid population growth like other less developed countries in the world.

Whereas, rapid population growth is a major contributing factor to poverty and underdevelopment of the third world countries. Uncontrolled population is usually the result of high fertility and the promotion of polygamy by religion, cultural and traditional belief of the people living in the economy. Rapid population growth increases dependency rate and negatively affects income redistribution and standard of living.

Adolescent age is naturally characterized as stage of the development of secondary sexual organs and time in teenagers live when they develop more sexual attraction to the opposite sex. With the expectation of excessive sexual experimentation, the female child need be watched closely to prevent unwanted pregnancy. Unwanted pregnancy is not attributed to teenagers alone but also couples, young adults and parents who are not prepared or ready for child bearing or desire to space birth in order be able to adequately cater for the children they already have. Moreso, unwanted pregnancy results in abortion which in some cases leads to maternal mortality. Report shows that 830 women die every day from preventable causes related to pregnancy and childbirth around the world (UNWOMEN, 2017). Goal 3 of the Sustainable Development Goals (SDGs) is to ensure healthy lives and promote well-being for all at all ages, and targets the reduction of the global maternal mortality ratio to less than 70% 100,000 live births by 2030, and to ensure universal access to sexual and reproductive health-care services, including for family planning, information and education, and the integration of reproductive health into national strategies and programmes.

Contraceptive usage aid in population control and prevention of unwanted pregnancy, and this is helpful to poverty reduction in a country (Adegboyega, 2019). While family planning impacts all the Millennium Development Goals (MDGs) it is most directly associated with MDGs, improving maternal health. Contraceptive use reduces the pregnancy rate, the number of unplanned pregnancy and associated induced abortions and the proportion of high-risk pregnancies, therefore causing a reduction in maternal mortality and an improvement in maternal and child health. This assertion is supported by the World Health Organization (2020) which considers the prevalence of contraceptive use as one of the factors that determines women's health and empowerment in the society. Furthermore, availability, awareness, knowledge and perception towards contraceptive is likely to affect the usage. Abiodun and Balogun (2019) showed that exposure to a mass media family planning campaign increases contraceptive use. An information, education and communications campaign were launched between 1992-1993 to change Nigerians' attitudes toward family planning, and to thereby increase their contraceptive use. The campaign was based on evidence that family planning messages relayed through the mass media can influence contraceptive behaviour. For example, in Nigeria, one-quarter of new clients attending a family planning clinic identified a television campaign as their source of referral (Moronkola et al., 2016).

Large family size increases dependency rate and have negative impacts on living standard of the household especially in an economy with high unemployment rate. The knowledge and appropriate use of contraceptive is significant as a birth control measure to curb the negative consequences of rapid population growth, especially in Nigeria. Moreso, the incidence of unplanned pregnancy and unsafe abortion poses threat to the lives of sexually active female. Awareness, knowledge and usage of birth control options will not only positively aid in the improvement of maternal health and birth spacing but also in the reduction of children mortality rate.

This study unravels knowledge and attitude towards the use of contraceptive as well as contraceptive options available to teenagers and adults in Biu and Buratai towns. The result of this study reveals the dynamic relationship between knowledge and attitudes towards contraceptive usage, and proposes relevant suggestion aid in sexual health educational interventions. This research contributes to the existing body of knowledge with the aim of highlighting the disparities in contraceptive knowledge, attitudes, and usage in the study areas.

Empirical Review of Literature

Understanding contraceptive awareness and usage in culturally diverse and rural communities such as Biu Local Government Area (LGA) of Borno State, Nigeria, requires a theoretical foundation that integrates individual decision-making, social norms, and institutional influences. This study draws on the Health Belief Model (HBM), the Theory of Planned Behaviour (TPB), and the Social Ecological Model (SEM) to explain awareness, attitudes, and usage patterns. The HBM (Rosenstock, 1974; Janz & Becker, 1984) highlights how perceived severity, susceptibility, benefits, and barriers shape contraceptive choices, explaining why women may avoid use despite awareness due to fears of infertility, stigma, or side effects. The TPB (Ajzen, 1991) emphasizes that contraceptive intentions depend on attitudes, subjective norms, and perceived behavioural control, making it particularly relevant in Biu LGA where religious beliefs, family expectations, and community pressures influence decisions as much as personal attitudes and access. The SEM (Bronfenbrenner, 1979; McLeroy et al., 1988) broadens the analysis by situating individual choices within wider interpersonal, community, organizational, and policy contexts, showing how family, cultural norms, health facility access, and education collectively shape behaviour. Taken together, these frameworks provide a holistic understanding of contraceptive awareness and usage, capturing both personal perceptions and the broader socio-cultural environment in which decisions are made.

In recent times, researchers have examined the factors influencing contraceptive awareness, attitudes, and usage across various demographics and geographical locations, emphasizing young adults and women in sub-Saharan Africa, the Middle East, and parts of Europe. Empirical studies have highlighted differences in awareness, accessibility, and sociocultural influences that shape contraceptive adoption. These studies identified critical insights into contraceptive perceptions shaped by social, cultural, educational, and economic factors.

Several studies have assessed the level of awareness of contraceptive methods among teenagers and parents. Abiodun and Balogun (2019) and Akintade, Pengpid, and Peltzer (2011) underscore the awareness and usage patterns among female students in Nigeria and Lesotho, respectively, illustrating a gap between awareness and actual contraceptive use. Abiodun and Balogun found that despite high awareness levels, cultural and societal norms deterred consistent use among young women in Ilorin. Akintade et al. noted similar barriers, identifying lack of accessibility and cultural attitudes as primary obstacles to use among university students in Lesotho. In contrast, Ehiaghe & Barrow (2022) explored parental knowledge and willingness regarding adolescent contraceptive use in Ekpoma, Nigeria, finding that many parents had limited knowledge, which negatively influenced discussions on contraception with their children.

Studies have also shown that the attitudes toward contraceptive use among teenagers and parents vary based on cultural, religious, and socio-economic factors. For instance, Adegboyega (2019) investigated married women's attitudes in Ilorin, showing a generally

positive attitude toward contraceptive use but also highlighting the influence of religious beliefs and spousal support. The study found that although many supported contraceptives use, opposition from male partners and fear of side effects discouraged adoption. This aligns with findings by Moronkola, Ojediran, and Amosu (2016,) and Odusina et al. (2020), which highlight that marital status, partner communication, and fertility preferences play significant roles in contraceptive decisions. In Saudi Arabia, Farheen (2013) and Mahboub et al. (2015) also observed that while awareness is widespread, religious and cultural factors heavily influence usage rates among women in conservative communities.

Ehiaghe and Barrow (2022) delve into parental attitudes toward adolescents' contraceptive use in Ekpoma, Nigeria, revealing a generally cautious but increasingly supportive stance, contingent on accurate contraceptive knowledge. Similar findings by Sharma et al. (2021) in the U.S. indicate that informed parental attitudes positively influence adolescents' openness toward contraception. However, Duru et al. (2018) in Nigeria highlight the challenge of traditional norms, which often discourage open discussion on contraceptives, further complicating usage among young adults.

Hellström, Danielsson, and Kallner (2019) examine trends in Sweden, where progressive policies and comprehensive sexual education have fostered positive attitudes and higher contraceptive usage. This contrasts with findings from Nigeria, Saudi Arabia, and Lesotho, where limited access, economic constraints, and societal attitudes create barriers to family planning services (Oyedokun, 2007; United Nations, 2008; Ugoji, 2013).

Several articles, including those by Abiodun and Balogun (2019), Duru et al. (2018), and Sharma et al. (2021), suggest that interventions focusing on comprehensive education, open communication, and community-based sensitization could bridge awareness and usage gaps. UN reports (2017) emphasize the role of policy changes and gender equality initiatives in enhancing contraceptive accessibility, particularly in regions where traditional beliefs are barriers.

The synthesis of these studies indicates that while contraceptive awareness is relatively high across demographics, actual usage is moderated by cultural, social, economic, and educational factors. Effective strategies must address these underlying issues by integrating family planning services into health education, increasing community awareness, and promoting gender equality to ensure contraceptive access and informed decision-making across different populations.

Moreover, while several studies highlight the influence of societal and religious beliefs on contraceptive usage, the specific role of gender norms and spousal dynamics in Nigeria's rural areas remains underexplored. Though Ehiaghe & Barrow (2022) discuss parental attitudes, there is limited research on how parental education and socio-economic status directly impact adolescents' contraceptive behavior. Analyzing these connections could clarify how targeted interventions for parents might indirectly affect adolescent contraceptive use. While studies cover contraceptive attitudes in urban areas (e.g., Ibadan, Ilorin, and Osun), there is a gap in comparative analysis between rural and urban communities, which could illuminate how healthcare infrastructure and access disparities influence attitudes toward contraceptives. Although institutional support and policy frameworks are recognized as crucial for increasing contraceptive uptake (as seen in Hellström et al., 2019 and UN Women, 2017), research has not extensively measured the impact of specific policies or campaigns on attitudes and use in Nigeria.

This study provides fresh evidence focusing on how gender dynamics within marriage influence contraceptive decisions, especially in contexts with strong patriarchal norms. This can help design couple-focused interventions that address both men's and women's concerns about contraceptive use. Additional research on parental influence could inform the design of parental guidance programs that encourage open communication with adolescents about reproductive health, with consideration for cultural sensitivities. Conducting this study in rural Nigerian communities, like Biu Local Government in Borno State, Nigeria, can reveal how contextual factors shape contraceptive attitudes and inform tailored interventions, particularly in areas with limited access to healthcare facilities. This also calls for research to assess the real-world impact of existing family planning policies, identifying gaps in implementation and proposing policy reforms that align with the unique needs of Nigerian communities.

Methods and Materials

This study was conducted in Biu Local Government Area (LGA) of Borno State, Nigeria, utilizing a mixed-methods research approach that incorporated both exploratory and descriptive research designs. The exploratory aspect, which is qualitative in nature, sought to unravel the underlying views, perceptions, and attitudes that influence contraceptive usage among teenagers and parents. The descriptive research design, on the other hand, facilitated the quantitative assessment of contraceptive knowledge and attitudes through structured surveys, enabling statistical analysis of the findings.

The study population comprised teenagers and parents in five (5) out of the eleven (11) wards in Biu LGA. These wards, Buratai, Miringa, Kenken, Dugja, and Zarawuyaku, were purposively selected based on population distribution and accessibility. The study targeted individuals within the reproductive age bracket (15 – 49 years), as defined by the United Nations Department of Economic and Social Affairs (UNDESA, 2019) (Hategekimana et al., 2024). To determine the appropriate sample size for the survey, Yamane's formula (Hategekimana et al., 2024) was used, resulting in a total of 385 participants for the quantitative component. This sample was proportionally distributed across the selected wards based on their respective population sizes. Purposive sampling was employed to recruit only individuals who are indigenous residents of the community and sexually active, ensuring that responses accurately reflect local attitudes and contraceptive behaviours.

For the qualitative component, 10 Focus Group Discussions (FGDs) and 7 Key Informant Interviews (KIIs) were conducted. Each ward hosted two FGDs, one for teenagers aged 15 to 19 years and another for parents aged 30 to 49 years. Each FGD comprised eight (8) participants, ensuring a diverse mix of perspectives within the groups. The KIIs were conducted with key opinion leaders, including village heads, religious leaders, schoolteachers, and a medical doctor, who were identified as influential figures in shaping community perceptions and attitudes toward contraceptive usage.

The survey was conducted face-to-face by trained research assistants who visited respondents in their homes, workplaces, and public areas. A semi-structured questionnaire was used as the primary data collection tool. The questionnaire consisted of close-ended and semi-open-ended questions, designed to capture awareness, knowledge, attitudes, and factors influencing contraceptive usage. The questionnaire items were adapted from validated instruments used in previous studies (Kawuki et al., 2022; Hategekimana et al., 2024) to ensure reliability and comparability of findings. The FGDs and KIIs provided deeper insights into sociocultural, religious, and structural barriers to contraceptive use. Each FGD lasted

approximately one hour, while KIIs took an average of forty minutes. FGDs were moderated by experienced facilitators who used a discussion guide with open-ended questions, encouraging participants to share their thoughts freely. Discussions were audio-recorded using a digital recorder, with permission from participants, ensuring accuracy during transcription.

Upon completion of data collection, the study adopted a dual approach to data processing and analysis. For the quantitative analysis, survey responses were first inputted into Microsoft Excel for cleaning and verification. The cleaned data were then exported to Statistical Package for the Social Sciences (SPSS) for analysis. Descriptive and Inferential Statistics: Descriptive statistics (percentages, means, and standard deviations) were used to summarize data, while inferential statistical tests (such as chi-square and regression analysis) were employed to examine relationships between awareness, attitudes, and contraceptive usage patterns. For the qualitative data analysis, the recorded FGDs and KIIs were transcribed verbatim and systematically coded. Content and Thematic Analysis: Transcribed texts were analysed using Nvivo software, with themes emerging around contraceptive awareness, knowledge, cultural influences, religious perspectives, and accessibility barriers.

Results and Discussions

The demographic profile of the survey respondents provides insight into the distribution of participants by location, age, gender, education, marital status, and occupation, as depicted in Table 1.

Table 1: Respondent Demographics

Demographic	Characteristics	Frequency (n)	Percentage (%)
Ward	Buratai	44	11.4
	Dugja	134	34.8
	Kenken	142	36.9
	Miringa	41	10.6
	Zaramuyaku	24	6.2
Age Group	18-25	141	37.0
	26-35	138	35.8
	36-45	75	19.5
	46-55	23	6
	Above 55	8	2.1
Gender	Female	184	52.2
	Male	201	47.8
Education Level	SSCE	160	41.6
	Diploma/ND	50	13
	HND/BSc	55	14.3
	MSc/MBA/MA	2	0.5
	PhD	1	0.2
	Others	117	30.4
Marital Status	Single	141	36.6
	Married	227	59
	Widowed	15	3.9
	Divorced	2	0.5
Occupation	Student	70	18.2
	Unemployed	103	26.8
	Self-employed	162	42.1
	Employed part-time	21	5.5
	Employed part-time	17	4.4
	Retired	12	3.1

Source: Authors' Computation (2025)

The highest proportion of respondents came from Kenken (36.9%) and Dugja (34.8%), followed by Buratai (11.4%), Miringa (10.6%), and Zaramuyaku (6.2%). This distribution reflects the population sizes of these locations, ensuring proportional representation in the study. The majority of respondents were within the 18-25 years (36.6%) and 26-35 years (35.8%) age brackets, accounting for over 70% of the total sample (a key demographic for reproductive health interventions). This suggests that the study primarily engaged young adults. The 36-45 age group (19.5%) had a moderate representation, while the older age groups (46-55 years: 6%, Above 55 years: 2.1%) had the least participation. There was a near-equal representation of genders, with female respondents making up 52.2% and males 47.8%. This balanced gender distribution enhances the study's ability to compare contraceptive knowledge and attitudes across genders.

A significant portion of respondents had attained Senior Secondary School Education (SSCE) certificates (41.6%), followed by those with Diploma/ND (13%) and HND/BSc (14.3%). Post-graduate education levels (MSc/MBA/MA: 0.5%, PhD: 0.2%) were minimally represented. A notable 30.4% fell into the "Others" category, possibly indicating informal education or vocational training. The majority of respondents were married (59%), while 36.6% were single. A small proportion were widowed (3.9%) or divorced (0.5%). The predominance of married individuals suggests that many respondents were in unions where contraceptive decisions are more relevant for family planning. The largest proportion of respondents were self-employed (42.1%), followed by the unemployed (26.8%) and students (18.2%). Only a small number were in part-time employment (5.5% and 4.4%), and retired individuals (3.1%) had the lowest representation. The high percentage of self-employed and unemployed individuals could influence economic considerations in contraceptive choices.

Sources of Contraceptives Information

Table 2: Sources of Contraceptives Information

	Frequency	Percentage
Health centers	159	41%
Media (TV, radio, newspapers)	111	29%
Schools	76	20%
Friends/Peers	52	14%
Community organizations	45	12%
Family members	29	8%
Internet/social media	19	5%
Religious institutions	14	4%

Source: Authors' Computation (2025)

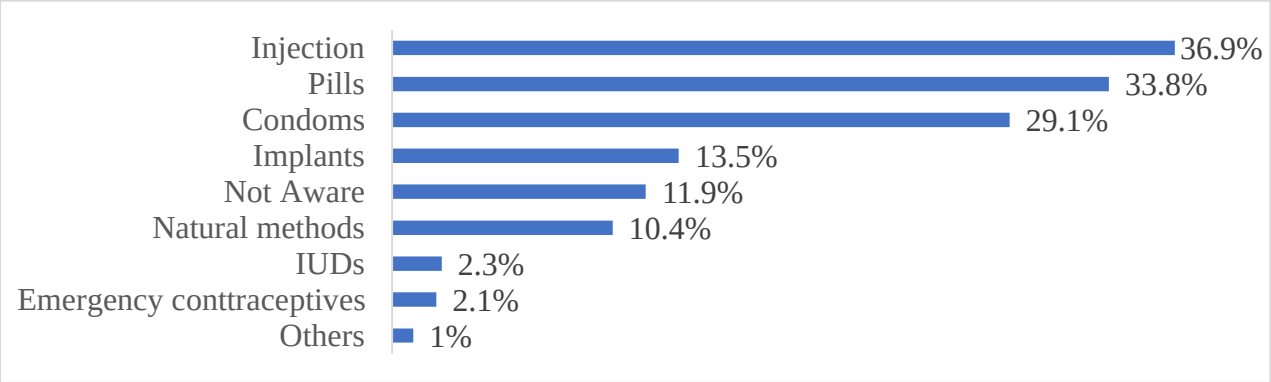
The results show that health centers are the dominant source of contraceptive information, cited by 41% of respondents, underscoring the central role of formal healthcare providers in shaping knowledge and awareness. Media platforms such as television, radio, and newspapers follow closely at 29%, highlighting the continued relevance of mass communication in disseminating reproductive health messages. Schools account for 20%, reflecting the influence of educational institutions in providing structured sexuality education, particularly among younger individuals. Social networks also contribute significantly: 14% of respondents rely on friends and peers, while 12% obtain information from community organizations. Family members serve as a source for 8%, though this may reflect varying levels of openness about sexual and reproductive health within households. Modern digital channels remain less prominent, with only 5% mentioning the internet or social media, and religious institutions contribute minimally at 4%. Overall, the pattern indicates that while formal health systems remain the most trusted and frequently accessed

sources, a blend of interpersonal, community-based, and media channels continues to shape contraceptive knowledge across the population.

Awareness of Contraceptives

While the majority of the respondents, 339 (88%) reported to be aware of at least one contraceptive methods, only 46 respondents (about 12%) claim not to be aware of any contraceptive forms. The findings indicate that injection (36.9%) is the most commonly recognized contraceptive method, followed by pills (33.8%) and condoms (29.1%), suggesting a preference for hormonal and barrier methods. Implants (13.5%), though lower in awareness, still hold some recognition, while natural methods (10.4%) remain a known alternative. However, the low awareness of IUDs (2.3%) and emergency contraceptives (2.1%) suggests gaps in knowledge about long-term and post-intercourse contraceptive options.

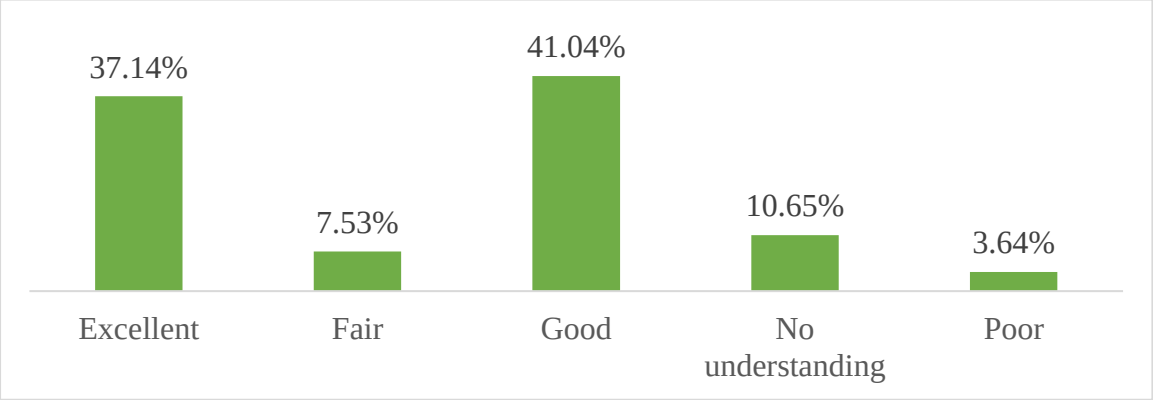
Figure 1:
Knowledge on contraceptive methods



Source: Authors' Computation (2025)

The study revealed that a majority of respondents had a good to excellent understanding (78.2%) of how contraceptives work, with 41% rating their knowledge as "Good" and 37.1% as "Excellent." However, 7.5% had only a "Fair" understanding, while 10.7% had no understanding at all, highlighting a critical gap in contraceptive education. A smaller percentage (3.6%) rated their knowledge as "Poor," suggesting that while awareness efforts have been somewhat effective, more targeted education is needed. The findings emphasize the importance of community-based sensitization programs, simplified health messaging, and improved contraceptive counselling to address knowledge gaps, dispel misconceptions, and ensure informed reproductive health choices in the study area.

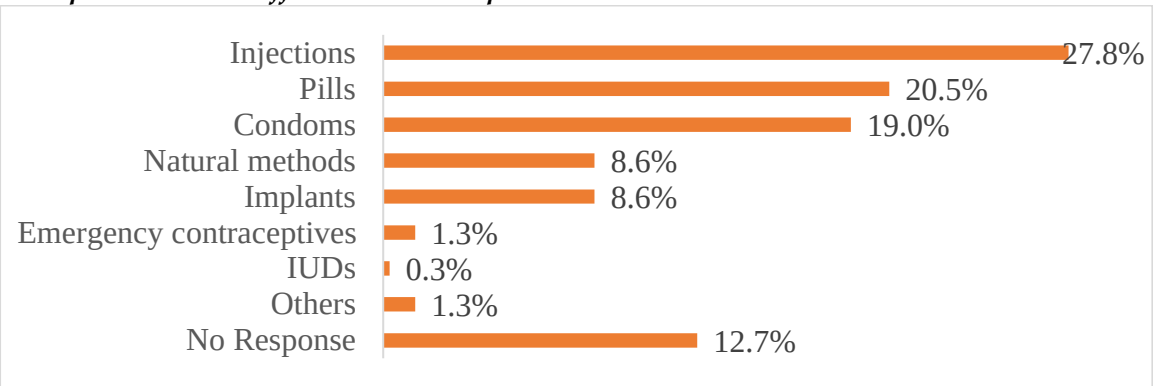
Figure 2:
Understanding of how contraceptives work



Source: Authors' Computation (2025)

The study found that injections (27.8%) were perceived as the most effective contraceptive method, followed by pills (20.5%) and condoms (19%). Implants (8.6%) and natural methods (8.6%) were also recognized, though to a lesser extent. Notably, emergency contraceptives (1.3%) and IUDs (0.26%) were the least mentioned, indicating low awareness or misconceptions about their effectiveness. A small percentage (1.3%) cited other methods, while 12.7% did not respond, possibly reflecting uncertainty or lack of knowledge. These findings suggest that while awareness of short-term contraceptive methods is relatively high, long-acting reversible methods like IUDs and implants remain underutilized, highlighting the need for targeted education on their effectiveness and benefits.

Figure 3:
Perception on most effective contraception method



Source: Authors' Computation (2025)

The study found that 40.8% of respondents had never discussed contraceptives with anyone in their family, indicating a significant communication gap on reproductive health within households. Additionally, 26.2% reported rarely discussing the topic, while 18.7% had occasional conversations about it. Only 14.3% frequently discussed contraceptives within their families, suggesting that open family dialogue on contraception remains limited. These findings highlight the need for initiatives that encourage parent-teen communication on reproductive health, as family discussions can play a crucial role in shaping knowledge, attitudes, and responsible contraceptive use. Cultural norms, stigma, or discomfort surrounding the topic may be barriers that need to be addressed through targeted education and community engagement.

Attitudes toward Contraceptives

The study revealed a diverse range of attitudes toward contraceptives, reflecting varying levels of acceptance, scepticism, and uncertainty within the community. A notable 38.2% of respondents expressed a positive stance toward contraceptive use, while an additional 17.1% held a strongly positive view, indicating a significant portion of the population acknowledges the benefits of contraception. However, resistance to contraceptive use was also evident, with 9.6% of respondents expressing a negative attitude and another 9.6% holding a strongly negative perspective. A considerable 25.5% remained neutral, suggesting a lack of strong opinions, possible misinformation, or uncertainty regarding the implications of contraceptive use.

Support for contraceptive use among teenagers was almost evenly split, with 43.4% endorsing it, while 41.3% opposed the idea, and 15.3% remained unsure. This division highlights societal and cultural complexities surrounding adolescent reproductive health, where concerns about

morality, responsibility, and potential health effects may shape individual opinions. The study also examined the primary concerns regarding contraceptive usage, revealing that health risks (48.3%) were the most cited issue, reflecting widespread fears, whether justified or not, about side effects or long-term consequences. Religious beliefs (23.6%) and family expectations (19.7%) also played a significant role in influencing attitudes, underlining the importance of cultural and religious factors in shaping reproductive health decisions. Additionally, lack of information (13%) and fear of social stigma (7.5%) were identified as barriers, emphasizing the need for improved access to accurate contraceptive education.

When asked whether contraceptives should be made more accessible to teenagers, 47% supported the idea, while 36.4% opposed it, and 16.6% remained undecided. This reflects a divided perception of adolescent contraceptive use, with concerns about encouraging premarital sexual activity likely influencing resistance, while others recognize its importance in preventing unintended pregnancies and promoting reproductive health. These findings underscore the need for better sexual health education, culturally sensitive interventions, and proactive community engagement to address misconceptions, alleviate concerns, and promote informed decision-making regarding contraception. Strengthening partnerships between health professionals, educators, religious leaders, and families can help bridge the knowledge gap and foster more supportive environments for reproductive health discussions.

Table 3: Chi-Square Tests of Association between Key Variables and Contraceptive Use

Variable	χ^2	df	p-value	Association
Knowledge level vs Contraceptive use	24.86	3	0.000**	Significant
Attitude vs Contraceptive use	18.44	2	0.001**	Significant
Education vs Contraceptive use	26.32	3	0.000**	Significant
Religion vs Contraceptive use	6.74	1	0.009**	Significant
Gender vs Contraceptive use	5.31	1	0.021*	Significant

Source: Authors' Computation (2025)

The result further reported statistically significant associations between knowledge, attitude, education, religion, gender, and contraceptive use. As shown in Table 3, respondents with higher education, better knowledge, and positive attitudes are more likely to use contraceptives.

Factors influencing Contraceptives Usage

Table 4: Binary Logistic Regression Predicting Likelihood of Contraceptive Use

Variable	B (Coefficient)	S.E.	Wald	Sig. (p)	Exp(B) (Odds Ratio)	95% C.I. for Exp(B)
Constant	-2.145	0.745	8.278	0.004**	–	–
Knowledge Level (Ref: Poor)						
Fair	0.842	0.385	4.784	0.029*	2.32	1.09–4.93
Good	1.465	0.421	12.110	0.001**	4.33	1.89–9.90
Excellent	1.921	0.590	10.610	0.001**	6.83	2.15–21.72
Attitude (Ref: Negative)						
Neutral	0.648	0.356	3.309	0.043*	1.91	1.02–3.58
Positive	1.174	0.412	8.124	0.004**	3.24	1.44–7.30
Education Level (Ref: No formal education)						
Primary	0.623	0.397	2.462	0.117	1.86	0.84–4.10
Secondary	1.285	0.441	8.498	0.004**	3.62	1.52–8.63
Tertiary	1.794	0.551	10.600	0.001**	6.01	2.03–17.81
Religion (Ref: Muslim)	0.756	0.345	4.811	0.028*	2.13	1.08–4.21
Gender (Male = 1, Female = 0)	-0.921	0.331	7.757	0.005**	0.40	0.21–0.76

Marital Status (Married = 1, Single = 0)	1.182	0.365	10.490	0.001**	3.26	1.62–6.57
Income/Employment (Employed = 1, Unemployed = 0)	0.849	0.328	6.700	0.010**	2.34	1.22–4.48

Source: Authors' Computation (2025)

The binary logistic regression model was used to estimate the predictors of contraceptive usage in the observed location, and reported a statistically significant outcome, $\chi^2(12) = 84.63$, $p < 0.001$, indicating that the set of predictors reliably distinguishes between users and non-users of contraceptives. The Nagelkerke R^2 value of 0.42 suggests that approximately 42% of the variance in contraceptive use is explained by the model. Knowledge level significantly predicted contraceptive use. Respondents with good knowledge were over 4 times more likely (OR = 4.33, p = 0.001) to use contraceptives than those with poor knowledge, while those with excellent knowledge were nearly 7 times more likely (OR = 6.83, p = 0.001). Similarly, attitude was a significant determinant. Respondents with a positive attitude had more than three times higher odds (OR = 3.24, p = 0.004) of contraceptive use compared to those with negative attitudes, while a neutral attitude also increased odds modestly (OR = 1.91, p = 0.043). Education played a strong role, respondents with secondary education were 3.6 times more likely (p = 0.004), and those with tertiary education were 6 times more likely (p = 0.001) to use contraceptives compared to those with no formal education. Religion was significant (p = 0.028), with Christians being twice as likely to use contraceptives as Muslims. Gender had a negative coefficient (B = -0.921, p = 0.005), implying that females were more likely to use contraceptives than males (OR = 0.40 for males). Marital status (p = 0.001) and income/employment (p = 0.010) were also significant. Married and employed respondents were 3.26 and 2.34 times more likely, respectively, to use contraceptives than their single and unemployed counterparts.

Qualitative findings

The qualitative findings from Focus Group Discussions (FGDs) with teenagers and adults, as well as Key Informant Interviews (KIIs) with opinion influencers, provide deeper insights into the perceptions, attitudes, and experiences surrounding contraceptive awareness and usage. These discussions explored the factors influencing contraceptive choices, sources of information, societal attitudes, and barriers to access. The qualitative data complement the quantitative findings by highlighting cultural, religious, and social dynamics that shape contraceptive behaviours. Key themes emerged, including knowledge gaps, family and community influence, trust in healthcare providers, and the role of education in shaping reproductive health decisions. The discussions also revealed divergent perspectives, with some participants advocating for increased access and education, while others expressed reservations due to cultural norms and perceived health risks.

Awareness of Contraceptives

Knowledge of Contraceptive Methods: FGDs with teenagers revealed that while most participants were aware of common contraceptive methods like injections, pills, and condoms, knowledge about IUDs and emergency contraceptives was limited. Adult groups emphasized the generational gap in awareness, with older individuals having less exposure to modern contraceptive options.

"I know about the injection and pill. But I've only heard about the coil; I don't really know what it does" (Teenager group).

"When we were young, we didn't have all these things. We just gave birth. Now the youth have many methods," (Adult group).

"I have heard of injection and the pill. Some women here even use them, especially after having many children." (Adult group)
"Condom is the one we know well. It's sold in chemist shops." (Adult group)
Understanding of Contraceptive Use: KIIs with healthcare professionals highlighted the need for targeted educational campaigns, as some misconceptions about side effects persist. Community leaders noted that cultural myths often influence perceptions, such as beliefs that contraceptives cause infertility or long-term health complications.

"Some people think if you use the implant or injection too long, you won't be able to get pregnant again" (Adult group).
"They told me if I use the pill too much, it will damage my womb. I don't know if that's true," (Teenager group).

Sources of Contraceptive Information
Healthcare Facilities and Schools: FGDs with teenagers indicated that schools provide basic contraceptive education but do not encourage discussions on practical usage. KIIs with health professionals reinforced that clinic serve as the most trusted source of contraceptive information, although accessibility remains an issue.

"We heard about it in Basic Science, but they don't really talk about how to use it or where to get it" (Teenager group).
"The health worker told me about injection, but the center is far and sometimes they don't have it," (Teenager group).
Family and Peer Influence: Discussions with adults revealed reluctance in discussing contraception within families due to cultural taboos. Teenagers in FGDs mentioned that peers often provide information, but such knowledge is sometimes inaccurate or based on myths.

"We don't talk about it with our parents. If they hear, they will think we are spoilt" (Teenager group).
"My friend told me to use herbs. She said it's safer than the pill" (Teenager group).
Media and Digital Platforms: KIIs with youth leaders suggested that social media has the potential to spread awareness but currently lacks credibility in reproductive health discussions. Religious leaders in KIIs expressed concerns about misinformation through non-traditional sources like the internet.

"We see things on Facebook, but I don't know which one is true" (Teenager group).
"People trust what they see online more than what we say in the mosque, and that is dangerous," – Religious Leader (KII).

Attitudes Toward Contraceptives
General Acceptance and Concerns: FGDs with adults showed that while many acknowledge the benefits of contraception, religious and moral objections remain prevalent. While many adult FGD participants recognized that contraceptives help prevent unplanned pregnancies and protect maternal health, strong reservations persist, especially among men, largely shaped by Islamic teachings and long-standing cultural norms that emphasize large families as a symbol of social status, lineage strength, and divine blessing. KIIs with religious leaders further highlighted concerns that promoting contraceptive use, particularly among unmarried youths, may inadvertently encourage sexual experimentation and moral laxity. In a predominantly Muslim rural context such as Biu LGA, contraceptive discussions are often intertwined with perceptions of modesty, morality, and adherence to religious injunctions. Some participants expressed fears that using contraceptives could be viewed as interfering

with "God's will" regarding family size and fertility. As a result, even when individuals are aware of modern methods, these religious and moral objections contribute to hesitancy, selective usage, or preference for traditional methods that are perceived as more culturally acceptable.

"It is good to space children. Even in Islam, we are allowed. But not all methods are acceptable" (Adult group).
"Some say using contraceptives means you want to be promiscuous. That's why many women hide it" (Adult group).
"Our religion does not support it. Children are from God, and we should not block them." (KII)
"Some women say they became sick after using injection. Others say it causes barrenness." (Adult group)
"Sometimes they (public health centres) say it is not available or they will ask too many questions." (Adult group)
Teenagers and Contraceptive Use: FGDs with teenagers revealed mixed opinions, with some advocating for accessibility while others hesitated due to fears of stigma or parental disapproval. Health professionals in KIIs stressed the importance of youth-friendly services to encourage informed decision-making. Whereas, women reported needing their husband's permission to use contraception, and many men expressed discomfort with their wives using methods without consultation.

"I support it fully, especially if it helps girls plan their lives" (Teenager group).
"Even if you want to use it, you'll be afraid your mother or people in the compound will find out" (Teenager group).
"Even if I want to use it, I must tell my husband. If he says no, I won't go." (Adult group)
"It is wrong for a woman to go secretly. We must agree first." (KII)

Factors Influencing Contraceptive Usage
Education and Awareness: FGDs with educated adults indicated that higher levels of education correlate with increased contraceptive use. KIIs with educators emphasized the need for structured school-based programs to address knowledge gaps.
"I went to college, so I understand why family planning is important" (Adult group).
"Those who went to school are not afraid to ask about these things" (Adult group).
Cultural and Religious Beliefs: FGDs with community elders revealed strong opposition to contraceptive use due to traditional values favouring large families. KIIs with religious leaders showed resistance to contraceptives but openness to discussions on natural family planning methods.

"In our culture, having many children is seen as wealth" (Adult group).
"We support spacing children, but not by using foreign medicines" – (Religious Leader [KII]).
Access to Health Services: FGDs with rural women highlighted distance and financial constraints as barriers to accessing contraceptive services. Health professionals suggested mobile clinics and community outreach as potential solutions to improve accessibility.

"The clinic is far. Sometimes there is no nurse. How can we use family planning if there is no one to give it?" (Adult group).
"People want to go, but the road is bad, and you must pay transport and for the medicine too" (Adult group).

Conclusion and Policy Recommendations

The findings from this study emphasize the need for targeted interventions to improve contraceptive awareness and use in Biu Local Government Area (LGA) and beyond. Given the cultural, religious, and socio-economic factors influencing reproductive health decisions, the following recommendations are proposed for both the study area and general application.

i. Strengthening Family Communication: Family discussions on contraception remain limited, often due to cultural taboos and discomfort surrounding reproductive health topics. In Biu LGA, many young people lack the opportunity to engage in open conversations with their parents or guardians about contraception, leading to misinformation or reliance on peers for knowledge. To address this, community-driven initiatives should be implemented to foster constructive parent-child communication. Community leaders, health workers, and social organizations should organize culturally appropriate workshops to encourage dialogue within families. These sessions should provide parents with the necessary skills and language to discuss contraception sensitively and informatively. Interviews with social workers highlighted the importance of structured workshops where parents can receive guidance on how to educate their children about reproductive health in a way that aligns with cultural values while ensuring accurate information is shared. Moreover, FGDs revealed that many teenagers feel their parents are not approachable on the topic. Intergenerational forums should be encouraged, where young people and elders engage in moderated discussions on reproductive health, breaking stigma and misinformation.

ii. Enhancing School-Based Education: Schools serve as an essential platform for reproductive health education, yet current curricula often lack comprehensive coverage of contraception and family planning. The study found that a significant proportion of adolescents rely on school-based information, making it crucial to improve the quality and depth of education on contraceptives. This study thereby recommends the need for age-appropriate, evidence-based sexuality education to be integrated into the formal school curriculum. This should cover contraceptive methods, safe practices, and reproductive rights. In addition, interviews with educators highlighted the need for specialized training programs for teachers on reproductive health topics. Equipping teachers with the right skills will ensure that they can deliver these lessons effectively and sensitively. Schools should also establish peer-led education programs where trained students disseminate accurate contraceptive information in a relatable manner, helping to reduce stigma and increase awareness.

iii. Community and Religious Engagement: Religious and cultural beliefs play a pivotal role in shaping attitudes toward contraception, particularly in conservative communities like Biu LGA. Many respondents cited religious opposition as a barrier to contraceptive use, indicating the need for faith-based and community-centred approaches to improve acceptance. Structured interfaith dialogues should be organized to discuss family planning within a moral and ethical framework that aligns with community values. Religious leaders who support family planning should be encouraged to integrate reproductive health messages into sermons and discussions, ensuring that contraceptive education is presented in a culturally sensitive way. Women's groups, youth organizations, and community elders should be mobilized to champion contraceptive education through storytelling, testimonials, and culturally relevant advocacy.

iv. Leveraging Digital Media for Youth Engagement: The study found that while digital platforms are a growing source of information, scepticism remains regarding the reliability of online contraceptive content. Given the increasing use of social media among young people in Biu LGA, digital strategies should be enhanced to provide credible, engaging, and accessible information. Medical professionals and trained health influencers should be

involved in creating engaging digital content to counteract misinformation. There is need for reproductive health content to be available in local languages, ensuring inclusivity and comprehension. Moreso, Government and health organizations should invest in mobile applications and social media pages where users can access expert advice, chat anonymously with professionals, and engage in interactive Q&A sessions.

v. Expanding Access to Contraceptive Services: Health facilities should establish dedicated youth-friendly spaces where adolescents can seek contraceptive services without fear of stigma or judgment. Mobile health clinics should also be deployed to reach rural and hard-to-reach areas. Financial barriers were identified as a factor influencing contraceptive use. The government and non-governmental organizations (NGOs) should provide subsidized or free contraceptives, particularly for students and low-income individuals. Many young people hesitate to seek contraceptive services due to perceived judgment from healthcare providers. Training programs should be implemented to ensure that health workers offer non-judgmental, youth-friendly, and confidential services.

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