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Comparative Assessment of Contraceptive Use and Associated Determinants Among Women of Reproductive Age in Bayelsa State: A mixed method Approach

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Abstract

Background: Contraception, according to the Cambridge Dictionary (2023), means the deliberate use of any method to avoid pregnancy. Contraception has been properly known to empower women and give them command over sexuality as well as reproductive health. The overall goal of this study is to assess and compare the use of modern contraceptives and its determinants among reproductive-aged women in urban and rural Bayelsa State, Southern Nigeria.

Materials and Methods: comparative cross sectional study design was employed with a mixed method (Qualitative and Quantitative) to collect data. These data were collected using a semi-structured questionnaire and focus group discussion guide from four rural communities and another four urban communities of Bayelsa State. The same semi-structured questionnaire was applied and administered to women of childbearing age in all the eight communities which was collected within two months. Data collected were processed employing Statistical Package for Social Sciences (SPSS) window version 26 using quantitative and qualitative methods to attain a better understanding of the use of contraception and its determinants among the reproductive-age women in urban and rural areas in Bayelsa.

Results: The result revealed that there is knowledge on contraceptive use for both urban and rural women but there is low level of attitude especially among rural women in attitude of the

use of contraceptives. it revealed that there are significant differences in knowledge and attitude in the use contraceptives in almost all the key indicators used for the study. The demographics, use of contraceptives, choice form, currently using contraceptives all indicated significant differences between urban and rural women. Chi-squared calculated (27.159) is bigger than Chi-squared tabulated (11.070190) at 0.05 significance level and 5 degrees of freedom (df), according to the results of the inferential test employing Chi-square.

Conclusion: The results of this study showed that women in urban areas had a higher level of knowledge about contraception than women in rural areas. Women's attitudes regarding the usage of contraceptives are the issue for both urban and rural women. According to the study's findings, a large percentage of respondents employed conventional forms of birth control, such as withdrawal, untested concurrent combinations, and herbs. The use of contraceptives was also hindered by financial limitations, relationship rejection, and misconceptions about them. Hence, efforts should be intensified towards enlightening the populace on the types, uses and benefits of modern contraceptives. There is also need to make contraceptives more affordable and accessible to all who desire it.

Keywords: Comparative Assessment, Contraceptive Use, Determinant, Reproductive Age, Urban, Rural, Communities.

INTRODUCTION

Contraception has been properly known to empower women and give them command over sexuality as well as reproductive health. As a result, women are engaged proactively in family planning, which helps in healthy family life and equitable population growth that does not exhaust society's resources but stimulates economic development and advancement (Anderson et al., 2023; D'Souza et al., 2022).

The World Health Organization (WHO, 2024) noted that despite their benefits, the prevalence rate of contraception—that is, the percentage of women of reproductive age who use a modern or natural method of contraception—varies significantly between the global north and the global south. There are regional variations that take place in a country due to an array of factors that render some areas to have low use of contraceptives in a country, while others experience high usage (WHO, 2024).

Contraception is an aged long practice that involves the use of medication, surgery, specific procedures and behaviours to avoid pregnancy (WHO, 2023).

Estimates from the United Nations in 2000 indicate that 49% of women worldwide who were of reproductive age used contraception. Just 18% of Nigerian women of reproductive age use modern forms of contraception, with the prevalence being higher in the south and lower in the north (Statistic, 2023). In their trend analysis of the use of contraceptives in Sub-Saharan Africa, Ahmed et al. (2019) found that the prevalence rate of contraception has slightly increased in several African nations. This might be the result of daily investments made by the government, non-governmental organizations, and private organizations in the use of contraceptives, as well as the development and implementation of initiatives that guarantee the use of various forms of contraceptives in the communities.

Anderson & Johnson (2023) believe that the utilization of contemporary contraceptives has enhanced family planning services via various avenues, including intrauterine contraceptive devices, oral contraceptive pills, patches and rings, injections, implants, and barriers, which allow women to choose the most acceptable form of contraception that they are most ready and comfortable to embrace. The use of modern contraceptives has been limited by countries based on conditions but are effective in preventing pregnancy and sexually transmitted infections among reproductive age women (Ajayi et al., 2018).

According to D'souza et al. (2022), 250 million women worldwide wish to postpone or prevent being pregnant, but they find it difficult or impossible to do so. As a result, an estimated 50% of unintended births occur, with related health, financial, and other effects on the person, family, and society as a whole. A systematic review that considered women's knowledge about contraceptives, beliefs, perceived side effects, education on poverty, support from male partners, family size, and pregnancy expectation

revealed that factors influencing women's use of modern contraceptives are consistent (D'souza et al., 2022),

In a mixed-methods investigation of modern contraceptive use among Indian women, Ewerling et al. (2021) found that 71.8% (95% CI 71.4-72.2) of the women used modern contraceptives. They found that 76.1% of the women used female sterilization, the most prevalent modern method of contraception. Condoms (11.8%), the pill (8.5%), and IUDs (3.2%) followed. They promoted the prioritization of women-centered care in family planning and enhancing access to reversible forms of contraception (Ewerling et al. (2021).

“Abubakar & Abubakar (2024) used multi-variate binary logistic regression in analyzing Nigeria Demography and Health Survey data of 2018 and found that 16.6% of Nigerians use modern contraceptives. Urban residency (aOR = 1.14, 95% CI: 0.97-1.33); working-class woman (aOR = 1.15, 95% CI: 0.99-1.33); residing in the South-West (aOR = 1.36, 95% CI: 1.03-1.79); increasing in wealth (aOR = 0.78, 95% CI: 0.66-0.93); and having insurance (aOR = 1.22, 95% CI: 0.89-1.68) were factors associated with an increase in the practice of modern contraception. They found that the use of modern contraceptives was governed by a combination of political and socioeconomic determinants and advocated an integrated approach to reduce the multiple barriers to the use of modern contraceptives in a bid to increase its use among Nigerian reproductive women (Abubakar & Abubakar, 2024)”.

Ahuru and Nzoputam's (2024) community-based cross-sectional assessment of the factors influencing the use of modern contraceptives in Delta State's Ughelli North Local Government Area (LGA) found that the prevalence rate of modern contraceptive use among females in LGA was 19.3%. The most popular methods of birth control were injectables, oral tablets, and implants. The most frequently mentioned justifications for using contemporary contraceptives were childbearing termination and spacing out births. The need to keep having children and the concern about side effects drove the decision to stop using modern contraceptives. Education at the secondary level (aOR: 1.456, 95% CI: 0.45–4.71) and at the university level (aoR: 3.091, 95% CI: 0.93–10.24) predict the use of contemporary contraceptives.

A United Nations estimate places the number at 120 to 165 million women, including 12 to 15 million single women, who try to space or prevent their pregnancies but never take family planning. Women are most likely to have unwanted and unplanned births and unsafe abortions since they have a "unmet need" for family planning (United Nations Report, 2011; Ukegbu et al., 2018).

There are many other methods through which contraception can be used. These include injectables, barrier methods, oral pills, IUCDs, natural methods, and surgery. Side effects, availability, safety, efficacy, and contraindications for different therapies vary, and these can affect people's satisfaction and preference to use birth control measures. Use of a contraceptive method with success and adherence is closely associated with the woman's desire and choice of method (Ukegbu et al., 2018).

Although contraceptives are readily available, their poor use in Nigeria results in a number of problems, such as undesired and unexpected pregnancies, which have a number of negative effects on a woman's physical and mental health, unsafe abortion, inappropriate child spacing, and female death. Unwanted and unplanned pregnancies are major problems in African countries. In Southwestern Nigeria, patients prevented 80.4% of pregnancies due to the unfavourable outcome, according to Ukegbu et al. 2018.

Given that abortion is illegal in Nigeria, an increase in unintended pregnancies brought on by unmet family planning needs will almost certainly lead to an increase in these risky abortions. As a result, the proportion of women experiencing complications following abortions is predicted to rise, further taxing the nation's already overburdened healthcare system. These concerns are concerning and necessitate the prompt identification of potential risks associated with the use of contraceptives as well as the promotion of their use in order to avoid adverse effects. Therefore, this study's goal is to measure the use of contemporary contraceptives by Bayelsa State's rural and urban women of reproductive age.

MATERIALS AND METHODS

STUDY DESIGN

comparative cross sectional study design was employed with a mixed method (Qualitative and Quantitative) to collect data. These data were collected using a semi-structured questionnaire and focus

group discussion guide from four rural communities and another four urban communities of Bayelsa State. The same semi-structured questionnaire was applied and administered to women of childbearing age in all the eight communities which was collected within two months.

STUDY AREA

Bayelsa State, situated in the center of Nigeria's Niger Delta region, was established on October 1, 1996, making it one of the youngest states in the country. A vital component of the Niger Delta, the third-largest wetland in the world, it is located in the south-south geopolitical zone of Nigeria (Igbani, 2021). Yenagoa serves as the state capital, and the Atlantic Ocean borders the state to the west and south, Rivers State to the east, and Delta State to the north (Akintola et al., 2021).

Bayelsa State offers the most extensive unobstructed coastline in the West African sub-region, an attribute that strengthens its value as a prominent tourist destination. In addition to providing abundant ecological resources, the state's natural landscapes—which include enormous wetlands, rivers, and mangrove forests—have an impact on the economical livelihoods of its residents (Okorotie, 2025).

The Ijaw ethnic groups, mainly speak the languages of Izon, Nembe, Ogbia, and Epie-Atissa, make up the majority of the inhabitants in Bayelsa. Since oil accounts for more than 30% of the country's output, the state plays a major role in Nigeria's economy. Being one of the country's top regions for producing natural gas and petroleum, Bayelsa continues to be vital to the country's energy sector (Akintola et al., 2021).

Even though the state has a plethora of natural resources, fishing and farming are its main sources of income. In conjunction with local gin manufacture, commerce, and wood carving, the state's main economic activity is the production of palm oil and lumbering (Akintola et al., 2021).

The southern Nigerian state of Bayelsa is a location of great ecological and economic significance because of its varied habitats and enormous oil reserves. Due to intensive oil exploration and related activities, the Niger Delta, which includes Bayelsa, has historically been a focus point for a number of environmental and social challenges (Wekpe et al., 2024).

The state is strategically located in Nigeria's oil and gas industry because of its wealth of natural resources, especially crude oil. This has not, however, been without difficulties. Environmental issues like gas flaring, oil spills, and the ensuing ecological damage have been common. Local livelihoods are severely damaged by these activities, especially in artisanal fisheries where environmental degradation has resulted in decreased fish harvest and changed aquatic ecosystems (Keme-Iderikumo et al., 2024). The state is confronted with socio-economic concerns related to resource management and pollution. Bayelsa has been designated as one of the Niger Delta's hotspots for oil spills and gas flaring, which are common environmental problems (Wekpe et al., 2024).

Geographical location of Bayelsa State

Bayelsa State is geographically located in an area of 10,773 km² and is found in the latitudes 4°15'N and 5°23'N and the longitudes 5°22'E and 6°45'E. Bayelsa State is bordered by Rivers State in the east, Delta State in the north, the Atlantic Ocean to the south of the majority of the state, and the River Niger in the east and the forcados in the north. Bayelsa's estimated population as of 2024 is 3,700,000, and the state consists of eight LGAs: Brass, Ekeremor, Kolokuma/Opukuma, Sagbama, Southern Ijaw, Nembe, and Yenagoa LGA (Ministry of Ijaw National Affairs, 2024).

Bayelsa State is situated in the Niger Delta area in southern Nigeria. This region is distinguished by its riverine topography and is well-known for its intricate system of waterways, oil-rich fields, and mangroves. The state is bordered to the east by Rivers State and to the north by Delta State (Michael, 2024; Keme-Iderikumo et al., 2024). The vast Niger Delta, which includes the coastal area of Bayelsa State, is well-known for environmental issues like oil spills and gas flaring that have an impact on regional ecosystems and economies (Wekpe et al., 2024; Ogamba et al., 2016). A natural environment for a variety of plants and animals, including unusual species like the Atlantic mudskipper, Bayelsa's geography is dominated by large wetlands and is bordered to

the south by the Atlantic Ocean (Nathaniel et al., 2024). The socioeconomic activities of the region, which mostly center on fishing and oil extraction, are significantly influenced by this geographic location (Keme-Iderikumo et al., 2024).

The area is prone to seasonal flooding since it is primarily low-lying, with altitudes typically less than 20 meters above sea level. Significant waterways including the Nun, Forcados, and Brass Rivers are among the many rivers, creeks, and estuaries that define the state's landscape. In addition to defining the state's physical topography, these bodies of water are essential to the livelihoods of its citizens (Akintola et al., 2021).

POPULATION OF STUDY

Reproductive age women (15 - 49years) who are currently residing in the rural and urban communities in Bayelsa state. This included females that are indigenes or non-indigenes within childbearing age (15 – 49years) and currently a resident of the target communities for the study.

Eligibility Criteria

Inclusion Criteria

- 1.Reproductive age women (15 - 49years) who are resident in Bayelsa State.
2. Reproductive age women (15 - 49years) who has continuously lived in Bayelsa State for one year
- 3.Women who are at risk of pregnancy (Sexually Active).

Exclusion Criteria

- 1.Women who had early menopause
2. Women who had hysterectomy (surgical removal of the uterus or womb).
- 3.Women who are on long term treatment that will affect reproductive capacity.
4. Women of reproductive age (15 - 49years) with communication issues or speech deficit

SAMPLE SIZE DETERMINATION

Comparative studies aim to establish differences between two or more groups in so far as whether or not there exist statistically significant differences between them based on some parameters. In comparative

study, the null hypothesis (H0) is that there will be no differences between the groups to be compared. The research or alternative hypothesis (HA) is that there is a difference, and thus rejection of the status quo. The same semi-structured questionnaire was administered to women of childbearing age in all the eight communities which was gathered in two months duration. It is necessary to have an appropriate sample size so that one can be in a position to make valid conclusions for the study. Rural and urban communities to be targeted for the study had their sample size calculated.

Bayelsa State holds an approximate population of 2,615,391 and women aged between 15-49 years make up 575,386 (Adapted from Bayelsa State WHO, 2021). The sample frame for the study is thus 575,386 women aged between 15-49 years.

To obtain the total number of subjects for this study, the sample size equation formula of (Zhang, 2024) for comparative study was utilized.

This is given as:

$$n = \frac{(Z\alpha + Z\beta)^2 \times 2 \times p(1-p)}{d^2}$$

Where:

n = Sample Size

$Z\alpha$ = Standard normal deviate that gives provision for α error at 95% confidence interval = 1.96

$Z\beta$ = Statistical Power at 80% with provision for β error = 0.8

P = It is the proportion or prevalence of reproductive age women who are using Contraceptive = 38.6% = 0.386 (Dambo et al., 2017)

d = Expected difference between modern contraceptive use among reproductive age women in urban and rural communities in Bayelsa State. Providing for 10% non-response rate

Substitute:

$$n = \frac{(1.96 + 1.28)^2 \times 2 \times (0.386 (1-0.386))}{0.1^2}$$

$$n = \frac{(3.24)^2 \times 2 \times (0.386 (0.614))}{0.01}$$

$$n = \frac{10.4976 \times 2 \times (0.2370)}{0.01}$$

$$n = \frac{10.4976 \times 0.474}{0.01}$$

$$n = \frac{0.01}{4.9758}$$

$$n = 497.6 \approx 498 \text{ women of reproductive age}$$

Assuming a 10% non-response rate,

$$n = \frac{497}{1-0.1}$$

$$n = 552.2 \approx 552 \text{ women of reproductive age}$$

Providing for 50% design effect, then multiple by a factor of 1.5

$$n = 552 \times 1.5 = 828$$

This gives a total of 828 per group. For both groups, this will be $2 \times 828 = 1656$ women of reproductive age.

SAMPLING TECHNIQUE

A multistage sampling methodology was employed for this research. Bayelsa state has 3 Senatorial districts “Bayelsa East, Bayelsa Central and Bayelsa West” with 8 Local Government Areas, 231 Wards and Two hundred and seventy-nine functional primary health care centers, Fifty-nine secondary health care facility and one Tertiary center. The local government areas were categorized into the 3 senatorial districts, namely

Bayelsa East: Brass, Ogbia and Nembe

Bayelsa Central: Kolokuma/Opokuma/Southern Ijaw /Yengoa

Bayelsa West: Ekeremor/Sagbama

The multi-stage sampling strategy was used in this study to choose participants from Bayelsa State, guaranteeing a representative and strong sample. This will involve multiple crucial steps in the process

First Stage: Selection of Local Government Areas (LGAs)

In the first stage, purposive sampling technique was employed to stratify the eight Local Government Areas into urban and rural Local Government Areas (LGAs) by National Population Commission (NPC) classification standard of the availability of basic developmental amenities.

Second Stage: Selection of Urban and Rural LGAs

Simple random sampling technique by balloting was used to sample two local government areas of Yenagoa and Sagbama to be urban while out of the six rural local government areas, another two local government area of Nembe and Ogbia were sampled as rural. This will give a total sum of two urban and rural areas respectively.

Third Stage: Selection of Wards

Simple random sampling technique by balloting method was employed in the selection of two wards each in two rural and urban communities from the selected local government areas.

Fourth Stage: Identification of selected Urban and Rural communities

Identification of selected urban and rural communities in each of the selected wards in stage 4 by simple random balloting method. For the urban communities in Yenagoa LGA, Opolo and Ovom communities were selected for the study while in Sagbama LGA, Sagbama and Toruorua communities were selected for the study. For the rural communities in Nembe LGA, Ogbolomabiri and Bassambiri were selected while in Ogbia LGA, Otuesega and Otuokpoti communities were selected for the study.

Fifth Stage: Selecting Participants

Selection of reproductive age women (15-49yrs) in the household of the selected rural and urban communities.

The study adheres with survey research best practices by employing this multi-stage sampling technique, which makes it easier to extrapolate findings to a larger population (Kelley et al, 2003). This all-encompassing strategy improves the validity and dependability of the data gathered, offering insightful information about the factors that influence the use of contraceptives by women of reproductive age in urban and rural communities in Bayelsa State.

Based on the sample size of 1656 approximated by using the sample size equation formula for comparative study. The participants of this study will be selected by using systematic random sampling technique through house listing of the selected eight communities of Opolo, Ovom, Sagbama and Toruorua for urban and Ogbolomabiri, Bassambiri, Otuesega and Otuokpoti for rural with the aid of eight enumerators with one covering each of the selected communities.

Based on the listing, women of reproductive ages of 15-49 years were selected from the listed households. Below is a summary breakdown of total number of women of reproductive ages from the selected eight communities and their respective sample sizes in relation with the estimated total sample size of 1656.

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STRATIFIED PROPORTIONATE SAMPLE SIZE ALLOCATION

S/No	Classification	Communities	Population	Sample Size Estimation
1.	Urban	Opolo	1562	$1562/6381 * 1656 = 405$
2.	Urban	Ovom	1259	$1259/6381 * 1656 = 327$
3.	Urban	Sagbama	623	$623/6381 * 1656 = 162$
4.	Urban	Toru-orua	457	$457/6381 * 1656 = 118$
5.	Rural	Ogbolomabiri	593	$593/6381 * 1656 = 153$
6.	Rural	Bassambiri	610	$610/6381 * 1656 = 157$
7.	Rural	Otuesega	491	$491/6281 * 1656 = 128$
8.	Rural	Otuokpoti	786	$786/6281 * 1656 = 206$
Total			6381	1656

Source: Researchers Field work and Estimation, 2025

NATURE OF DATA

Data type of this study was primary and secondary data. The primary data was semi-structured questionnaire. Secondary data was collected from journals, internets, newspapers and existing research work, this constitutes a greater part of the literature review. The researcher utilized the services of eight research assistants in administering the questionnaire and focus group discussion. Data collection was conducted by a face-to-face delivery of the questionnaire to the respondents. The collection of data was done in four weeks and the questionnaires administered were retrieved on the spot after filing. The questionnaire approach was adopted as it afforded the researcher the acquisition of vital information by eliciting the opinion of the respondents on the subject of study. The questionnaires also assured the respondents anonymity (Goel, 1988).

Secondary data were collected from journals, internets, newspapers and previous research work, this constitutes a greater part of the literature review. The researcher employed the help of three assistants in the administration of the questionnaire. Data collection was carried out by a face-to-face delivery of the questionnaire to the respondents. The collection of data was done in four weeks and the questionnaires administered were retrieved on the spot after filing.

METHODS OF DATA COLLECTION/ INSTRUMENTATION

The study's data gathering was between June and August of 2025, a period of two months. To guarantee a thorough grasp of contraceptive use and its determinants, the methodology included quantitative and qualitative methods.

Gathering quantitative data: Research assistants were trained to administer structured questionnaires by conducting in-person interviews with women of reproductive age who will be chosen or selected from both urban and rural regions. This strategy was chosen in particular to account for respondents' differing literacy levels, which will improve response rates and data accuracy while also fostering rapport. In order to ensure inclusivity and comprehension, interviews was done in either English or the local dialect, depending on the respondent's preference. Because in-person interviews enable researchers to address any uncertainties in respondents' responses, they are especially useful for gathering high-quality data (Opdenakker, 2006).

Qualitative Data Collection: 4 Focus group discussion and in-depth Key Informant Interviews (KIIs) was employed to collect qualitative data in addition to quantitative surveys. These interviews were allowed for a greater knowledge of the difficulties the community faces by offering extensive, contextual insights into the obstacles to the usage of contraception. Through the incorporation of these strategies, the

study sought to develop an in-depth understanding of the determinants of contraceptive use among reproductive-aged women in urban and rural communities in Bayelsa state.

INSTRUMENTS OF DATA COLLECTION

Data collection employed a combination of structured instruments to gather comprehensive information on contraceptive use and its determinants.

The primary tools include:

Semi-Structured Questionnaire: Adapted from the WHO's Decision-Making tool for clients and providers on contraceptives (WHO,2022), this questionnaire was designed to capture a wide range of data. It includes sections on demographic information, Obstetric history, knowledge, Attitude and Contraceptive use history. The questionnaire will feature both closed and open-ended questions, allowing for the collection of quantitative and qualitative data.

Key Informant Interview (KII) Guides: Adapted from (NURHI,2017). These guides facilitated in-depth qualitative insights from caregivers and health workers, enriching the quantitative data obtained from the questionnaires.

Focus Group Discussion Guides: There were eight focus group discussions (FGDs), four from urban communities selected and four from rural communities selected respectively. There was a semi-structured guide FGD that inquired about the facilitators and barriers to contraceptive use, with whom individuals in the community will converse about contraception, knowledge of contraceptive, Attitude and preferences.

The structured questionnaire was pre-tested in pilot research with 50 participants drawn from a non-selected Local Government Area (LGA) to guarantee its efficacy. Changes made in response to comments submitted to this pilot study will improve the questions' validity, reliability, and clarity.

VALIDITY/ RELIABILITY OF INSTRUMENT

Validity and reliability were carefully evaluated in order to guarantee the stability of the data gathering tools.

VALIDITY

To establish the face and content validity of the instrument, the instrument was shown to the supervisor of the researcher and two other lecturers in the Department of School of Public Health, University of Port Harcourt, Rivers State. Based on their comments that was strictly adhered to, the instruments were considered valid; thus, it was used for the study.

In order to determine the study's reliability, Cronbach Alpha coefficient was applied. The tools' reliability was determined through test-retest reliability test. Questionnaires were administered to respondents other than the population within the study and re-administered to the same 20 respondents two weeks later for determining the instrument reliability. A reliability coefficient of more than 0.77 was considered reliable for the study. This approach was used since it determines the internal reliability of the instrument.

METHODS OF DATA ANALYSIS

Data collected were processed employing Statistical Package for Social Sciences (SPSS) window version 26 using quantitative and qualitative methods to attain a better understanding of the use of contraception and its determinants among the reproductive-age women in urban and rural areas in Bayelsa.

QUANTITATIVE DATA ANALYSIS

Quantitative data that was collected from sampled participants with the use of close-ended questionnaires was sorted, coded and analyzed descriptively using percentages, frequencies, mean and standard deviation to summarize demographic and contraceptive use data. The hypothesis formulated to guide the study was tested inferentially using Chi-square test to assess and compare the correlation between sociodemographic data, Obstetrics history, knowledge, Attitude and uptake of contraceptive use in urban and rural communities in Bayelsa State. The analysis was done with the aid of SPSS software 26.0 version.

QUALITATIVE DATA ANALYSIS

Qualitative data was collected from open-ended questions, focus group discussion and Key Informant Interview guide on contraceptive use and its determinants. Qualitative data that was collected and was transcribed and analysed.

RESULTS

Data for this study was collected based on urban and rural classification. Yenagoa and Sagbama LGA's were classified as urban with Opolo and Ovom sampled from Yenagoa LGA and Sagbama community and Toru-orua sampled from Sagbama LGA. Nembe and Ogbia LGA's were classified as rural with Ogbolomabiri and Bassambiri sampled from Nembe LGA while Otuasega and Otuokpoti were sampled from Ogbia LGA. Based on the sample size of 1656, questionnaires were administered with all 1656 questionnaires retrieved. Retrieved questionnaires were scrutinized and sorted out to determine if they were properly filled. All 1656 questionnaires were confirmed to be properly filled and as such suitable to be used for the analysis. Qualitative data from all close-ended questions of the questionnaires were coded, programmed into SPSS and analyzed using percentages, frequencies and presented in tabular

form with the aid of Statistical Package for Social Sciences (SPSS) version 26.0 at 0.05 levels of significance.

Data collected from urban and rural communities were compared to determine whether there are differences utilizing Chi-Square test and t-test. A calculated Chi-Square value greater than the tabulated value is a confirmation that there are differences between data collected for urban and rural communities. In addition, a p-value less than the significance level of 0.05 is also an added guarantee of significant differences in data secured between city and rural societies. Lastly, the hypothesis developed to guide the study was also subjected to testing through Chi-square Test with the decision rules above discussed applied as prerequisite for rejection or acceptance of the given hypothesis to the study.

Table 1: Community of Respondents

Sampled Communities	Frequency	Percent	Valid Percent	Cumulative Percent
Opolo	405	24.5	24.5	24.5
Ovom	327	19.7	19.7	44.2
Sagbama	162	9.8	9.8	54.0
Toruorua	118	7.1	7.1	61.1
Ogbolomabiri	153	9.2	9.2	70.4
Bassambiri	157	9.5	9.5	79.8
Otuasega	128	7.7	7.7	87.6
Otuokpoti	206	12.4	12.4	100.0
Total	1656	100.0	100.0	

Source: Researcher's Field Work, 2025

Table 1. shows that 405(24.5%) of the sampled respondents representing the urban communities are resident in Opolo, 327(19.7%) are resident in Ovom, 162(9.8%) are resident in Sagbama and 118(7.1%) are resident in Toru-orua. Also, 153(9.2%) of the sampled respondents representing the rural communities are resident in Ogbolomabiri, 157(9.5%) are resident in Bassambiri, 128(7.7%) are resident in Otuasega and 206(12.4%) are resident in Otuokpoti.

Table 2: Classification

Classification	Frequency	Percent	Valid Percent	Cumulative Percent
Urban	1012	61.1	61.1	61.1
Rural	644	38.9	38.9	100.0
Total	1656	100.0	100.0	

Source: Researcher's Field Work, 2025

Table 2 shows that 1012(61.1%) of the sampled respondents from urban while 644(38.9%) are from rural communities.

Table 4: Socio-Demographic Analysis

Table 4: Comparison of Socio-Demographic Characteristics of Respondents					
Variables	Classification		X ²	df	P-value
	Urban	Rural			
Age (Years)	Frequency (%)	Frequency (%)	163.863	4	.000 ^b
15-21	693 _a (68.5%)	250 _b (38.8%)			
22-28	144 _a (14.2%)	161 _b (25.0%)			
29-35	128 _a (12.6%)	121 _b (18.8%)			
36-42	26 _a (2.6%)	48 _b (7.5%)			
43-49	21 _a (2.1%)	64 _b (9.9%)			
Total	1012 (100%)	644 (100%)			
Student's t statistic - 12.49377					
Occupation			372.485	5	.000 ^b
Farming	226 _a (22.35%)	73 _b (11.3%)			
Fishing	171 _a (16.9%)	37 _b (5.6%)			
Student	247 _a (24.4%)	43 _b (6.7%)			
Civil Servant	306 _a (30.2%)	87 _b (13.5%)			
Currently					
Unemployed	31 _a (3.1%)	59 _b (9.2%)			
Others	31 _a (3.1%)	11 _a (1.7%)			
Total	1012 (100.0%)	644 (100.0%)			
Student's t statistic - - 4.559					
Tribe			54.499	4	.078 ^b
Ijaw	448 _a (44.3%)	293 _a (45.5%)			
Yoruba	53 _a (5.2%)	29 _a (4.7%)			
Ibo	74 _a (7.3%)	16 _b (2.5%)			
Hausa	90 _a (8.9%)	16 _b (2.5%)			
Others	347 _a (34.3%)	290 _b (45.0%)			
Total	1012 (100.0%)	644 (100.0%)			
Student's t statistic - 1.704					
Marital Status			377.937	3	.000 ^b
Single	836 _a (82.6%)	230 _b (35.7%)			
Married	146 _a (14.4%)	343 _b (53.3%)			

Divorced	16 _a (1.6%)	44 _b (6.8%)			
Separated	14 _a (1.4%)	27 _a (4.2%)			
Total	1012(100.0%)	644(100.0%)			
Student's t statistic - 20.159					
Types of Marriage			83.497	1	.000
Monogamy	133 _a (75.6%)	143 _b (34.5%)			
Polygamy	43 _a (24.4%)	271 _b (65.5%)			
Total	176 (100.0%)	414 (100,0%)			
Mean					
Student's t statistic – 9.625					
Education			240.361	3	.000
No Formal Education	114 _a (11.3%)	156 _b (24.2%)			
Primary	99 _a (9.8%)	86 _a (13.4%)			
Secondary	242 _a (23.8%)	291 _b (45.2%)			
Tertiary	557 _a (55.1%)	111 _b (17.2%)			
Total	1012(100.0%)	644(100.0%)			
Mean					
student's t statistic - - 15.139					

SPSS output by default with same subscript letter denotes a subset of classification categories whose column proportions do not differ significantly from each other at the .05 level. Different alphabets implies that there are significant differences at 0.05 level

Source: Researcher's Field Work and Computation, 2025

The table 4 depicts the demographic profile of respondents from the urban and rural sample communities. The analysis indicates a substantial difference between the respondents in relation to age, occupation, marital status, marriage type, and education. This conclusion is supported by the different percentage levels, subscript letters and P-values less than 0.05 ($P = .000$). Therefore, the urban and rural respondents vary significantly with respect to the demographic profile.

However, tribe/ethnicity was not significantly different between the two sets of population since most categories had the same subscript letters and P-value (.078) was more than 0.05 significance level. In essence, the tribal composition of the respondents varied insignificantly, but the demographic characteristics of the urban and rural populations were different in most respects.

Table 5: Test of Research Questions and Objectives

Table 5: Obstetric History of respondents (Urban and Rural)						
Variables	Classification		X²	df	P-value	
	Urban	Rural				
You been pregnant before.	Frequency (%)	Frequency (%)	5.122	1	.013 ^b	
Yes	612 _a (60.5%)	425 _b (66.0%)				
No	400 _a (39.5%)	219 _b (34.0%)				
Total	1012 _a (100.0%)	644 _b (100.0%)	1656			
If Yes, How Many Times?			88.896	4	.000	
1-3	176 _a (28.8%)	69 _b (16.2%)				
4-6	236 _a (38.6%)	102 _b (24.0%)				
7-9	151 _a (24.7%)	165 _b (38.8%)				
10-12	38 _a (6.2%)	50 _b (11.8%)				
13 and above	11 _a (1.8%)	39 _b (9.2%)				
Total	612 (100.0%)	425 (100.0%)	1037			
How many living children do you have			78.476	4	.000 ^b	
1-3	289 _a (47.2%)	120 _a (47.2%)				
4-6	185 _a (30.2%)	150 _a (35.3%)				
7-9	121 _a (19.8%)	87 _b (20.5%)				
10-12	10 _a (1.6%)	40 _b (9.4%)				
13 and above	7 _a (1.1%)	28 _b (6.6%)				
Total	612 (100.0%)	425 (100.0%)	1037			
When is the right time to resume sexual intercourse after delivery			56.161	4	.000 ^b	
1-4 weeks	56 _a (9.2%)	87 _b (20.5%)				
5-8 weeks	90 _a (14.7%)	96 _b (22.6%)				
9-12 weeks	125 _a (20.4%)	82 _b (19.3%)				
13-16 weeks	196 _a (48.4%)	123 _a (28.9%)				
17 and above	45(7.4%)	47(8.7%)				
Total	612 (100.0%)	425 (100.0%)	1037			
Have you been pregnant with a baby from 28 weeks and above			1.226	1	.147	
Yes	751 _a (74.2%)	462 _b (71.7%)				
No	261 _a (25.8%)	182 _b (28.3%)				
Total	1012 (100.0%)	644 (100.0%)	1656			
If Yes, How Many Times			94.679	3	.000	

1-4 times	215 _a (11.3%)	241 _b (24.2%)			
5-7 times	224 _a (9.8%)	127 _a (13.4%)			
9-12 times	162 _a (23.8%)	72 _b (45.2%)			
13 and above times	150 _a (55.1%)	22 _b (17.2%)			
Total	751(100.0%)	462(100.0%)	1213		
Did You Attend Antenatal Clinic					
Yes	695(92.5%)	335(72.5%)	89.603	1	.000
No	56(7.5%)	127(27.5%)			
Total	751(100.0%)	462(100.0%)	1213		
If yes, how many times			X²	df	P-value
1-5	85(12.2%)	139(41.5%)	184.743	4	.000
6-10	120(17.3%)	102(17.3%)			
11-15	155(22.3%)	45(13.4%)			
16-20	182(26.2%)	26(7.8%)			
21 and above	153(22.0%)	23(6.9%)			
Total	695(100.0%)	335(100.0%)			
Did You Have Health Talks					
Yes	600(86.3%)	296(88.4%)	.821	1	.211
No	95(13.7%)	39(11.65)			
Total	695(100.0%)	335(100.0%)			
At what Age did you use your first form of contraceptive					
15-19	215(21.2%)	183(28.4%)	13.800	4	.007
20-24	405(40.0%)	243(37.7%)			
25-29	336(33.2%)	177(27.5%)			
30-34	35(3.5%)	23(3.6%)			
35 and above	21(2.1%)	18(2.8%)			
Total	1012(100.0%)	644(100.0%)	1656(100.0%)		
What is the first form of contraceptive					
Natural Method	156(15.4%)	344(53.4%)	343.006	5	.000
Withdrawal Method	178(17.6%)	32(5.0%)			
Exclusive Breast feeding	172(17.0%)	46(7.1%)			
Male Condom	213(21.0%)	37(5.1%)			
Female Condom	52(5.1%)	10(1.6%)			
Oral Pills	241(23.8%)	175(27.2%)			
Total	1012(100.0%)	644(100.0%)	1656		

Source: Researcher's Field Work and Computation, 2025

Table 5 illustrates a comparative study of reproductive characteristics and contraception measures for women living in urban and rural areas. According to the results obtained, there are

considerable discrepancies between the two groups of women in several aspects related to their reproductive health. There were significant discrepancies between the two groups of women in terms of previous pregnancy experience ($\chi^2 = 5.122$, $p = 0.013$), the number of pregnancy ($\chi^2 = 88.896$, $p < 0.001$), the number of alive children ($\chi^2 = 78.476$, $p < 0.001$) and time when the sexual activity resumed after childbirth ($\chi^2 = 56.161$, $p < 0.001$).

There were no significant discrepancies between the urban and rural women in terms of pregnancy with babies 28 weeks or more old ($\chi^2 = 1.226$, $p = 0.147$). Nonetheless, among those who experienced such a pregnancy, there were significant discrepancies in the duration or other characteristics of the pregnancy ($\chi^2 = 94.679$, $p < 0.001$).

It was also evident that there was a significant urban-rural difference in antenatal clinic attendance. Antenatal clinic attendance among the two samples was significantly different ($\chi^2 = 89.609$, $p < 0.001$) as well as the frequency of attending antenatal clinics among those who utilized the services ($\chi^2 = 184.743$, $p < 0.001$). However, no significant difference was seen concerning attendance of health talks in the antenatal period ($\chi^2 = 0.821$, $p = 0.211$).

As regards contraceptive use, a significant urban-rural difference existed concerning the age at first contraceptive use ($\chi^2 = 13.980$, $p = 0.007$) and first method of contraception used ($\chi^2 = 343.006$, $p < 0.001$).

Overall, there was a clear indication that there are significant urban-rural differences in reproductive history, utilization of maternal healthcare and contraceptive use while there are similarities concerning exposure to health talks and occurrence of pregnancy of 28 weeks gestation or more.

Table 6: Knowledge and Attitude of Respondents

Variables	Classification		X ²	df	P-value
	Urban	Rural			
Are you sexually active?	Frequency (%)	Frequency (%)	177.223	1	.000 ^b
Yes	573 _a (56.6%)	565 _b (87.7%)			
No	439 _a (43.4%)	79 _b (12.3%)			
Total	1012 _a (100.0%)	644 _b (100.0%)			
Have you heard about contraception methods?	Urban	Rural	25.464	1	.000 ^b
Yes	927 _a (91.6%)	513 _b (79.7%)			
No	85 _a (8.4%)	131 _b (20.3%)			
Total	1012 _a (100.0%)	644 _b (100.0%)			
If yes, which one(s)?			37.246	15	.001 ^b
Natural Methods	102 (54.6%)	56 (45.4%)			
Withdrawal Method	33 (54.1%)	28 (45.9%)			
Exclusive Breast Feeding	66 (70.2%)	28 (29.8%)			
Male Condom	78 (73.6%)	28 (26.4%)			
Female Condom	54 (65.9%)	28 (34.1%)			
Oral Pills	132 (24.7%)	52 (7.1%)			
Injectables	45(65.2%)	24(.34.8%)			
Implants	48 (63.2%)	28 (36.8%)			
Intrauterine contraceptive device	54 (69.2%)	24 (30.8%)			
Female sterilization	51 (64.6%)	28 (35.4%)			
Male sterilization (vasectomy)	24(60.0%)	16(40.0%)			
Natural Methods/Withdrawal Method/Oral Pills	84 (70.0%)	36 (30.0%)			
Natural Methods/Oral Pills	24 (45.3%)	29 (54.7%)			
Oral Pills/Male Condom/Injectables	32 (55.2%)	26 (44.8%)			
Natural Methods/Exclusive Breastfeeding	18(41.9%)	25(58.1%)			
Natural Methods/Male Condom/Oral Pills	82(59.0%)	57(41.0%)			
Total	927(100.0%)	513(100.0%)	1440		
How did you hear about these methods?			45.189	3	.000
I heard it from a health worker	210 (68.2%)	98 (31.8%)			

I heard it from family and friends	170 (68.8%)	77 (31.2%)	
I heard it from television/radio/print media	85 (54.5%)	71 (45.5%)	
Others (specify)	25 (34.2%)	48 (65.8%)	
I heard it from health worker/I heard it from family and friends	171(67.9%)	81(32.1%)	
I heard it from television/radio/print media/ I heard it from family and friends	166(69.7%)	72(30.3%)	
I heard it from health workers/I heard it from television/radio/print media	100(60.2%)	66(39.8%)	
Total	927(100.0%)	513(100.0%)	1440

Source: Researcher's Field Work and Computation, 2025

Table 6 highlights the substantial differences between urban and rural women in terms of the use of contraceptives and practices associated with it. The data collected indicates that previous use of contraceptive methods among the two groups was highly significant ($\chi^2 = 20.321$, $p < 0.001$).

In addition to this, the difference between current use of contraceptives among urban and rural women was also found to be highly significant ($\chi^2 = 265.957$, $p < 0.001$). Another important difference is that the types of methods used by the two groups for contraception were also significantly different.

Effectiveness of different contraceptive techniques was also seen to differ significantly ($\chi^2 = 127.555$, $p < 0.001$). It is apparent from the data that differences were present in the use of different techniques such as natural family planning, male condoms, and oral contraceptives, which indicate that there exist disparities between urban and rural women with regards to contraceptive techniques used and their effectiveness.

Moreover, significant differences were present with regards to the reasons for using contraception ($\chi^2 = 15.872$, $p = 0.005$).

Generally, there is a clear disparity between urban and rural populations in terms of prior and current contraceptive use, choice and efficacy of contraceptives, and reasons for choosing contraceptives. The differences point to varying reproductive behavior and family planning practices between urban and rural women.

Table 7: Contraceptive History and Behaviour Towards its Use (Urban and Rural)

Variables	Classification		X ²	df	P-value
	Urban	Rural			
You Ever used Contraceptives Before	Frequency (%)	Frequency (%)	20.321	1	.000 ^b
Yes	946 _a (93.5%)	236 _b (90.9%)			
No	393 _a (6.5%)	408 _b (9.1%)			
Total	1012 (100%)	644 (100%)			
currently using any form of contraception			94.748	1	.000 ^b
Yes	619 _a (93.5%)	560 _b (90.9%)			
No	66 _a (6.5%)	84 _b (9.1%)			
Total	1012 (100%)	644 (100%)			
If yes, kindly choose the one you currently use?			54.499	4	.078 ^b
Natural Method	60 _a (44.3%)	136 _a (45.5%)			
Withdrawal Method	215 _a (5.2%)	20 _a (4.7%)			
Exclusive Breast Feeding	47 _a (5.5%)	35 _b (4.1%)			
Male Condom	132 _a (15.4%)	32 _b (3.7%)			
Female Condom	20 _a (2.3%)	3 _b (0.4%)			
Oral Pills	145 _a (17.0%)	10 _b (1.2%)			
Total	619 (72.4%)	236 (27.6%)	855 (100.0%)		
Which Methods Have Worked for You			377.937	3	.000 ^b
Natural Method	112 _a (82.6%)	135 _b (35.7%)			
Male Condom	192 _a (14.4%)	42 _b (53.3%)			
Oral Pills	315 _a (1.6%)	59 _b (6.8%)			
Total	619 (72.4%)	236 (27.6%)	855 (100.0%)		
Reason for contraception use			83.497	1	.000
To complete my family	56 (6.55%)	14 (1.6%)			
For child spacing	172 (20.1%)	62 (7.3%)			
To prevent pregnancy	319 (37.3%)	120 (14.0%)			
For economic reasons	72 (8.4%)	40 (4.7%)			
Total	619 (72.4%)	236 (27.6%)	855 (100.0%)		

Reasons for not using contraceptives			240.361	3	.000
Need for more children	117 (29.8%)	145 (35.5%)			
Not available	51(13.0%)	26(6.4%)			
Husbands' opposition	104 _a (26.5%)	73 _b (17.9%)			
Fear of side effect	75 _a (19.1%)	97 _b (23.8%)			
Lack of knowledge	31(7.9%)	46(11.3%)			
Religion/Culture	15(3.8%)	21(5.1%)			
Total	393 _a (100.0%)	408 _b (100.0%)	801(100.0%)		

Source: Researcher's Field Work and Computation, 2025

Table 7 presents considerable disparities between urban and rural women regarding the use of contraceptives and related variables. It is noted that the previous use of any form of contraceptives differed considerably between urban and rural respondents ($\chi^2 = 20.321$, $p < 0.001$).

Moreover, there were considerable differences in current usage of contraceptives between the two categories ($\chi^2 = 265.957$, $p < 0.001$). In addition, there was considerable disparity between urban and rural women in regard to the types of contraceptive methods used currently by them.

Furthermore, there were significant differences concerning the contraceptives considered to be very effective ($\chi^2 = 127.555$, $p < 0.001$). The effectiveness of contraceptives such as natural family planning method, male condom, and oral contraceptive pill differed considerably from each other.

Moreover, the factors behind the use of contraceptive methods were found to be different from each other ($\chi^2 = 15.872$, $p = 0.005$), which implies that there are differences in motivations for the use of contraception based on place of residence.

In conclusion, it can be stated that there is a considerable difference between urban and rural areas when it comes to the past and present contraceptive usage, choice of contraceptive methods, efficiency of these methods, and motivations behind their use.

Table 8: Data Presentation and Analysis of Focus Group Discussion (FGD's)

Theme	Frequency		Description
	Urban	Rural	
Types of contraceptive methods known to the women	15/16	12/16	The result shows high knowledge of contraceptives for both urban and rural women. For the urban, 14 out of the 16 women interviewed acknowledged they were aware of contraceptive method while 12 rural women said they were not aware of contraceptive methods. The contraceptive methods commonly mentioned were oral pills, injectables, male and female condoms, counting of calendar dates for safe period. and natural methods. The natural method was mostly known by the rural women while pills, male condom and calendar dates for safe period were mostly known by the urban women.
Comfortability of talking about contraceptive methods in general, with friends and medical provider	15/16	11/16	Majority of the women from both the urban and rural said that they were comfortably discussing about contraceptives methods in general, with friends and health provider. Some of the rural women express some doubt about freely discussing contraceptives with medical provider. Relatively, more urban than rural women said they were more comfortable.
Experience in the Family Planning Dept especially in their recent visit	15/16	10/16	Most of the women from both the urban and rural were comfortable in expressing their needs on family planning. In the area of communication with providers, some of the women mostly from the rural communities complain of discomfort in dealing with male providers and some complained of language barriers and appeal for local health providers to address the problem of communication.
On whether contraceptive needs were met or not	13/16	9/16	Most of the urban and rural women said that their needs were met, however some of the rural women complained of long waiting time resulting to inadequate attention. They also commonly agreed that the midwives are more approachable to speak to in the health facility. Some of the rural women prefer having conversation with indigenous female

			medical health providers about birth control so as to reduce the problem of language barrier.
How supportive has the family planning department been on learning about birth control	14/16	13/16	Most of the urban and rural women said that the department has been very supportive. Some of the rural women prefer learning from indigenous female medical health providers about birth control.
Having birth control method while at the emergency department	15/16	14/16	Majority of both the urban and rural women said that they feel uncomfortable getting birth control method when receiving a prescription or getting an injection. They feel comfortable outside of these situations.
For the women who selected green on how they would want their interaction with a provider to look like when getting a birth control method.	15/16	15/16	Most of the urban and rural women prefer a harmonious atmosphere where the health provider were freely entertaining questions from the respondents on birth control. They prefer having birth control discussion during their visit to the facility and mostly with female midwives.
Birth control methods that is good to provide in the Family Planning department. Whether contraceptive methods are good or not good. As way of support for the women after leaving the health facility.	14/16	12/16	Most of the women wanted oral pills, use of condom, injectables with more insight on withdrawal method, natural method, exclusive breast feeding and the calendar system of knowing their safe period. The rural women express confidence that the natural method and withdrawal method is good and without side effect while they express doubt about the safety of the other methods. There should be a follow up to ensure compliance with the instructions on the use of contraceptive method.

Table 9: Data Presentation and Analysis on Key Informant Interview Questionnaire

Theme	Frequency		Description
	Urban	Rural	
Development and Population- What do you see as the three most pressing development challenges for the LGA today?	18/20	17/20	Three most pressing development challenges of the LGA today is poverty, lack of effective health facility and education. Another matter that is of concern is the issue

Are there any other critical health issues that are of particular concern to you?	17/20	16/20	of insecurity. The critical health issues are unavailability of specialized health provider, lack of good health infrastructure and insufficient health equipment and drugs.
How would you describe the population size of the country? Too high, high, just right and too low	16/20	13/20	The population is high for both the country and LGA for urban and rural.
How would you describe the population size of the LGA? Too high, high, just right, low, too low	17/20	13/20	On a scale of 1 to 10. Most of the respondents for both urban and rural concluded that the population growth is serious problem with an average scale of between 5 and above.
How serious is the population growth of the LGA on a scale of 1 to 10, with 1 being not very serious and 10 being very serious?	18/20	16/20	
What do you see as the main consequences of continuing population growth?	14/20	12/20	Majority said that the main consequences is in hunger and insecurity.
In the following development sectors, do you think rapid population growth has a positive, negative or no effect:	18/20	17/20	Majority said population growth has negative effect on economic development, political stability, employment, health and housing, environment, education, agriculture and food production.
Suggestions on slowing down rapid growth of population			Majority suggested family planning programmes and investment in agriculture as alternative.

DISCUSSION

This study aimed at analyzing factors influencing the use of contraceptives by rural and urban women of reproductive age (15-49 years) in Bayelsa State, Nigeria. The data were obtained using semi-structured questionnaires, Focus Group Discussion (FGD) guide, and Key Informant Interview (KII) guide for women living in four rural and four urban communities. A

proportionate stratified sampling approach was used to calculate a sample size of 1,656 women (1,012 urban and 644 rural). Multi-stage sampling technique was adopted in recruiting participants.

An analysis of socio-demographic variables through frequency distributions, percentages, and Chi-square tests showed significant rural-urban differences in almost all variables, such as age, occupation, educational level, marital status, and type of marriage. No significant difference was found with regard to tribal distribution of respondents. The results of this study agree with those of Olalekan et al. (2012), who found rural-urban differences in the use of contraceptives among women of reproductive age in Osun State, Nigeria.

Contraceptive Knowledge between Urban and Rural Communities

Contraceptive knowledge plays a critical role in influencing attitude and uptake of contraceptive services. The result from this study revealed that there is significant disparity in the level of knowledge about contraceptives with urban women having more knowledge than the rural dwellers. This difference could be attributed to the educational qualification of women in urban centre who have higher educational qualification and therefore knowledge about what contraceptive is among almost all of them involved in the study. This is unlike those in rural communities with limited educational qualification and also limited access to information about contraceptives and its benefits. This finding is similar to reports by Tunau et al. (2016) who compared the awareness and use of modern contraceptives among Nigerian women in rural and urban communities in Sokoto State and found that participants who lived in urban areas were twice as likely to use modern contraception as those who lived in rural communities. The result from this study is also in synchrony with studies by Duru et al. (2018) in Imo State who

compared urban and rural populations knowledge about contraceptive and found urban women were more likely than their rural counterparts to know and utilize contraceptives.

Attitude towards Contraceptives

Attitude towards contraceptives deals with the view and feeling of individuals towards contraceptive methods and services. The result from this study (Table 9) showed that on the overall, most women in this study expressed positive attitude towards contraceptives. However, women in urban communities expressed more positive attitude towards contraceptives than women in rural communities. There is statistically significant difference in ever using a contraceptive method which reflects their attitude in the use contraceptives (Table 7). This could be attributed to higher level of awareness and educational attainment among women in the urban communities when compared to women in the rural communities. This result is similar to reports by Anyantomwa et al. (2022) who observed that women in urban communities tend to have more positive attitude towards contraceptives than those in rural communities.

Uptake of Contraceptives between Urban and Rural Communities

Contraceptive uptake refers to the rate of use of contraceptive methods by individuals in a population. It refers to the acceptance of contraceptive methods and services. The result from this study (Table 4.1.6) revealed that there is a significant difference in the use of contraceptives between rural and urban communities. Women in urban communities tend to use contraceptives more than those in rural communities. This finding could be as a result of the higher educational attainment of women in urban communities as well as their higher level of understanding contraceptives. A finding that is in synchrony with studies by Anyantonwa et al. (2022).

Pattern of Contraceptive Uptake between Urban and Rural Communities

With respect to pattern of contraceptive uptake between women in urban and rural communities, the result from this study revealed that the pattern of contraceptive uptake between these women is essentially the same, with majority preferring natural contraceptive methods than modern contraceptive methods. This result is similar to reports by Etokidem et al., (2017).

Unmet Need of Contraceptives between Urban and Rural Communities

Unmet need of contraceptive deals with the desire to accept or use a contraceptive method by women who eventually where not able to get these services. The result from this study showed that women in rural communities have higher unmet needs of contraceptive methods and techniques when compared to women in urban communities. This could be explained by the limited access to contraceptive services expressed more by women in the rural communities when compared with women in the urban settings. This finding is similar to reports finding that is in synchrony with studies by Martins et al., 2016.

Determinants of Modern Contraceptive Uptake between Urban and Rural Women

Determinants of modern contraceptive uptake deals with the factors that influence women use or non-usage of one or more methods of contraceptives. The result from this study (Table 8) revealed that factors such as level of knowledge, access to contraceptive services in a hospital and support provided by healthcare workers influences modern contraceptive uptake. This finding is similar to reports by Apiyanteide (2022) who stated that knowledge, access to contraceptive services and presence of support health care workers influence contraceptive uptake and programs aimed at improving contraceptive should be based on social and behavior change interventions that improve knowledge and uptake of contraceptive services.

Facilitators of Contraceptives

Several factors are enablers or facilitators to family planning. The result from this study revealed that living in an urban setting, having higher education attainment, and the presence of support from the health team can improve contraceptives. These facilitators were also noted by Dambo et al. (2017) on their study of the determinants of family planning uptake in Bayelsa State.

Barriers to Contraceptive uptake between Urban and Rural Women

The result from this study (Table 8) revealed that several factors or barriers influence contraceptive uptake which vary between rural and urban communities. In both rural and urban communities, similar issues or factors were identified to influence contraceptive uptake. These include healthcare systems related factors such as ineffective hospitals, lack of medicines and equipment for providing contraceptive services, client related factors such as lack of finance to obtain contraceptive services and societal related factor such as insecurity. This finding is similar to a report by Apiyanteide (2022) who opined that these factors influence contraceptive uptake and they need to be addressed to ensure improved uptake of contraceptive services.

The result from table 8 for the Focal Group Discussion confirmed the findings of the other sections. The discussant exhibited high knowledge but low attitude on the use of contraceptives. The FGD's revealed a high rate of use of traditional methods (withdrawal, unproven concomitant mixtures and herbs). methods which they identified was due to their willingness to probe just as done in this present study. They reported a common use of traditional methods. The report from the FGDs also revealed that fear due to past experiences deterred the women from contraceptive use. Majority of the women reported that they were not currently using contraceptives during the study did not have any reason for non-usage. In addition to this, there are several other reports showing other reasons behind non-utilization of contraception to include desire to conceive or have more children, fear of side-effects and harmful effects on health. The major factors that

influenced the uptake of modern contraceptives among the respondents in this study were disapproval by husbands, fear of health side effects. Furthermore, low usage of modern contraceptives among the women, especially without any reason can be linked to poor knowledge and negative attitude of the respondents towards contraceptive use, while its implication can vary from unwanted pregnancies,

Table 9 shows the data for the Key Informant Interview discussion. In the area of development and population; majority of both the urban and rural discussants said that three most pressing development challenges is poverty, lack of effective health facility and education. They also majorly expressed concern on the prevailing issue of insecurity in the area which they perceive may have discouraged health personnel from serving in the locality. The critical health issues that particularly affected the discussants identified in the course of the discussion are unavailability of specialized health provider, lack of good health infrastructure and insufficient health equipment and drugs. On the population, slightly above majority for both rural and urban felt that the population is high, however, some felt it was not a problem especially among the rural women. On the consequences of continuing population growth, majority said is hunger and insecurity and suggested family planning as a possible first line solution with investment in agriculture as an alternative option.

On national policy on contraceptive use; some said that they are not aware of any such policy on contraceptive use. The said the policy has not been given sufficient priority to reproductive health and contraceptive use. Some said they have never seen or receive a copy of the contraceptive use policy and that it has not been implemented in their LGA.s.

CONCLUSION

The results of this study showed that women in urban areas had a higher level of knowledge about contraception than women in rural areas. Women's attitudes regarding the usage of

contraceptives are the issue for both urban and rural women. According to the study's findings, a large percentage of respondents employed conventional forms of birth control, such as withdrawal, untested concurrent combinations, and herbs. The use of contraceptives was also hindered by financial limitations, relationship rejection, and misconceptions about them. Hence, efforts should be intensified towards enlightening the populace on the types, uses and benefits of modern contraceptives. There is also need to make contraceptives more affordable and accessible to all who desire it.

DISCLAIMER (ARTIFICIAL INTELLIGENCE)

The author (s) hereby declare that NO generative AI technologies such as Large Language Models (ChatGPT, COPILOT, etc.) and text-to-image generators have been used during writing or editing of the manuscript.

ETHICAL APPROVAL

This research was conducted in accordance with the ethical principles of the Declaration of Helsinki, and the Ministry Health, Bayelsa state. For the purpose of this study, ethical consideration was fully adhered to. This involve obtaining approval from the University Ethics and Research Committee with approval number UPH/CEREMAD/REC/MM108/004. This was followed by formally communicating (written letters) to traditional leaders for the various communities to explain the objective of the study. The next step was to ensure that all participants in the study give at least a verbal or written consent with the assurance that they can opt out of the study whenever they feel to do so. Confidentiality and privacy were strictly upheld through the use of anonymized data collection, secure storage, and restricted access to participant information.

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COMPETING INTERESTS

Authors have declared that no competing interests exist.

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