



MAKERERE

UNIVERSITY

COLLEGE OF BUSINESS AND MANAGEMENT SCIENCES

(COBAMS)

SCHOOL OF STATISTICS AND PLANNING

**FACTORS ASSOCIATED WITH MODERN CONTRACEPTIVE USE AMONG WOMEN
OF REPRODUCTIVE AGE IN THE WEST NILE REGION, UGANDA**

BY

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FOR THE AWARD OF THE DEGREE OF BACHELOR OF SCIENCE IN POPULATION
STUDIES OF MAKERERE UNIVERSITY**

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DECLARATION

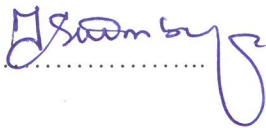
I, ABASA ERISON, hereby declare that this work has been done solely by myself and that it has not been submitted before as of its kind as whole and in any previous application for a degree to this or any other institution of higher learning, the work presented is entirely my own work.

Signature.......... Date.....14/09/2026.....

ABASA ERISON

APPROVAL

I hereby approve this research dissertation has been done under my supervision, and is now ready for submission as a partial requirement for the award of Bachelor of Science in population studies of Makerere University.

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ABSTRACT

Modern contraceptive use remains a critical determinant of reproductive health outcomes, yet uptake in Uganda continues to vary widely across regions. This study examined the socio-demographic and economic determinants of modern contraceptive use among women aged 15-49 years in the West Nile region, Uganda, using secondary data from the Uganda Demographic and Health Survey (UDHS). A cross-sectional design was adopted, drawing on a weighted sample of 1,247 women, reduced to 1,163 in the multivariable analysis after excluding cases with missing covariate data. Data were analyzed at the univariate, bivariate, and multivariable levels, with binary logistic regression used to identify independent predictors of contraceptive use, expressed as odds ratios with 95% confidence intervals.

Findings showed that only 14.6% of women were currently using a modern contraceptive method, pointing to a substantial unmet need for family planning in the region. At the bivariate level, age, marital status, age at first sexual intercourse, current employment status, and number of children both ever born and living were significantly associated with contraceptive use, while education, wealth, residence, religion, and ideal family size were not. After adjusting for confounders in the multivariable model, total children ever born emerged as the strongest predictor, with women who had 10 or more children 35 times more likely to use contraception than those with none. Secondary education (OR = 2.76), the middle and fourth wealth quintiles (OR = 2.01 and 1.96, respectively), older age (45-49 years, OR = 0.22), and Muslim religious affiliation (OR = 0.52) were also significant independent predictors, while residence and stated ideal family size lost significance once other factors were controlled for.

The study concludes that contraceptive use among women in West Nile is shaped primarily by their actual reproductive history, educational attainment, economic status, and religious background rather than by geographic location or expressed fertility preferences alone. It recommends strengthening girls' access to and retention in education, expanding community-based family planning and reproductive health education particularly for women with little or no schooling and designing targeted, multi-pronged interventions that account for parity, wealth, and religious diversity in order to close the region's family planning gap.

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CHAPTER ONE: BACKGROUND OF THE STUDY:

1.1: Introduction

Modern contraception remains one of the most effective public health interventions for improving reproductive health outcomes and promoting socio-economic development. Contraceptive use enables women and couples to determine the number and spacing of their children, thereby reducing unintended pregnancies, unsafe abortions, maternal mortality, and infant mortality. Globally, the increased use of modern contraceptive methods has contributed significantly to improvements in women's health, educational attainment, labour force participation, and overall well-being (Afolabi et al., 2021)

Despite these benefits, contraceptive uptake remains uneven across regions of the world. While developed countries have achieved relatively high levels of contraceptive prevalence, many countries in Sub-Saharan Africa continue to experience low utilization rates and high unmet need for family planning. Socio-cultural norms, religious beliefs, limited access to reproductive health services, poverty, and inadequate information continue to hinder contraceptive use among women of reproductive age (Blackstone et al., 2017)

Uganda has made considerable progress in expanding access to family planning services over the past two decades. According to the Uganda Demographic and Health Survey (UDHS) 2022, modern contraceptive prevalence among married women increased substantially compared to previous surveys. However, significant disparities persist across regions and socio-economic groups. Studies conducted in Uganda have identified factors such as age, education level, parity, wealth status, place of residence, and partner influence as important determinants of contraceptive use (Asiimwe et al., 2014; Towongo & Kelepile, 2024).

The west Nile region, located in northwestern Uganda, comprises the districts of Arua, Nebbi, Yumbe, Koboko, Moyo, Zombo, Pakwach, Maracha, Terego, Madi-Okollo, and Obongi. The region is characterized by high population density, predominantly rural settlements, and strong socio-cultural values regarding marriage and childbearing (Blackstone et al., 2017). Recent evidence suggests that fertility preferences and contraceptive behaviour in the region may be influenced by unique social and cultural dynamics (Kibonire et al., 2025). Despite this, there is limited empirical evidence specifically examining the determinants of contraceptive use among women of reproductive age in west Nile. Understanding these determinants is critical for designing evidence-based and

context-specific family planning interventions aimed at improving reproductive health outcomes in the region.

1.2 Problem statement

Despite global and national efforts to promote family planning, contraceptive use remains uneven across regions and population groups. Modern contraceptive use has been shown to significantly reduce unintended pregnancies and maternal mortality worldwide (Kibonire et al., 2025). In Uganda, although progress has been made in increasing modern contraceptive prevalence, disparities persist across socio-economic groups and regions (Asiimwe et al., 2014).

Empirical evidence indicates that socio-demographic and economic factors such as age, education level, parity, wealth status, and residence significantly influence contraceptive uptake (Afolabi et al., 2021). In the Ugandan context, studies have further shown that rural residence, limited access to services, and partner influence remain important barriers to modern contraceptive use (Asiimwe et al., 2014). However, much of the existing literature focuses on national-level analyses or broad regional comparisons, with limited empirical research specifically examining determinants of contraceptive use in the West Nile region.

The West Nile region is characterized by predominantly rural settlement patterns and unique socio-cultural norms that may influence fertility preferences and contraceptive behavior (Anguzu et al., 2018; Population, 2025). The lack of region-specific empirical evidence limits the ability of policymakers and health planners to design targeted and context-appropriate family planning interventions for women of reproductive age in west Nile. Therefore, the purpose of this study was to examine the socio-demographic and economic determinants influencing contraceptive use among women aged 15-49 years in the west Nile region in order to inform evidence-based policy and programming.

1.3 Objectives of the study:

The main objective of this study was to assess the determinants of modern contraceptive use among women (15-49) in west Nile region.

Specifically, the study was intended to:

1. To examine the association between demographic factors and modern contraceptive use among women aged 15-49 in west Nile region.
2. To assess the association between socio-economic and modern contraceptive use among women aged 15-49 in west Nile region.

1.4 Research Hypotheses:

1. Women in young age group (15-19) are more likely to use contraceptives than their counterparts in upper age groups.
2. Educated women are more likely to use contraceptives than the uneducated women.
3. Women residing in rural areas are more likely to use contraceptives.
4. Women from rich wealth quintile are more likely to use contraception than their counterparts in the poor.

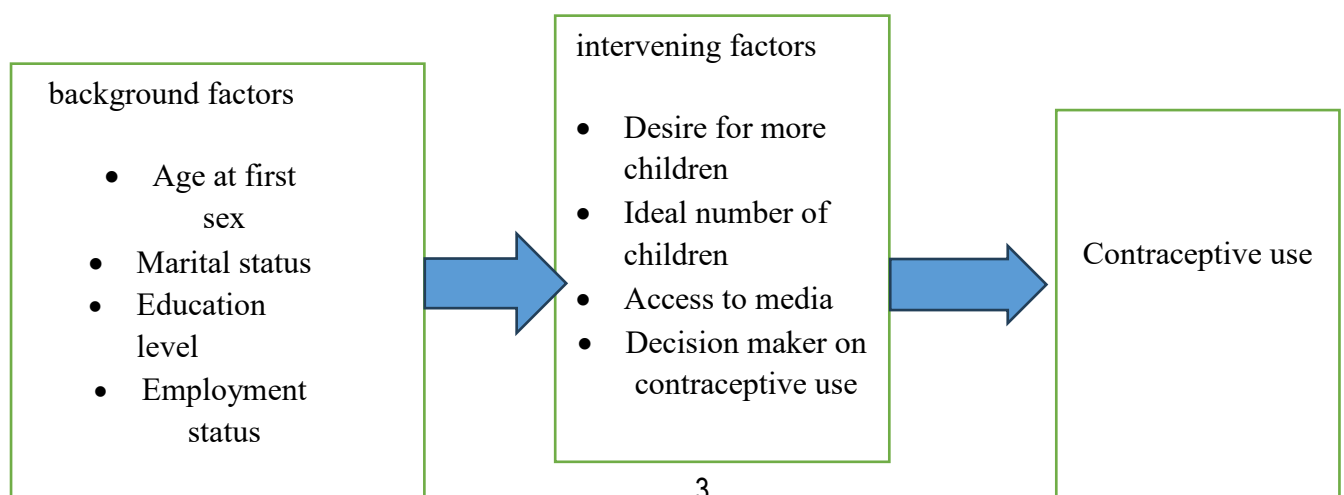
1.5 Significance of the study:

This study provides empirical evidence on the determinants of modern contraceptive use among women of reproductive age in the west Nile region. The findings will help policymakers, health practitioners, and development partners design targeted family planning interventions aimed at increasing contraceptive uptake and improving reproductive health outcomes. The study will also contribute to existing literature on contraceptive use in Uganda and serve as a reference for future researchers and students interested in reproductive health and population studies.

1.6 Theoretical Perspective:

This study was guided by the Health Belief Model and the Demographic Transition Theory. The Health Belief Model explains contraceptive behavior based on perceived susceptibility to pregnancy, perceived benefits of contraceptive use, and perceived barriers. The Demographic Transition Theory explains fertility decline as societies experience socio-economic transformation, urbanization, and increased education levels. These frameworks suggest that socio-demographic and economic factors influence contraceptive use (Yaya et al., 2018).

1.7 Conceptual framework



CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

This chapter reviews empirical and theoretical literature on the determinants of contraceptive use among women of reproductive age. The review focuses on key demographic, socio-economic factors including age, education, marital status, religion, occupation, and fertility preferences. Evidence from global, Sub-Saharan African, and Uganda studies is critically examined to identify existing knowledge gaps relevant to the West Nile region.

2.2 Demographic factors

2.2.1 Age and Contraceptive Use

Age is a significant determinant of contraceptive use. Studies in Sub-Saharan Africa indicate that women aged 25-39 years are more likely to use modern contraceptives compared to adolescents, who often face stigma, limited access, and lack of information (Blackstone et al., 2017). Younger women are also less likely to use contraceptives due to social and cultural barriers, especially in rural settings (Afolabi et al., 2021)

2.2.2 Parity and Contraceptive Use

Parity is strongly associated with contraceptive use, as women with more children tend to adopt contraception for spacing or limiting births. Studies in developing countries show that women with higher parity have increased likelihood of using modern contraceptives compared to women with fewer or no children (Tumwizere et al., 2024)

2.2.3 Religion and Contraceptive Use

Religious beliefs may shape fertility preferences and attitudes toward family planning. Religious doctrines and cultural interpretations can influence acceptance or resistance to modern contraceptive methods, affecting uptake patterns across different groups. In many communities, religious leaders also play a key role in shaping perceptions of reproductive health services. As a result, contraceptive use may vary depending on the teachings and influence of specific religious affiliations. (Asratie et al., 2024)

2.3 socio-economic factors

2.3.1 Education and Contraceptive Use

Education plays a critical role in influencing contraceptive uptake. Educated women are more likely to have better knowledge of reproductive health services and greater autonomy in decision-making. Evidence shows that women with secondary or higher education are significantly more likely to use modern contraceptives compared to those with no education (Afolabi et al., 2021; Gebre & Edossa, 2020)

2.3.2 Wealth Status and Contraceptive Use

Household wealth is an important determinant of contraceptive use. Women from wealthier households are more likely to access health services and afford contraceptive methods(Wasswa et al., 2021). Research across Sub-Saharan Africa shows that contraceptive use increases with wealth (Towongo & Kelepile, 2024; Yaya et al., 2018).

2.3.3 Residence and Contraceptive Use

Place of residence influences access to health services and information. Urban women are more likely to use contraceptives due to better availability of health facilities and exposure to family planning messages, while rural women face barriers such as distance to health facilities and cultural resistance (Afolabi et al., 2021; Towongo & Kelepile, 2024; Yaya et al., 2018).

2.3.4 Employment Status and Contraceptive Use

Employment increases women's financial independence and empowerment, which may facilitate contraceptive use. Employed women are more likely to have greater control over household resources and may be better able to make independent decisions regarding their reproductive health.(Gebre & Edossa, 2020) Employment also increases social interaction and exposure to health information, which can improve awareness and acceptance of family planning methods. (Gebre & Edossa, 2020; Population, 2025)

2.3.5 Healthcare Decision-Making and Contraceptive Use

Women's autonomy in healthcare decision-making has been shown to positively influence contraceptive uptake(Ahinkorah et al., 2021; Gebre & Edossa, 2020). Women who actively

participate in decisions concerning their health are more likely to seek reproductive health services, discuss family planning with their partners, and choose contraceptive methods that meet their reproductive goals. Increased autonomy often reflects greater empowerment and control over fertility-related decisions (Abdulahi et al., 2020)

2.3.6 Media Exposure and Contraceptive Use

Media exposure significantly increases awareness and uptake of modern contraceptives by providing information on available methods, benefits of family planning, and where services can be accessed. Women who are frequently exposed to radio, television, newspapers, or digital media are more likely to have accurate knowledge about contraceptives and are less likely to hold misconceptions (Ezeh & Anyawie, 2021). Media campaigns also play a critical role in normalizing family planning use and influencing positive attitudes toward reproductive health. Furthermore, exposure to health messages through media can stimulate discussions within households and encourage informed decision-making regarding fertility control. Studies have consistently shown that women exposed to mass media are more likely to use modern contraceptives compared to those with limited or no exposure (Asratie et al., 2024; Gebre & Edossa, 2020)

2.3.7 Marital Status and Contraceptive Use

Marital status is an important determinant of contraceptive use because it directly influences fertility intentions, sexual activity patterns, and partner negotiation dynamics. Married women are generally more likely to use modern contraceptives compared to unmarried women due to higher exposure to regular sexual activity and greater likelihood of planning or spacing births. However, contraceptive use among unmarried sexually active women may also be increasing, particularly in urban settings, due to changing social norms and improved access to reproductive health services. Additionally, marital status affects decision-making power, as contraceptive choices in married women are often influenced by partner communication and household dynamics. Studies have shown that contraceptive prevalence varies significantly across marital categories, with married and cohabiting women typically demonstrating higher utilization rates than never-married women (Asratie et al., 2024; Edossa et al., 2020).

2.4. Research Gap

Although recent studies have identified socio-demographic and economic determinants of contraceptive use in Sub-Saharan Africa, most of these studies focus on national or multi-country analyses. There is limited empirical research specifically examining contraceptive use among women of reproductive age in the west Nile region. Given the region's unique socio-cultural and economic characteristics, there is a need for a context-specific study to inform targeted family planning interventions

CHAPTER THREE: METHODOLOGY

3.1 Introduction

This chapter presents the methodology that will be used to conduct the study on the determinants of contraceptive use among women aged 15-49 years in the West Nile region. It describes the research design, study area, study population, data source, variables of the study, data analysis methods, and ethical considerations.

3.2 Research Design

The study adopted a cross-sectional research design. This design enabled the analysis of data collected at a single point in time to examine the relationship between socio-demographic and economic factors and contraceptive use among women of reproductive age. The cross-sectional approach was appropriate because it facilitated the identification of associations between variables in a cost-effective and time-efficient manner.

3.3 Study Area

The study focused on the West Nile region of Uganda, one of the sub-regions covered under the UDHS sampling frame. West Nile region comprises several districts, including Arua, Nebbi, Yumbe, Koboko, Moyo, Zombo, Pakwach, Maracha, Terego, Madi-Okollo, and Obongi. The region is predominantly rural, with agriculture as the main economic activity, and has historically recorded relatively high fertility rates and lower contraceptive uptake compared to other regions of Uganda, making it a relevant area for investigating determinants of modern contraceptive use.

3.4 Sample Size

The study was based on a weighted sample of 1,247 women of reproductive age (15–49 years) drawn from the West Nile region subset of the 2022 UDHS dataset. This sample comprised women who had complete information on modern contraceptive use and the selected explanatory variables considered in the study. In the multivariate analysis, a slightly reduced sample of 1,163 women was used, following the exclusion of cases with missing values on one or more covariates included in the logistic regression model.

3.5 Study Population

The study population consisted of women aged 15-49 years residing in the West Nile region. This group represented women of reproductive age and is commonly used in demographic and reproductive health studies.

3.6 Data Source.

The study utilized secondary data obtained from the Uganda Demographic and Health Survey (UDHS) 2016. The UDHS provides nationally representative data on fertility, family planning, and socio-economic characteristics of households and individuals. The dataset contained the variables required for analyzing contraceptive use among women aged 15-49 years in the west Nile region.

3.7 Variables of the Study

3.7.1 Dependent Variable

The dependent variable for this study was modern contraceptive use among women aged 15-49 years. This variable was derived from the Uganda Demographic and Health Survey (UDHS) data. The outcome variable was measured using the question: *“Are you currently doing something or using any method to delay or avoid getting pregnant?”* the answers were “yes/no”. Yes was coded as 1 while No was coded as 0

3.7.2 Independent Variables

The independent variables included demographic and socio-economic characteristics. The demographic variables comprised age, which was grouped into 15-19, 20-24, 25-29, 30-34, 35-39, 40-44, and 45-49 years; age at first sex, which was categorized as below 18 years and 18 years or above; current marital status, categorized as never married, currently married, and formerly married; highest education level, grouped as primary or no education and secondary or higher; type of place of residence, categorized as urban and rural; religion, categorized as no religion, Anglican, Catholic, Muslim, and others; number of living children; desire for more children, categorized as yes and no; ideal number of children; and healthcare decision-maker, grouped as respondent alone, husband alone, and joint decision-making.

The socio-economic variables included wealth status, categorized as poor, middle, and rich; employment status, grouped as not working and working; and exposure to media, which was categorized as exposed and unexposed.

3.8 Data Analysis

Data analysis was conducted using Stata at three levels: univariate, bivariate, and multivariable.

At the univariate level, frequency distributions and percentages were computed to describe the background characteristics of the respondents, including the prevalence of contraceptive use.

At the bivariate level, cross-tabulations were performed using Pearson's Chi-square test to examine the association between each independent variable (age, age at first sex, residence, wealth status, education level, occupation status, religion, marital status, exposure to media, total children ever born, desire for more children, and decision maker on contraceptive use) and the outcome variable (contraceptive use). The level of significance was fixed at 95%, whereby any association with a p-value less than or equal to 0.05 was regarded as statistically significant. On the other hand, any association with a p-value greater than 0.05 was not considered statistically significant. The Pearson's Chi-square (χ^2) statistic was:

$$\chi^2 = \sum_{i=1}^r \sum_{j=1}^c \frac{(O_{ij} - E_{ij})^2}{E_{ij}}$$

At the multivariable level, binary logistic regression was used to establish the association between the explanatory variables and the outcome variable (contraceptive use). Binary logistic regression was employed because of the nature of the outcome variable, which was dichotomous (e.g., using a contraceptive method vs. not using). The results of the multivariable analysis were interpreted using odds ratios (ORs), confidence intervals, and p-values. The binary logistic regression model took the following format:

$$\text{Log}(p / (1-p)) = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \dots + \beta_k X_k$$

Where:

- p = Probability of using contraception
- $1-p$ = Probability of not using contraception
- β_0 = Intercept (constant term)
- $\beta_1, \beta_2, \dots, \beta_k$ = Regression coefficients for predictor variables $X_1, X_2, \dots, X_k$

For any predictor X_i , the odds ratio formula is:

$$OR_i = e^{\beta_i}$$

Interpretation of Odds Ratio

$OR = 1 \rightarrow$ no association, $OR > 1 \rightarrow$ higher odds of outcome (risk factor) and $OR < 1 \rightarrow$ lower odds of outcome (protective factor)

3.9 Ethical Considerations

The study used secondary data from the Uganda Demographic and Health Survey (UDHS), which did not contain personally identifiable information. Permission to access the dataset was obtained from the relevant authorities. Confidentiality and privacy of respondents were maintained, and the data were used strictly for academic purposes.

3.10 Limitations of the Study.

The use of secondary data limited the study to available variables in the UDHS 2022. Abortion was a sensitive issue and under-reported due to stigma and legal restrictions. The cross-sectional nature of the data limited causal interpretation of findings.

CHAPTER FOUR: FINDINGS AND INTERPRETATIONS

4.0. Introduction:

This chapter presents the results of the determinants of modern contraceptive use among women of reproductive age in West Nile region. As indicated earlier results are presented at three levels including univariate, bivariate and multivariate.

Table 4.1: Percent distribution of respondents by selected background characteristics

Variable	FREQUENCY(N).	PERCENTAG E
Modern		
Contraceptive use		
Not using	1065	85.40
Using	182	14.60
Age group		
15-19	321	25.76
20-24	237	19.03
25-29	165	13.23
30-34	195	15.64
35-39	142	11.42
40-44	121	9.70
45-49	65	5.21
Marital Status		
Never Married	744	59.61
Currently married	201	16.12
Formerly married		
Education level		
No education	158	12.66
primary	885	70.92
secondary	154	12.33

higher	51	4.10
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Currently pregnant

No or unsure	1136	91.14
Yes	111	8.86

Wealth Index

Lowest	534	42.83
second	290	23.22
middle	152	12.18
fourth	155	12.45
highest	116	9.33

Residence

Urban	160	12.79
rural	1088	87.21

Religion

Anglican	232	18.63
Catholic	678	54.36
Muslim	311	24.99
Pentecostal	25	2.01

Age at first sex

Never had sex		
<15 years	1.415	0.757
20+ years	0.612	0.700

Currently working

No	164	13.13
Yes	1084	86.87

Total Children
Ever Born

No children	319	25.59
1-4	536	42.93
5-9	367	29.42
10+	26	2.06

Number of living children

No children	329	26.39
1-2 Children	319	25.61
3-4 Children	280	22.43
5+ Children	319	25.58

Ideal number of children

No children	9	0.72
1-2 Children	48	3.83
3-4 Children	499	39.97
5+ Children	692	55.47

Interpretation of Univariate Analysis

Table 4.1 presents the distribution of socio-demographic and reproductive characteristics of the 1,247 women of reproductive age included in the study.

Regarding modern contraceptive use, the majority of respondents (85.40%) were not using any modern contraceptive method at the time of the survey, while only 14.60% reported current use. This relatively low prevalence points to a substantial unmet need for family planning services in the West Nile region.

With respect to age group, respondents were fairly distributed across the reproductive age span, with the largest proportion falling in the 15–19 age category (25.76%), followed by the 20–24 age group (19.03%). The proportion of respondents declined progressively with increasing age, with the smallest share found among women aged 45–49 (5.21%). This distribution reflects the relatively youthful age structure typical of the study population.

In terms of marital status, the majority of respondents were currently married (59.61%), while 24.28% had never married and 16.12% were formerly married (divorced, separated, or widowed). This indicates that most women in the sample were in active unions at the time of the study.

Regarding education level, most respondents had attained only primary education (70.92%), while smaller proportions had no education (12.66%), secondary education (12.33%), or higher education (4.10%). This suggests generally low educational attainment among women in the study area, which may have implications for health-seeking behavior and awareness of family planning options.

Concerning pregnancy status, the vast majority of respondents (91.14%) reported that they were not currently pregnant or were unsure of their pregnancy status, while 8.86% reported being currently pregnant.

On wealth index, respondents were skewed toward the lower end of the wealth distribution, with 42.83% falling in the lowest quintile and only 9.33% in the highest. This distribution reflects the generally low socioeconomic status of the study population.

With regard to place of residence, the overwhelming majority of respondents (87.21%) resided in rural areas, with only 12.79% residing in urban areas, consistent with the predominantly rural character of the West Nile region.

Regarding religious affiliation, most respondents identified as Catholic (54.36%), followed by Muslim (24.99%) and Anglican (18.63%), while a small proportion identified as Pentecostal (2.01%).

On currently working status, the majority of respondents (86.87%) reported being currently engaged in some form of work, while 13.13% were not currently working.

Regarding total children ever born, the largest proportion of respondents had between 1 and 4 children (42.93%), followed by those with 5–9 children (29.42%). A smaller proportion had no children (25.59%), while only 2.06% had 10 or more children.

Similarly, for number of living children, respondents were fairly evenly distributed across categories, with 26.39% having no living children, 25.61% having 1–2, 22.43% having 3–4, and 25.58% having 5 or more living children.

Finally, regarding ideal number of children, the majority of respondents expressed a preference for 5 or more children (55.47%), followed by 3–4 children (39.97%). Very few respondents preferred 1–2

children (3.83%) or no children at all (0.72%), reflecting strong pronatalist attitudes among women in the study population.

Table 4.2: A bivariate analysis between contraceptive use and demographic and socio-economic factors.

Variable	Modern Not (1065/85.40%)	Contraceptive Use Using (182/14.60%)	P- values X ²
Age group			
15-19	95.82	4.81	P = 0.0000 57.7906
20-24	83.55	16.45	
25-29	82.12	17.88	
30-34	76.58	23.42	
35-39	76.94	23.06	
40-44	84.33	15.67	
45-49	95.92	4.08	
Marital Status			
Never Married	96.68	3.32	P = 0.0000 43.5693
Currently married	81.02	18.98	
Formerly married	84.59	15.41	
Education level			
No education	87.94	12.06	P = 0.3144 4.5018
primary	85.90	14.10	
secondary	82.40	17.60	
higher	77.94	22.06	
Currently pregnant			
No or unsure			
Yes			

Wealth Index

Lowest	88.26	11.74	11.3515
second	83.22	16.78	P = 0.1142
middle	81.81	18.19	
fourth	80.16	19.84	
highest	89.34	10.66	

Residence

Urban	83.5	16.50	0.5397
rural	85.68	14.32	P = 0.5757

Religion

Anglican	78.92	21.08	10.1068
Catholic	86.52	13.48	P = 0.0555
Muslim	87.65	12.35	
Pentecostal	86.96	13.04	

Age at first sex

Never had sex	100	0	55.6484
<15 years	76.9	23.10	P = 0.000
20+ years	84.61	15.39	
	80.95	19.05	

Currently working

No	83.98	16.02	21.2924
Yes	100	0	P = 0.0004

**Total Children
Ever Born**

No children	98.62	1.384	62.3091
1-4	80.65	19.35	P = 0.0000
5-9	81.47	18.53	
10+	76.24	23.76	

Number of living children

No children	98.4	1.59	78.1134
1-2 Children	84.44	15.56	P = 0.0000
3-4 Children	73.88	26.12	
5+ Children	83.04	16.96	

Ideal number of children

No children	88.73	11.27	3.3929
1-2 Children	91.09	8.912	P = 0.2952
3-4 Children	86.82	13.18	
5+ Children	83.94	16.06	

Interpretation of Bivariate Analysis

Table 4.2 presents the results of the bivariate analysis examining the association between selected socio-demographic and reproductive characteristics and modern contraceptive use among women of reproductive age in West Nile region.

There was a statistically significant association between age and modern contraceptive use ($\chi^2 = 57.79$, $p < 0.001$). Contraceptive use was lowest among adolescents aged 15–19 years (4.81%) and among women aged 45–49 years (4.08%), while it was highest among women aged 30–34 years (23.42%) and 35–39 years (23.06%). This pattern suggests that contraceptive uptake was concentrated in the mid-reproductive years, when women are more likely to be actively managing fertility within stable unions, before declining again as women approach the end of their reproductive span.

Marital status was also significantly associated with modern contraceptive use ($\chi^2 = 43.57$, $p < 0.001$). Currently married women reported the highest use (18.98%), followed by formerly married women (15.41%), while never-married women reported the lowest use (3.32%). This indicates that union status plays an important role in shaping contraceptive behavior, likely reflecting greater exposure to sexual activity and active fertility regulation among women in unions.

Education level did not show a statistically significant association with modern contraceptive use ($\chi^2 = 4.50$, $p = 0.314$). Nonetheless, a modest upward pattern was observed, with use increasing from 12.06% among women with no education to 22.06% among those with higher education, suggesting a possible but non-conclusive link between educational attainment and contraceptive awareness or uptake.

Similarly, wealth index was not significantly associated with contraceptive use ($\chi^2 = 11.35$, $p = 0.114$). Use was highest among women in the fourth wealth quintile (19.84%) and lowest among the wealthiest women (10.66%), a pattern that does not follow a clear linear trend across wealth categories.

Place of residence showed no statistically significant association with contraceptive use ($\chi^2 = 0.54$, $p = 0.576$), with urban women (16.50%) reporting only marginally higher use than rural women (14.32%).

Religious affiliation approached but did not reach statistical significance ($\chi^2 = 10.11$, $p = 0.056$). Anglican women reported the highest use (21.08%), while Muslim women reported the lowest (12.35%), pointing to a possible but statistically inconclusive influence of religious norms on contraceptive behavior.

Age at first sexual intercourse was significantly associated with contraceptive use ($\chi^2 = 55.65$, $p < 0.001$). Women who had never had sex reported no contraceptive use, while those who initiated sexual activity before age 15 reported the highest use (23.10%), indicating that earlier sexual debut may be linked to greater subsequent need for fertility regulation.

Current working status was significantly associated with modern contraceptive use ($\chi^2 = 21.29$, $p < 0.001$). Contraceptive use was higher among women who were currently working (15.72%) compared to those not working (7.21%). This suggests that women engaged in economic activity may have greater autonomy, income, and exposure to health information, all of which could facilitate access to and use of modern contraceptive methods.

Total number of children ever born showed a strong, statistically significant association with contraceptive use ($\chi^2 = 62.31$, $p < 0.001$). Use rose consistently with parity, from 1.38% among women with no children to 23.76% among those with 10 or more children, reflecting increasing motivation for fertility limitation as family size grows.

Number of living children was similarly significantly associated with contraceptive use ($\chi^2 = 78.11$, $p < 0.001$), with use rising from 1.59% among women with no living children to a peak of 26.12% among those with 3–4 living children.

Finally, ideal number of children was not significantly associated with contraceptive use ($\chi^2 = 3.39$, $p = 0.295$), with use ranging narrowly between 8.91% and 16.06% across categories, indicating limited variation by fertility preference.

Table 4.3 Multivariate analysis showing the relationship between contraceptive use among women of reproductive age in west Nile region and demographic and social-economic factors

Model Statistics

Variable	Odds Ratios.	p-value	[95% Conf	Interval]
Age group				
15-19	1	.	.	.
20-24	1.390	0.404	0.641	3.013
25-29	1.249	0.597	0.548	2.848
30-34	1.699	0.218	0.731	3.954
35-39	1.354	0.527	0.529	3.461
40-44	0.831	0.709	0.313	2.204
45-49	0.218	0.040	0.051	0.933
Education level				
No education	1	.	.	.
primary	1.740	0.062	0.972	3.114
secondary	2.761	0.008	1.306	5.837
higher	2.683	0.051	0.995	7.233
Wealth Index				
Lowest	1	.	.	.
second	1.391	0.133	.904	2.139
middle	2.014	0.009	1.188	3.414
fourth	1.959	0.018	1.124	3.415

highest	0.940	0.875	.432	2.044
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Residence

Urban	1	.	.	.
rural	0.836	0.520	0.483	1.445

Religion

Anglican	1	.	.	.
Catholic	0.747	0.182	0.487	1.147
Muslim	0.516	0.015	0.303	0.879
Pentecostal	0.593	0.375	0.187	1.881

Age at first

sex

Never had sex	1	.	.	.
<15 years	1.415	0.757	0.157	12.756
20+ years	0.612	0.700	0.051	7.407

Children Ever

Born

No children	1	.	.	.
1-4	17.616	0.000	5.683	54.600
5-9	24.288	0.000	6.990	84.396
10+	35.070	0.000	6.757	182.018

Ideal number

of children

No children	1	.	.	.
1-2 Children	0.665	0.446	0.233	1.898
3-4 Children	0.854	0.439	0.572	1.274
5+ Children	1	.	.	.
Constant	.006	0	0	.077

Mean dependent var	0.157	SD dependent var	0.364
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Pseudo r-squared	0.144	Number of obs	1163
Chi-square	145.716	Prob > chi2	0.000
Akaike crit. (AIC)	916.681	Bayesian crit. (BIC)	1043.150

Interpretation of the Multivariate Logistic Regression Results

Table 4.3 presents the results of the multivariate logistic regression analysis, conducted to determine the independent predictors of modern contraceptive use among women of reproductive age in West Nile region, after controlling for other covariates in the model. The overall model was statistically significant ($\chi^2 = 145.72$, $p < 0.001$) and explained approximately 14.4% of the variation in contraceptive use (Pseudo $R^2 = 0.144$), based on a sample of 1,163 women.

Regarding age group, women aged 45–49 years were 78% less likely to use modern contraceptives compared to those aged 15–19 years (OR = 0.218, $p = 0.040$, 95% CI: 0.051–0.933). No other age category differed significantly from the reference group, suggesting that the age-related pattern observed at the bivariate level was largely explained by other factors, such as marital status and parity, once these were controlled for.

For education level, women with secondary education were 2.761 times more likely to use modern contraceptives compared to those with no education (OR = 2.761, $p = 0.008$, 95% CI: 1.306–5.837). Women with primary education (OR = 1.740, $p = 0.062$) and higher education (OR = 2.683, $p = 0.051$) also showed elevated odds of use, though these associations did not reach statistical significance at the 5% level, indicating a possible but inconclusive effect of lower and higher education on contraceptive uptake.

With respect to wealth index, women in the middle quintile were twice as likely to use modern contraceptives as those in the lowest quintile (OR = 2.014, $p = 0.009$, 95% CI: 1.188–3.414), and women in the fourth quintile were about 1.96 times more likely to do so (OR = 1.959, $p = 0.018$, 95% CI: 1.124–3.415). Notably, women in the highest wealth quintile did not differ significantly from the poorest women (OR = 0.940, $p = 0.875$), pointing to a non-linear relationship between household wealth and contraceptive use rather than a straightforward positive gradient.

Place of residence was not a significant predictor of contraceptive use after adjusting for other variables (OR = 0.836, $p = 0.520$), suggesting that the rural–urban difference observed in the

bivariate analysis was largely accounted for by other socio-demographic and reproductive factors in the model.

Regarding religion, Muslim women were 48% less likely to use modern contraceptives compared to Anglican women (OR = 0.516, $p = 0.015$, 95% CI: 0.303–0.879). Catholic (OR = 0.747, $p = 0.182$) and Pentecostal (OR = 0.593, $p = 0.375$) women did not differ significantly from Anglican women, indicating that religious affiliation had a significant independent effect only for the Muslim subgroup.

For age at first sexual intercourse, neither initiating sex before age 15 (OR = 1.415, $p = 0.757$) nor after age 20 (OR = 0.612, $p = 0.700$) was significantly associated with contraceptive use relative to women who had never had sex. The notably wide confidence intervals for both categories suggest limited precision in these estimates, likely attributable to small cell sizes.

Total children ever born emerged as the strongest and most consistent predictor of contraceptive use in the model. Compared to women with no children, those with 1–4 children were 17.6 times more likely to use modern contraceptives (OR = 17.616, $p < 0.001$, 95% CI: 5.683–54.600); those with 5–9 children were 24.3 times more likely (OR = 24.288, $p < 0.001$, 95% CI: 6.990–84.396); and those with 10 or more children were 35.1 times more likely (OR = 35.070, $p < 0.001$, 95% CI: 6.757–182.018). This strong, graded dose-response relationship indicates that parity is the single most powerful driver of contraceptive uptake in this population, consistent with the expectation that fertility-limiting motivation intensifies as family size grows.

Finally, for ideal number of children, neither a stated preference for 1–2 children (OR = 0.665, $p = 0.446$) nor 3–4 children (OR = 0.854, $p = 0.439$) was significantly associated with actual contraceptive use compared to the reference category. This suggests that stated fertility preferences did not independently predict actual contraceptive behavior once other factors, particularly actual parity, were accounted for.

In summary, education (secondary level), wealth (middle and fourth quintiles), religion (Muslim affiliation), older age (45–49 years), and total children ever born were the significant independent predictors of modern contraceptive use in West Nile region, with parity showing by far the strongest effect.

CHAPTER FIVE: CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter presents the conclusions drawn from the study findings and provides recommendations aimed at improving modern contraceptive uptake among women of reproductive age in West Nile region, Uganda using the 2022 Uganda Demographic and Health Survey (UDHS) data. The analysis included univariate, bivariate, and multivariate logistic regression techniques. The chapter also highlights the limitations of the study and suggests areas for further research.

5.2 Conclusion of the Study

This study set out to examine the determinants of modern contraceptive use among women of reproductive age in West Nile region, Uganda. Based on the findings, the following conclusions are drawn.

Overall, modern contraceptive use in the study area remained low, with only 14.60% of women reporting current use of a modern method. This indicates a substantial unmet need for family planning services in the region and suggests that a large proportion of women remain at risk of unintended pregnancy.

The study established that **parity** (total children ever born) was the strongest determinant of modern contraceptive use, with the odds of use rising sharply as family size increased up to 35 times higher among women with 10 or more children compared to those with none. This indicates that fertility regulation needs, and therefore contraceptive demand, intensify as family size grows.

Education, particularly at the secondary level, was significantly associated with higher contraceptive use, confirming the well-established link between education and reproductive health knowledge, autonomy, and service utilization. **Household wealth** also played a role, though the relationship was not strictly linear middle and fourth-quintile women had significantly higher odds of use than the poorest, while the wealthiest women did not differ significantly from them, suggesting that factors beyond wealth alone shape use among better-off women.

Age was significant mainly at the older end of the reproductive span, with women aged 45–49 significantly less likely to use modern contraception than adolescents, likely reflecting declining fertility intentions in later reproductive years. **Religious affiliation** also had an independent effect, with Muslim women significantly less likely to use modern contraception than Anglican women,

pointing to the continued influence of religious and cultural norms on reproductive health decisions in the region.

By contrast, **place of residence** and **stated ideal family size** were not significant independent predictors of contraceptive use once other factors were controlled for, even though more than half of respondents expressed a preference for five or more children. This suggests that geographic location and expressed fertility preferences alone do not sufficiently explain contraceptive behavior in this population; actual reproductive circumstances appear to matter more.

Taken together, these findings suggest that modern contraceptive use among women in West Nile region is shaped less by where a woman lives or what family size, she says she wants, and more by her actual reproductive history, educational attainment, economic status, and religious background. This points to the need for targeted, multi-pronged interventions rather than one-size-fits-all family planning programming.

5.3 Policy Recommendations

Based on the findings of the study, the following recommendations are made:

1. Strengthen female education . Government and stakeholders should invest in increasing girls' access to education and retention at higher levels, as education was found to be the strongest determinant of modern contraceptive use.
2. Enhance reproductive health education for low-educated women
Targeted community-based programs should be implemented to improve family planning knowledge and uptake among women with no or low formal education.
3. Expand community-based family planning services
Family planning services should be made more accessible, especially in rural areas where the majority of women residents.
4. Strengthen youth-focused reproductive health interventions
Since a large proportion of women begin sexual activity during adolescence, youth-friendly reproductive health services should be expanded.
5. Improve integration of family planning into community outreach programs
Even though media exposure was not statistically significant, it remains important for awareness creation and should be strengthened alongside interpersonal communication strategies.

5.4 Areas for Further Research

Future studies should:

- Explore male partner influence on contraceptive use.
- Investigate cultural and religious norms in greater depth.
- Use qualitative approaches to understand barriers to contraceptive uptake.
- Examine health system factors such as service availability, quality, and provider attitudes.

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