# DETERMINANTS OF MODERN CONTRACEPTIVE USE AMONG WOMEN OF REPRODUCTIVE AGE IN UGANDA: BETWEEN 2001-2016

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UGANDA CHRISTIAN UNIVERSITY

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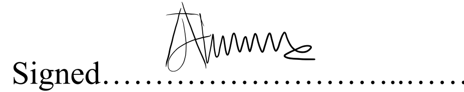
**DECLARATION**

I declare that this work has not been submitted for any degree and is not concurrently submitted for any degree other than a master's in public health leadership (Save the Mothers) of Uganda Christian University. I also declare that this work results from my investigations except otherwise stated.



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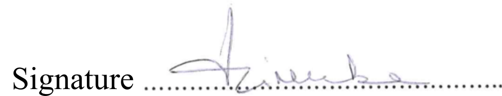

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Professor Florence Mirembe

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## DEDICATION

To you, Dad, Mr. Patrick Muhumuza Nkore, and Mom, Mrs. Florence Muhumuza: I appreciate your support, guidance, and input. Dad and Mom, you have nurtured me into a real woman, always able to successfully navigate through thin and thick. To my lovely husband, Mr. Godman Mukamanasasira: your selfless love and prayers are incomparable. To my brothers, Phillip, Allan, and Sister Patricia: Your love and care are much appreciated.

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"Glory to you, oh God!"

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## ABBREVIATIONS

| | |
|---|---|
| DHS | Demography and Health Survey |
| IPPF | International Planned Parenthood Federation |
| KCCA | Kampala Capital City Authority |
| RHU | Reproductive Health Uganda |
| SDGs | Sustainable Development Goals |
| UDHS | Uganda Demography and Health Survey |
| UNAIDS | United Nations Program on HIV/AIDs |
| UNFPA | United Nations Population Funds |
| UBOS | Uganda Bureau of Statistics |
| UNHCR | United Nations High Commissioner for Refugees |

## ABSTRACT

Embarking on a comprehensive exploration of modern contraceptive use in Uganda from 2001 to 2016. This study employs extensive secondary data analysis to unravel the intricate dynamics influenced by socio-economic, demographic as well as other factors on the uptake of modern contraceptives. Amidst moderate changes observed in contraceptive practices over the years, the prevalence of users still falls below expectations set by the Ministry of Health and other institutions in the country. Notably, shifting trends in the initiation of sexual activity among women aged 15-49years are unveiled, peaking at 7.6% in 2001 and gradually declining to 6.3% in 2016. Wealth indices indicate a noteworthy decrease in poverty rates over the same period, possibly linked to government-led poverty reduction initiatives. Educational strides are evident, with 6.8% of women achieving higher education in 2016, reflecting the government's commitment to enhancing access. The dominance of rural residence, reported at 85.3% in 2006, mirrors Uganda's primarily rural population, while fluctuations in working status hint at persistent socio-economic challenges and prevalent informal sector employment.

Media exposure dynamics exhibit diverse rates, with 58.9% of women exposed to contraceptive information through radios in 2016. Over time, increased exposure to family planning messages, peaking in 2016 across all platforms, contrasts with comparatively lower exposure via TV and newspapers. The study further unveils nuanced patterns in contraceptive use, spotlighting injections as the most prevalent method from 2001 to 2016. These comprehensive insights contribute to a holistic comprehension of Uganda's reproductive health landscape, paving the way for a detailed discussion of the contextual factors shaping modern contraceptive decisions.

**Keywords:** Modern Contraceptive Use, Reproductive Health landscape

# CHAPTER ONE

# INTRODUCTION

## 1.1 Background

According to Word Health Organization, family planning (FP) is a service where couples or individuals voluntarily decide on the number of children to have and when to have them or stop having them [1]. In other words, contraceptive use helps couples and individuals realize their goal and fundamental right to decide freely and responsibly if, when, and how many children to have[2].

Worldwide, contraceptive use has slightly increased from 73.6% to 76.8% between 2000 and 2020; 663 million women to 851 million use modern contraceptives [5]. In 2015, 64% of married women in their reproductive ages globally were using some form of contraception; however, contraceptive use was lowest among least developed countries (40%) and much lower in Africa (33%) compared to regions like Oceania (59%) and Northern America at 75%[2]. In 2013, WHO found that 222 million women in developing countries who wanted to space or prevent child-bearing lacked access to modern contraception (unmet need). Long-acting methods like Injectables, implants, and intrauterine devices, especially in the sub-Saharan African region, are often not readily available, keeping fertility high while jeopardizing women's health and well-being [6].

The sub-Saharan African region experienced a surge in modern contraceptive use in 2016, with Kenya at 58%, Rwanda at 53%, Ethiopia at 41%, Uganda at 35%, Tanzania at 32%, and Burundi at 32% [2]. However, despite this increase, the sub-Saharan region holds the highest fertility rates, averaging 4.6 live births per woman in 2019, compared to the 1.8 rate in Eastern and South-Eastern Asian regions, indicating that females of reproductive age (15-49) in sub-Saharan Africa have a higher childbirth rate than their counterparts [2]. It's also noteworthy that in 2019, modern contraception in sub-Saharan Africa was still relatively low at 29%, in contrast to regions like Latin America and the Caribbean, which recorded a rate of 58%, despite the significant rise in contraceptive use across countries in recent years [2].

Research shows that contraceptive use is the central and primary driver towards attaining development, especially in Uganda, where there is a high fertility rate of 4.5 births per woman [7]. United Nations, 2019, emphasizes that increased and continuous use of contraceptives within countries like Uganda, where fertility is high, will significantly reduce their fertility in years to come [8]. UNFPA data stipulates that family planning is the low-cost investment yet high dividend

policy most likely to address Uganda's high Total Fertility Rate, school dropout rates caused by teenage pregnancies, and high maternal mortality rate, as well as improving the health and welfare of young women, families and generally achieving Sustainable Development Goals (SDGs) envisioned by 2040 [9].

Uganda is still one of the countries in East Africa with the highest total fertility rates (TFR 5.4) [10], and its high fertility level emerges primarily from its high proportion of youths who start child-bearing early. Several reports and studies in Uganda have documented that (25%) of adolescents aged 15-19 years have begun child-bearing, (19%) of youths aged 15-19 have given birth, and (5%) are pregnant with their first child [7, 9]. The country has the second world's youngest population, with 70% of its population below the age of 35 years [2]. Over half of its population is still below 18 years old, worsening dependence levels, unemployment, and resource pressure [10]. Further still, this has aggravated the population's social transformation, development, health, and well-being through factors like high maternal and infant mortality rates in the country [2].

More than 28% of the married women in Uganda experience an unmet need for contraception, reducing the country's commitment to increase contraceptive use to 50% and the unmet need to be reduced to 10% by 2050 [10]. Word Bank projected an increment of her population from 42 million to 100 million persons by 2050; therefore, Uganda's benefits are mostly expected to come from a demographic dividend after a successful fertility transition via increased access to reproductive health services and family planning[14].

Over the years, factors such as education level, wealth index, number of sexual partners, and more have been concluded as influential determinants of contraceptive use; hence, recommendations in line with these determinants have been given to regulate Uganda's high fertility rate, but it is still high [1], [2], [7], [9], [14]–[17]. We cannot disregard contraceptive use, but we can evaluate its determinants from 2001 to 2016.

**1.2 Statement of the problem**

In developed countries, contraceptive use has long been established as a fundamental component of reproductive health strategies, contributing significantly to the regulation of fertility levels and the empowerment of women. However, in regions such as Uganda, where access to and utilization of contraceptive methods are often limited, the impact of such interventions is not fully realized

[7, 14]. Despite efforts to improve contraceptive prevalence rates (CPR), challenges persist, and understanding the factors influencing contraceptive uptake and utilization is essential for effective intervention strategies. Contraceptive use is one of the most cost-effective interventions for regulating fertility levels, especially for developing countries like Uganda [7, 14]. It is a health priority service area central to gender equality and women's empowerment as keys to national development [18]. Reports from UDHS data indicate that the rate of contraceptive use has kept increasing over recent years, that is, 23%, 24%, 26%, and 35% in years 2000-01, 2006, 2011 and 2016, respectively[7, 9, 10]. Despite the apparent increase in CPR, the contraceptive prevalence rate remains below 50%, per Uganda's vision [18]. The fertility rate declined from 6.9 children in 2000-01 to 5.4 children per woman in 2016, but it remains one of the highest in the world [8].

The 2016 data indicates high fertility, pointing to elevated rates of unintended pregnancies, high contraceptive non-use, limited access to sexual and reproductive health information and services, as well as strong fertility desires among women, low education levels, and other related factors [7, 14]. Recently reported data from the Uganda Demographic and Health Survey (2016) suggests an apparent decline in these trends. This situation has adversely affected social transformation development, undermining health outcomes in the country, which continue to be underestimated and underreported due to limited coverage, including a high maternal mortality rate of 336 per 100,000 live births [8], as well as elevated infant (43 per 1,000 live births) and child mortality rates [10]. Consequently, Uganda faces challenges in progressing towards the targeted Sustainable Development Goals (SDGs) by 2030.

The government and other local and international partners, such as IPPF, UNFPA, RHU, and UNAIDS, invest resources purposely to reduce the barriers women face in seeking family planning services hindering fertility reduction. The Ugandan Vision 2040 expects the country to be transformed from a low-income to a middle-income country by 2040, but this remains very difficult as long as fertility is maintained at these levels. To understand why fertility has remained high over the years in Uganda, it is essential to investigate the contributing factors to the moderate changes in contraceptive use among women in their reproductive ages in Uganda between the years 2001 and 2016, as it can be a basis for prediction of future contraceptive use. Therefore, this research is attempting to address this knowledge gap.

### 1.3 General objective

To investigate the factors contributing to changes in contraceptive use among women of reproductive age in Uganda between 2001 and 2016 using data from UDHSs.

### 1.4 Specific objectives

1. To explore the socio-economic factors contributing to the changes in modern contraceptive use among women of reproductive age in Uganda between 2001 and 2016.
2. To analyze the changes in demographic factors contributing to modern contraceptive use among women of reproductive age in Uganda between 2001 and 2016.

### 1.5 Research questions

1. What socio-economic factors have influenced modern contraceptive use among women of reproductive age in Uganda between 2001 and 2016?
2. Which demographic factors have influenced the use of modern contraceptives among women of reproductive age in Uganda between 2001 and 2016?
3. Why is fertility still high despite the apparent increased use of modern contraceptives among women of reproductive age in Uganda between 2001 and 2016?
4. To what extent has each factor contributed to increased contraceptive use among women of reproductive age in Uganda between 2001 and 2016?

### 1.6 Study hypotheses

1. Educated women have been using modern contraceptives more than women without or with less education from 2001 to 2016 in Uganda.
2. Rich women have been using modern contraceptives more than poor women from 2001 to 2016 in Uganda.
3. Women residing in urban areas had been using modern contraceptives more than women in rural areas from 2001 to 2016 in Uganda.
4. Employed women had been using modern contraceptives more than unemployed women from 2001 to 2016 in Uganda.

### 1.7 Significance of the study

This study is being conducted to identify the determinants of modern contraceptive use among women of reproductive age in Uganda between 2001 and 2016. Based on the findings, it is hoped that there will be an understanding of each determinant's trends and how they have affected modern contraceptive use over the years. It is also expected that this will help to identify the gaps

between the use of modern contraceptives and fertility decrease based on recent data. The study of these determinants aims to harness the adaptation of new strategies to control the high fertility rate in Uganda based on current trends. This will help modify the service delivery and contribute to finding some solutions to some of the problems and barriers to contraceptive use.

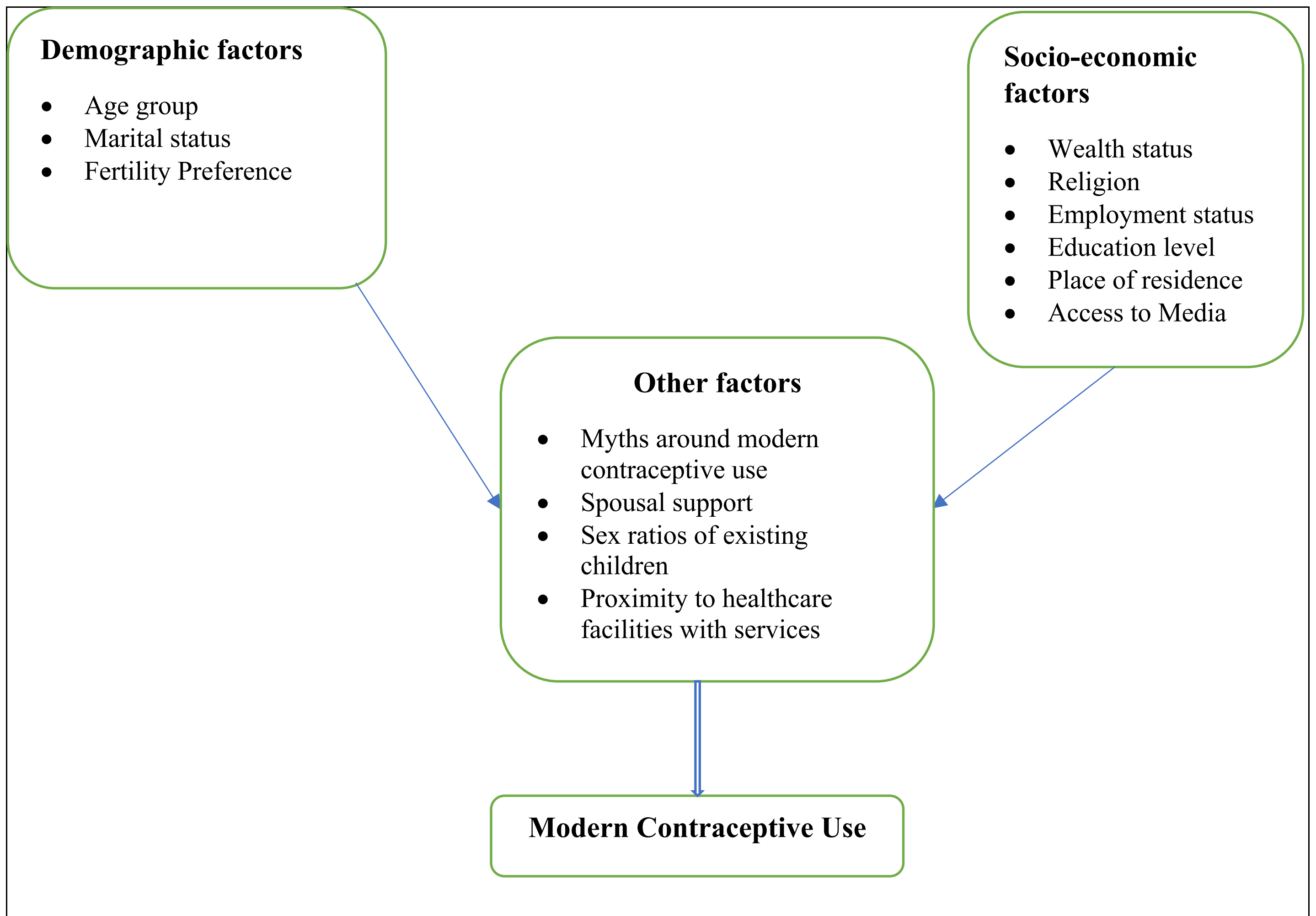
It is also hoped that the information obtained will contribute to informing programming and thus contribute to awareness and proper provision of services. The analysis of the national level study will help us to inform the different stakeholders within the reproductive health fraternity of the potential areas that need improvement to ensure equitable distribution and effective utilization of services, mainly to the concerned bodies like the Ministry of Health and the communities as well as their leadership.

## 1.8 Conceptual framework

Here, the study looked at socio-economic factors like wealth status, demographic factors, and age, all taken as independent variables and their interaction with the dependent variable, modern contraceptive use. All the independent variables work to influence modern contraceptive use.

Demographic factors such as age and socio-economic factors such as wealth status can interact to influence the use or non-use of contraceptives; for example, a rich woman with many sexual partners is more likely to use contraceptives than a counterpart from rural areas where the availability of medical services is rare.

Ariho [21] explained that rural women are usually uneducated or have lower-level education; therefore, they are more likely to be influenced by their male partners to covert or discontinue family planning practices. They are less empowered, have limited decision-making power, and lack access to and control over resources, especially finances; male partners and heads in the African setting dominate over females, and men overrule decisions regarding family size and women’s reproduction. This leads to non-use of contraception, covert use, or discontinuation due to fear of dispute between the couple.




**Source:** Mukisa Sarah Ntozi *et.al,* 2006

Figure 1.1: Conceptual framework

# CHAPTER TWO

# LITERATURE REVIEW

## 2.1. Introduction

This chapter deals with the literature review on the factors that determine the use of modern contraceptives in Uganda, and these include but are not limited to the demographic, socio-economic, and other factors from several scholarly works of literature and several publications such as internet sources and journals.

## 2.2. Demographic factors

The place from which an individual resides is an essential factor for modern contraceptive use. Recent studies have concluded that women in rural areas have lesser access to and use of modern contraceptives; they are poor economically, unemployed, and less or never empowered, hence limited decision-making concerning their sexual and reproductive lives[3, 4]. The observed variation in contraceptive use by place of residence may be attributed to differences in the availability of social services such as education, information about family planning, access to family planning, and health care services[15].

A study was conducted in Ethiopia to compare the utilization of modern contraceptives in 2011; women from urban and rural settings were compared. Modern contraceptive use among married women in the urban area was (87.5%) and (72.8%) in rural areas. Similarly, another study in Ethiopia found that urban women (30.5%) used modern contraceptives compared to their rural (26.1%) counterparts [15].

In deciding when to start and complete the process of childbirth when to have another child is a place where age plays a significant role. Over time, the age of a woman has determined the use of family planning; hence, the older a woman gets, the more their need for contraception and the rate of contraception decreases[23]. Considering the age bracket 15-24, women are still younger and, therefore, have a stronger desire for fertility than their older counterparts. One study showed that (26%) of women aged 15-24 years desired to have another child in two years compared to (16%) among those who were aged 25- 34 years [16].

The rate of contraceptive use among middle-aged women is higher than among younger and older women. In their medium ages, women are married, and childbearing is unavoidable, so family planning is needed, especially for spacing children. A survey of family planning by Sharma found that (84.4%) of women aged 30 years and above used contraceptives compared to (2.2%) of those

aged 20 years and below[17]. Another study in Uganda found that women between ages 25-34 years (37.1%) used modern contraceptives more than (18.3%) and (31.0%) of women aged 15-24 and those aged 35 and above, respectively[15].

In marriage, childbirth is inevitable; thus, unmarried women are less likely to use modern contraceptives compared to their married counterparts. This difference may stem from an increased need to space or limit childbirth within marriage, while unmarried individuals may prioritize preventing unintended pregnancies in the absence of a partner. In Uganda, a study revealed that 34.8% of modern contraceptive users were married, while 18.3% were unmarried [15]. Similarly, in Lagos, Nigeria, levels of contraceptive non-use were higher among single/available women than among the married, with rates of 67% and 43%, respectively [24].

On the contrary, the contraceptive prevalence rate among the married in South Africa was lower than the unmarried; 54% of married and 64% of the unmarried women used contraceptives[25]. This was because most women were either in relationships or divorced.

Age at first sex is a pillar in determining many women's conception and entry into marriage. The use of modern contraceptives differs by age at first sex[26]. The earlier one initiates sexual relations, the more likely they are to use contraceptives to prevent unintended pregnancies. Early sex initiation also means a high risk of pregnancy. The earlier the age at first sexual intercourse, the higher the risk of early marriages and early pregnancies, which has health risks to the mother's and child's health, even death[27].

A study between 2015–2017 in the United States found that (78%) of young females aged 15–24 who had sexual intercourse before age 20 used a method of contraception the first time they had sexual intercourse[26]. Another study in the United States about adolescents and contraceptive use found that teens who had begun sexual intercourse at young ages took longer to initiate contraceptive use and only 52% of those who had started sex at 12 years or younger used contraception during the month of first sex[28].

In Kenya, 61.7% of adolescents aged 15-24 years in a study were already sexually experienced at the time of the survey, and 30% of the adolescents had already initiated sex by the age of 19. The mean age at first sex was 16.2 years. 46.9% have used a contraceptive, and 37.7% used modern contraception. The overall current use of contraceptives among adolescents was 21.5%. Among

these, only 2.8% used condoms, showing that most are exposed to unintended pregnancies and HIV/AIDs and other STDs[29].

### 2.3. Socio-economic factors

Wealth denotes the economic status of the individual or household. Several studies have found that wealth positively influences the use of health and family planning services. The wealth index measures the long-term standard of living. Usually, those in the poorest quintile are limited to achieving higher education and, therefore, less likely to use modern contraception. A study in Malawi found lower contraceptive use among women in the poorest quintile than their counterparts, and their fertility was relatively higher, especially those ages 15-24, where poverty was mainly concentrated [30].

This is because wealth has more socio-economic and health implications on women's lives in the poorest quintiles, especially in Sub-Saharan African countries such as Uganda. This shows that women in wealthier households have the capacity and resources to attain better education and hold resources, say money, enabling them to afford any modern method they opt for if such services are not free as long as it's in their preference, they can afford it compared to poorer women. Thus, it is expected that the higher the woman's wealth, the more likely she is to utilize family planning services because she may be able to afford the cost and other expenses that come along with using the services [31]. Health outcomes are better when a household has wealth; this link is expressed by the fact that health and wealth strengthen one another in the health system [32]. In this line, if access is made accessible, all women, whether rich or poor, would access the services [32], and by this causative, health outcomes would come out equally for all.

A woman's employment status highly determines her ability to afford highly effective modern contraceptive services and methods. Women's work status has been linked to knowledge and use of contraceptives. Consequently, they have more control over reproductive decisions. Highly paying employment means high annual income, which increases the ability to afford and access these services[31]. It is without doubt that employment and income work hand in hand to influence the use of contraceptives. Some studies also add that paid work provides alternative satisfactions for women, which may compete with bearing and rearing children and promote contraceptive use [33]. Employed women, those who earn cash incomes, are likely to have greater control over

household decisions and increased awareness of the outside world, that is, outside the home than the non-working who are not empowered enough to uptake modern contraceptive use or take control over their reproductive lives, they lack resources to afford expensive and effective methods of contraception[34]. For instance, in Malawi, Women who are not working were 1.26 times less likely to use contraceptives than women who are working[33].

Any woman's education level is crucial in determining access and utilization of family planning. MacQuarrie (2015) states that education enables individuals to influence their use of health services and makes them choose a more health-conscious behaviour for better health more efficiently. Furthermore, women's age at first marriage is delayed as they spend more years in school, limiting their involvement in sexual activity yet enabling them to attain wealth and prestige [35].

Some studies have found a positive and significant association between education and family planning use. Women's attitude towards family planning use is strongly affected by their level of education because they acquire knowledge. Besides, the more educated women become, the more open they are to new opportunities and empowerment, ensuring they can freely decide if and when they would love to have children [36]. Therefore, efforts and commitments to encourage women to pursue higher education are needed to increase family planning use because higher education attainment induces more knowledge and exposure to these services, especially in Uganda. Higher modern contraception use comes along with rising levels of education; in a study in Malawi about contraception use, those with higher education were 5.4 times more likely to have used any modern method of contraception than those without formal education [36].

Education aligns women to a place where they are well conversant with the dangers of too early or late and many births, avoidance of child spacing, and more to this than their illiterate counterparts who have no idea. Similarly, education levels determine the effectiveness and use of family planning services; a study on adolescent females in Uganda found that women with secondary education are more likely to use contraception than those with just a primary education level. Further still, knowledge about contraception is crucial to all, and this is through reproductive health education; without this knowledge, youth never realize the need for contraception, which might lead to either poor utilization of methods or non-use. Studies found that older women were

much more educated in contraception than sexually active adolescents, whose uptake had kept low [36].

In South Africa, contraceptive use was higher among women with more than secondary education (62%) than those without education (44%); higher levels of education are associated with increased usage of modern contraceptives [25]. Sexual and reproductive health education is essential, therefore, especially for younger women who are likely to engage in sexual activity earlier before marriage, which is a risk to such individuals in Uganda [36]. Moreover, a longitudinal study on the unmet need for contraception among rural women in Rakai, Uganda, also concluded that women with higher education were more likely to have a lower unmet need for contraception than those of lower education levels [37]. However, a study in Pakistan found no association between education and modern contraceptive use[38].

Religion is a fundamental pillar in reproductive health decisions in the population and, in this case, modern contraceptive use. It officiates entry into marriages where childbearing is mandatory while influencing contraceptive use among couples. It imparts stronger religious beliefs like the liberty to have large family sizes among Muslims; this influences the desire for more children[39]. Religion has played a leading role in discouraging the dissemination of information on male condom use.

Furthermore, it is no secret that most religious sanctions through their teachings have instilled beliefs amongst followers regarding childbirth; most couples have large families due to the freedom to the belief that “it is up to God” [18]. Mainly, Catholics are restricted in matters concerning contraceptive use[40]. It’s believed that their teaching discourages modern contraceptives like male condoms because unnatural methods encourage promiscuity[41].

In predominantly Catholic countries, for example, Brazil, the Catholic church is at the forefront of influencing government policies, particularly in limiting male condom availability and discouraging fertility-limiting behaviour [42]. In Uganda, (67.6%) of Catholic women had the highest unmet need for modern contraceptive use compared to women from other religions[43]. In Ghana, a study found a negative and significant association between religion and condom use: compared to those who declared no religion, Catholics, Protestants, other Christians, and Muslims were less likely to report condom use[44]. However, in 2019, FP2020 found that some religious leaders in Nigeria worked along inter-faith forums to increase family planning uptake, with a

(30%) higher contraceptive uptake among women exposed to family planning messages from religious leaders than those without exposure.

Media is among the most utilized sources of information globally, besides parental guidance and schools. Mass media utilization encourages individuals to learn the benefits of sexual and reproductive health, including family planning. Such information influences positivity in people's attitudes and actions. Furthermore, mass media reaches a bigger audience and a nationwide scope, and this helps to correct misperceptions about fertility needs. Communication via media platforms such as televisions, radios, and phones, as most utilized, is essential to the extent that they help increase awareness and knowledge that influence women's fertility decisions [45].

For example, a study about access to mass media messages and use of family planning in Akwa Ibom, Nigeria, found that most mass media has a positive and significant influence on the use of family planning services, where 46.9% of those who had used family planning had been exposed to family planning information from media compared to the 87.4% of the population which had no exposure to mass media, therefore, use no family planning[46]. Therefore, women exposed to mass media messages can use contraceptives due to an increased desire to use them and their need for fewer births [26, 27]. This linkage expands on the fact that those lacking knowledge and have misconceptions about family planning are expected to ignore the use of family planning services[49].

### 2.4. Other factors

The number of sexual partners usually indicates the patterns of sexual behaviour; having more than one sexual partner implies riskier sexual behaviour, hence higher risks of unwanted pregnancies and Sexually Transmitted Diseases; this encourages women to go in for contraception to avoid such consequences. However, a woman with one partner is more likely to use the most effective contraceptive method than those with more than one sexual partner[50]. In a study on contraceptive and sexual practices among single women with an unplanned pregnancy influenced by a partner(s), findings indicated that (75%) of the respondents had just one sexual partner, which affected their choice of the kind of contraception to use; (32%), (16%) and (44%) had used a pill, condoms, and other contraceptive methods respectively than their counterparts with more than one partner where oral contraception had declined by (29%) among those with two partners, to (9%) to the ones with three and more partners. Contraceptive non-use was higher among women with

two or more partners. Still, the highest among those with three or more partners (54%), (73%) of those with multiple partners were having unprotected intercourse numerous times. In contrast (83%) were monogamous, hence the need for contraception for both groups[50].

Regarding decision-making about contraceptive use, partners are essential influencers; due to ignorance, male dominance in relationships, lack of women empowerment, and physical abuse due to misunderstandings of domestic violence, most women are prevented from family planning use [25]. Partners influence family planning uptake among women in urban and rural areas, but it is worse in rural areas with less empowerment. Negative personal beliefs about perceived side effects, including decreased sexual pleasure, limited access to contraceptive information, myths and misconceptions, being economically poor, and male preference for larger families, make men oppose contraceptive use[4, 5]. A study in South Africa showed that male partners can influence family planning use through discontinuation or conversion[25]. Men's attitude towards contraception strongly affects the willingness and ability of women to use contraception. (10%) of married women had an unmet need for contraception in Latin America and the Caribbean, 22 to 25% in Sub-Saharan Africa. In Kenya, many clinics and hospitals provide women with contraceptive services only if their husbands are present [52]. However, partners can also be supportive in social support and sharing responsibility for using family planning very well [25].

Fertility preference is a significant influencer of modern contraceptive use; many studies have found that a couple's/woman's utilization of contraception can also be attributed to fertility desire. A woman desiring a large family size is less likely to use modern contraceptives than one who wants a smaller family size[18, 24]. Modern contraceptive use is highest among couples who would love to stop child-bearing and lowest among those who would love to continue with child-bearing [47]. In a study about the desire for more children and modern contraceptive use among couples in sub-Saharan Africa, modern contraceptive use decreased to 2% in Chad and 69% in Zimbabwe for couples who decided to continue child-bearing [47]. Modern contraceptives are used more in Eastern Africa than in the region's Western part. This is probably because of the polygamous nature of the Western region, where large families are preferred[47]. In Uganda, where male dominance and culture are still core, men control the kind of family size they hold. A woman might only perform her household duties, while the man decides on the family and size whether she can use contraceptives or not [53]. This has left many

women with no control over their reproductive decisions. For instance, a study in Sudan found that men decide not to use contraception, and when a couple is using contraception, the husband influences which contraceptive method to uptake [54]

# CHAPTER THREE

# RESEARCH METHODOLOGY

## 3.1 Introduction

This section outlines the research methodology employed to extract valuable insights into the study's objectives. The primary source of data for this investigation is the Uganda Demographic and Health Survey (UDHS), providing a robust foundation for comprehensive secondary data analysis. Additionally, to augment and contextualize the quantitative findings, three key informant interviews were conducted, adding a qualitative dimension to the research. The personal interviews, informed by the data obtained from UDHS, serve as a crucial supplement, offering a nuanced perspective and deeper understanding of the intricacies associated with the factors contributing to changes in contraceptive use among women of reproductive age in Uganda. This chapter elucidates the systematic approach taken to assimilate and analyze data from both primary and secondary sources, ensuring a well-rounded exploration of the research questions at hand.

## 3.2 Data collection during the UDHS surveys

The data, acquired through a two-stage cluster sampling method, forms the basis for rigorous secondary analysis. Notably, it is imperative to clarify that the districts were not uniformly sampled; rather, a strategic sampling approach was employed. The 2006 UDHS, for instance, implemented oversampling in certain areas of the North, particularly the Karamoja region, and included some refugee camps to capture specific indicators for these regions, addressing the challenges posed by insecurity.

### 3.2.1 Sampling Strategy for Key Informants

Leveraging the rich dataset provided by the Uganda Demographic and Health Surveys (UDHSs), a purposive sampling approach was undertaken. Specific variables integral to the study's focus, such as geographic location, demographic characteristics, and contextual nuances (Table 3.1), guided the selection process. Key informants (health professionals), identified from different Health facilities i.e., Kawaala Health Centre 4, Kasangati health Centre 4 and Kisenyi Health Centre 4, possessed unique insights into the dynamics captured by the UDHS data. The purposive sampling ensured a nuanced exploration of factors contributing to changes in contraceptive use within the specified timeframe of 2001 to 2016. Ethical considerations, transparency, and informed consent were integral components of this sampling strategy, emphasizing the commitment to upholding ethical standards throughout the research process.

### 3.2.2 Sampling Techniques by UDHS

The sampling methods used are detailed in each final report (UBOS and ICF International 2001, 2007, (2012, and 2018). The first stage involved selecting clusters from sampling frames used in recent nationwide surveys; 2004. The second stage selected households in each cluster using a simple random method. Then, the sample was stratified in urban and rural areas. Seven Thousand Two Hundred Forty-Six (7,246) women aged 15–49 were interviewed in 2001, 8,531 in 2006, 8,674 in 2011, and 18,506 in 2016.

### 3.3 Inclusion and exclusion criteria by UDHS

**Inclusion Criteria**: The inclusion in the study focused only on women aged 15–49 who were sexually active in the last year before the survey, not pregnant or infecund, comprising a weighted sample size. Figure 2 below shows how this subsample was derived in each survey. Data was weighted to ensure representativeness across the country using the "svyset" command, which was used to specify the survey design characteristics, while the "svy" prefix was used to indicate that the estimation command should be run as a survey estimation command in Stata.

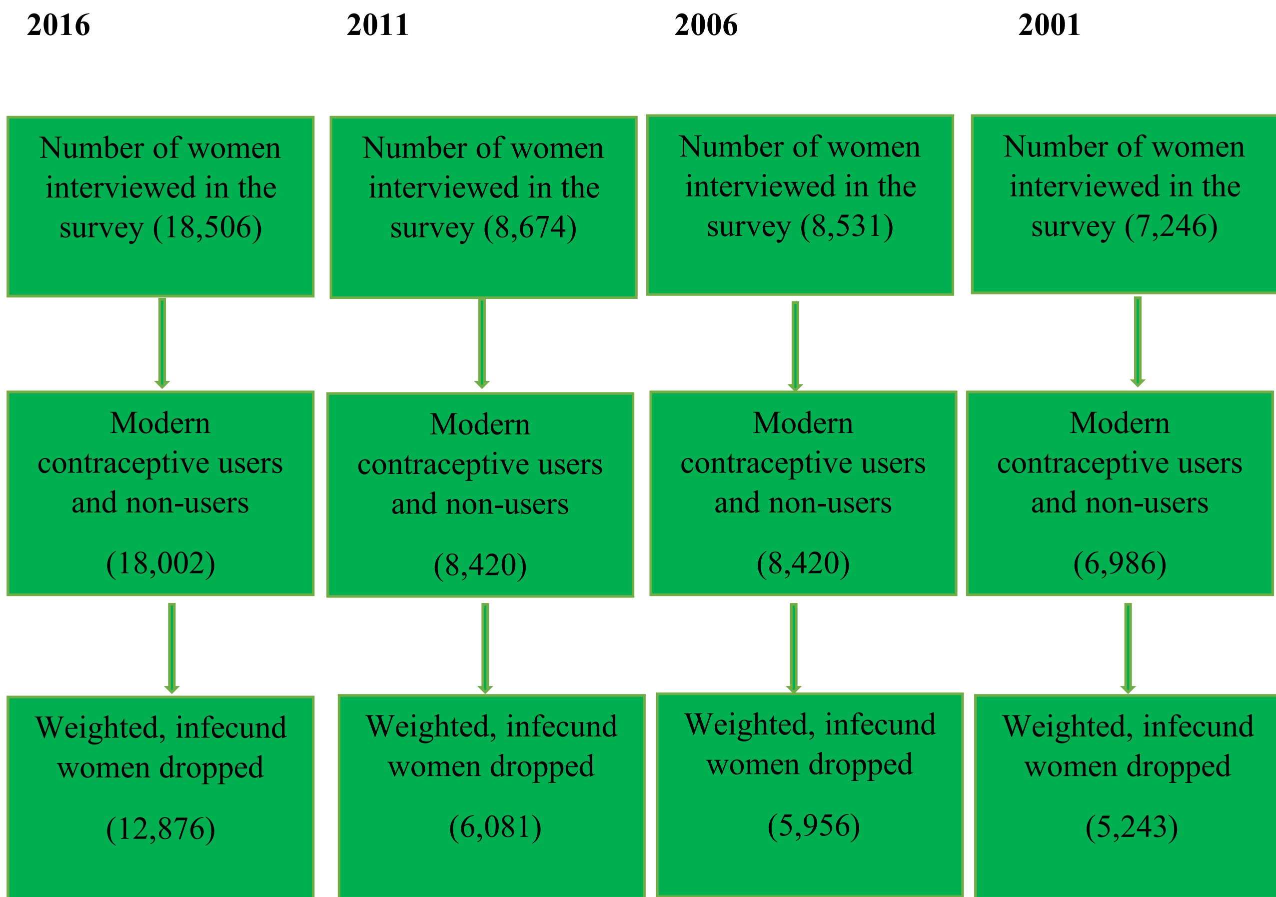



Figure 2.1: Inclusion and exclusion criteria

The first block presents the total number of participants across surveys: 18,506 women in 2016, 8,674 women in 2011, 8,531 women in 2007, and 7,246 women in 2001. The second block denotes the total respondents to the contraceptive module, including users and non-users. In this analysis, weighting adjusted each data point's contribution based on its importance or representativeness in the population, hence the third block. Utilizing a multi-stage sampling design, clusters were selected systematically, households within clusters were sampled, and individuals within households were included. Survey weights were applied to correct for any sampling biases, enhancing the sample's representativeness. Infecund individuals, those unable to conceive, were excluded from the analysis to focus on reproductive-capable participants, aligning with the research objectives. Therefore, the term "weighted, infecund women dropped" signifies the exclusion of infertile women from the analysis to maintain the validity and reliability of findings on contraceptive use and fertility trends among fertile women. The weighted study population from the UDHS dataset formed the basis of the research sample.

### 3.4 Operationalization

**Table 3.1 List of the variables considered.**

| Variable Categories | Potential variables |
|---|---|
| **Social economic variables** | **Place of residence** (urban or rural<br>**Education level** (No education, Primary, Secondary, and Higher education),<br>**Employment** (employed or unemployed)<br>**Religion** (Catholic, Protestant, Muslim, and others) |
| **Demographic Characteristics** | **Age** (This was categorized into seven groups: 1: 15-19, 2: 20-24, 3: 25-29, 4: 30-34. 6: 40-44, 7: 45-49),<br>**Marital status** (Married, living together, widowed, divorced, and not living together),<br>**Fertility preference** (Have another, Undecided, No more and Sterilized) |
| **Reproductive Health** | Contraceptive use (User and Non-User). |
| **Mass Media Exposure** | **Radios** (Not at all, less than once, At least once a week and Almost every day), |

| | |
|---|---|
| | **Televisions** (Not at all, Less than once, At least once a week and Almost every day)<br>**Newspapers** (Not at all, Less than once, At least once a week and Almost every day)). |
| **Wealth index** | **Lowest Quintile**: Represents the **Poorest** segment with limited resources.<br>**Second Quintile**: Slightly better socioeconomic status than the lowest **(Poor).**<br>**Middle Quintile**: Moderate socioeconomic status, average wealth level **(Middle).**<br>**Fourth Quintile**: Above-average wealth, better access to resources **(Richer).**<br>**Highest Quintile**: Wealthiest segment with abundant resources **(Richest).** |
| | |

### 3.4.1 Dependent variable

From the UDHS, participants were asked whether they used any modern contraceptive method. For this study, a binary variable, Contraceptive Prevalence Rate, was generated as the outcome variable; those who were not using any method by the time of the survey were grouped into the category **'No',** and those who were using during the time of the survey were grouped as **'Yes.'** These were recorded as **'0'** for No (contraceptive non-users) and **'1'** for 'Yes' (contraceptive users).

### 3.4.2 Independent variables

The socio-economic variables included place of residence, which is defined as the location where the respondent lives. Education level was defined as the extent of the participant`s formal education. The wealth index was defined as the financial status of participants in the survey. Employment status was defined as the participant`s current position in the labour market. Religion is defined as a set of beliefs, practices, rituals, and moral values centred around questions of ultimate meaning and purpose in life (refer to Table 3.1).

The demographic factors studied included age, defined as the number of years passed since a person`s birth. Marital status is defined as the legal and social condition of an individual with

respect to their marriage. Fertility preference is defined as the participant`s intention regarding whether she wants to have additional children in the near future (refer to Table 3.1).

The media accessibility variables studied included frequency of listening to radio, defined as the number of times a participant tunes into and listens to a radio broadcast within a specific time frame. The frequency of watching television is defined as the number of times a participant watches television programs within a specific time frame. The frequency of reading a newspaper is defined as the number of times a participant reads at least one newspaper within a specific time frame. All data was reviewed to ensure authenticity before entering it into the computer for secondary data analysis, as discussed in this work (refer to Table 3.1).

### 3.5 Obtaining Data from UDHS

Acquiring data from the Uganda Demographic and Health Surveys (UDHS) involved obtaining necessary permissions for access, visiting the official website to gather information on data availability, and reviewing provided documentation for insights into the dataset's structure and methodology. Following this, a formal request specifying variables and years of interest was submitted, and upon approval, a letter to that effect was issued (see Appendix 2). The dataset was then accessed and downloaded in the Excel format. Subsequent steps included a meticulous data cleaning process to address inconsistencies, the selection of relevant variables aligned with research objectives, and the application of appropriate weighting for representativeness based on the survey design. Utilizing statistical software (Stata V15), the data was analyzed, and findings were interpreted and reported in adherence to ethical standards and data usage agreements. This streamlined process ensured the effective utilization of UDHS data for this work.

#### 3.5.1 Validation of UDHS results using subject experts (Health Professionals)

The researcher carried out in-depth interviews, with three family planning experts in Health Center IVs found in Kampala district, which is the capital city of Uganda, to validate the results from the UDHS. Health Center IVs were selected because they are easily accessible to women who seek reproductive health services, including family planning, irrespective of their financial status, geographical location, and education level, to mention but a few. Out of the 8 health facilities managed by KCCA, three were selected by simple random sampling whereby papers with names of the facilities were put in a basket and mingled and then three were randomly selected. The selected health centers included Kisenyi Health Centre IV, Kawaala Health Centre IV, and Kasangati Health Centre IV, which are found in greater Kampala and are representative of the

healthcare sector in Uganda. Patton recommended a minimum of three key informants in 2002. The experts were purposively sampled to include a doctor, a nurse and a midwife who were all well conversant with the challenges associated with contraceptive services and use among women with an experience of over 10 years in family planning, both in rural and urban areas of Uganda. The interviews were conducted using a key informant guide (Appendix 1). The guide included questions related to accessibility, affordability, and reasoning for lower usage of modern contraceptives in the country.

## 3.6 Methods of Analysis

### 3.6.1 Data entry

The UDHS data was entered into the computer using Stata V15. After careful review and cleaning for accuracy, Stata facilitated efficient data entry and management. The software's user-friendly interface allowed for the entry of numeric and categorical variables, as well as the creation of variable and value labels. Validation checks were conducted to identify and rectify discrepancies or missing values, ensuring the accuracy of the dataset. The use of Stata streamlined the entry process, laying the groundwork for subsequent statistical analyses and interpretation of findings.

### 3.6.2 Data analysis

This occurred at two levels: Stata version 15 was used for the analysis of data in this study. The frequency and percentage distributions of the respondents by their socio-economic and demographic characteristics were generated. The analysis occurred at two levels: First, a descriptive summary of the dependent variables (contraceptive use) and independent variables was performed using frequency distribution tables and graphs.

The second level of analysis was bivariate analysis, whereby the association between the dependent variable and each independent variable was investigated. This analysis tested the chi-square statistic for the significant relationship between selected independent and dependent variables. In this study, it was assumed that the level of significance for all chi-square tests is 0.05.

In the process of analyzing the factors that contributed to contraceptive use between 2001 and 2016, a multivariate level of analysis was adopted. Binary logistic regression analysis was employed to carry out this investigation. The analysis aimed to use the significance level of 5% and the odds ratio to determine the likelihood of contraceptive use. During the analysis, it was

predetermined that if the significance of any variable is less than or equal to 0.05, it would be classified as a determinant.

### 3.7 Ethical consideration

Formal approval to utilize the UDHS 2001 to 2016 dataset was diligently sought from the DHS website. This involved ensuring compliance with the terms of use, respecting informed consent protocols, maintaining confidentiality, and upholding data privacy standards. The grant of access letter to the dataset is enclosed in the appendix list (appendix 2).

In addition to securing permission for dataset usage, ethical considerations were paramount in conducting Key Informant Interviews (KIIs). Prior to commencing interviews, informed consent was obtained from all participants (appendix 1), emphasizing the voluntary nature of their participation, the purpose of the interviews, and the confidentiality of their responses. Participants were assured that their identities would remain confidential, and their responses would only be used for research purposes.

### 3.8 Limitation

UDHS is primarily quantitative and does not provide qualitative insights into the reasons behind contraceptive choices or cultural and contextual factors influencing contraceptive behaviour. However, insights were achieved from family planning experts. Some desired aspects in the conceptual framework, for example, the experience of abortion and a woman's HIV status, could not be adequately operationalized to allow analysis using the available dataset. Limited longitudinal data is available to track changes in contraceptive behaviour within the same individuals, irrespective of the UDHS rounds. However, the findings for the rounds were validated by interviewing family planning experts.

# CHAPTER FOUR

# RESULTS

## 4.1 Introduction

The Results section unveils findings from an in-depth analysis of factors impacting contraceptive use among Ugandan women aged 15- 49 from 2001 to 2016, utilizing UDHS data. This exploration covers demographic and socioeconomic variables. The concise presentation aims to inform policies and interventions for improved uptake of modern contraceptives in Uganda.

**Validation Results from the Professional Experts**

**Modern contraceptive use between 2001-2016**

**From the key informant,** the main modern contraceptive used by women was injectable contraceptives which is usually administered every after three months. The informants explained that the "*method is popular because of ease of use as women do not need to remember take a pill daily or use a contraceptive method consistently before each sexual encounter*". Another reason the informants gave was that the method is long lasting as it reduces the need for frequent healthcare visits, and effective when used correctly. One of them informed the researcher that, "*some of her clients claim that they prefer this method because it reduces their menstrual bleeding*".

**Determinants of contraceptive use between 2001-2016**

Family planning experts explained that older women have been utilizing modern contraceptives more than young girls over the years. **The reason from the experts was that** "Older *women often have more life experience and are better informed about reproductive health and contraception. They may have learned about contraceptive methods over the years through personal experience or interactions with healthcare providers and family planning programs".* **All experts explained that** *"Older women can choose contraception alone or in collaboration with their partners and access to healthcare facilities is easier for them".*

Experts also explained that there are differences in contraceptive use between urban and rural areas due to variations in healthcare access, awareness, education, and living standards. For example, **experts explained that** "*women in urban areas typically have better access to healthcare facilities, including family planning clinics and pharmacies. Besides that, the number of health*

*facilities in urban areas is far greater than that in rural areas, which means that the availability of healthcare services is high for urban women, making it quick for them to access contraceptives and receive family planning counseling".*

**Experts explained that "***Educated women have greater awareness and knowledge about contraceptive methods and are informed about their effectiveness and potential side effects. This is because they can consult various experts and even research before using a method".*

About employment, experts explained that people with jobs usually have income to pay for contraceptives and other healthcare expenses, which is not valid for unemployed women. However, **one expert explained that** *most women seeking family planning services from their health center are unemployed and have autonomy over fertility preferences, though this is not for the majority*.

Additionally, **Experts explained that** *"Women with higher incomes have greater access to healthcare services, such as family planning clinics and healthcare providers in both private and public hospitals. They can easily travel to medical facilities and afford medical consultations and contraceptives. Conversely, poor women cannot".*

**Experts also explained that** "*Women have fertility preferences that involve delaying childbearing to pursue career opportunities or other life goals. Contraceptives allow them to delay pregnancy until they are ready. However, women who desire more children use contraceptives less frequently and sometimes opt for easily reversible methods when they decide to conceive again*."

### 4.2 Background characteristics for women between 2001 to 2016

Table 4.1 shows the composition of women in each age group from 2001 to 2016. The data indicates that, for most women aged 15-49, the initial sexual encounter occurred between 15 and 19 years (7.6% to 6.3%) from 2001 to 2016. Notably, the engagement in sexual activities by young girls in the 15-19 age bracket peaked at 7.6% in 2001 and gradually reduced to 6.3% in 2016.

Regarding the wealth index, the highest number of poor women, at 20.6%, was recorded in 2001 and 2006. Over the years, the proportion of poor women decreased slightly to 19.3% in 2016 vis-à-vis 30.5% categorized as rich in 2001, gradually decreasing to the lowest reported rate of 22.9% in 2016.

The data presented in Figure 4.2 highlights that in 2016, 6.8% of women had attained higher education. Interestingly, the survey conducted in 2011 showed a slightly lower percentage of women with higher education. Moreover, the difference in the percentage of women with higher education was noteworthy between the surveys conducted in 2001 and 2006, with 2.5% and 2.9%, respectively observed.

The highest proportion of women of reproductive age were rural dwellers, with the majority of women at 85.3% reported in 2006 which is in corroborated by the results from the key informants (see section 4.1). There were no significant differences in the number of women residing in rural areas in Uganda. This finding conferred to the fact that most people in Uganda live in rural areas.

The analysis of working status revealed notable variations over the years, with the highest proportion of women without occupations reported in 2011 at 23.9%, contrasting with a small proportion of 12.7% in 2006 (refer to Table 4.1). Results indicate a predominance of informal sector employment, particularly in irregular activities, over the study period. This trend could be attributed to the limited formal employment opportunities vis-à-vis lower education among women in the country.

The study also found that the exposure rate to radio, television and newspapers among the women sampled in the UDHS varied over time. The highest percentage of women exposed to modern contraceptives over radios, televisions and newspapers was recorded in 2016 at 58.9%, at least once a week, 18.7% at least once a week and 11.8% less than once a week, respectively (see table 4.1). This trend could be attributed to the fact that as other methods of communication, such as mobile phones, became more prevalent, listening to the radio, watching television and reading newspapers declined.

It's also noteworthy that exposure to family planning messages started out at its lowest in 2001 and gradually increased to its peak in 2016 across all media platforms. However, few women were exposed to information on modern contraceptive use via television, and even a smaller percentage of women were exposed to information on modern contraceptives via newspapers compared to

radio, which had the highest numbers, a finding consistent with most women living in households at the bottom of the wealth index and in rural areas (see Table 4.1)

**Table 4.1: Characteristics of participants between 2001-2016 that were studied in the UDHS**

| Variables | 2001 | 2006 | 2011 | 2016 |
|---|---|---|---|---|
| **Age** | | | | |
| 15-19 | 397<br>(7.6) | 358<br>(6.0) | 366<br>(6.0) | 817<br>(6.3) |
| 20-24 | 1227<br>(23.4) | 1288<br>(21.6) | 1203<br>(19.8) | 2751<br>(21.4) |
| 25-29 | 1228<br>(23.4) | 1275<br>(21.4) | 1433<br>(23.6) | 2719<br>(21.1) |
| 30-34 | 885<br>(16.9) | 1119<br>(18.8) | 1009<br>(16.6) | 2350<br>(18.3) |
| 35-39 | 718<br>(13.7) | 844<br>(14.2) | 946<br>(15.6) | 1865<br>(14.5) |
| 40-44 | 478<br>(9.1) | 628<br>(10.5) | 653<br>(10.7) | 1402<br>(10.9) |
| 45-49 | 310<br>(5.9) | 444<br>(7.5) | 472<br>(7.8) | 972<br>(7.6) |
| **Total** | **5243** | **5956** | **6081** | **12876** |
| **Wealth index** | | | | |
| Poorest | 1078<br>(20.6) | 1226<br>(20.6) | 1193<br>(19.6) | 2486<br>(19.3) |
| Poorer | 804<br>(15.3) | 1228<br>(20.6) | 1217<br>(20.0) | 2539<br>(19.7) |
| Middle | 819<br>(15.6) | 1146<br>(19.3) | 1163<br>(19.1) | 2428<br>(18.9) |
| Richer | 944<br>(18.0) | 1123<br>(18.9) | 1146<br>(18.9) | 2474<br>(19.2) |
| Richest | 1598<br>(30.5) | 1232<br>(20.7) | 1362<br>(22.4) | 2951<br>(22.9) |
| **Total** | **5243** | **5956** | **6081** | **12876** |
| **Religion** | | | | |
| Catholic | 2110<br>(40.2) | 2608<br>(43.8) | 2512<br>(41.3) | 4020<br>(31.2) |
| Protestant | 2138<br>(40.8) | 2031<br>(34.1) | 1793<br>(29.5) | 5161<br>(40.1) |

| | | | | |
|---|---|---|---|---|
| Muslims | 693<br>(13.2) | 657<br>(11.0) | 802<br>(13.2) | 1694<br>(13.2) |
| Others | 301<br>(5.8) | 660<br>(11.1) | 975<br>(16.0) | 2001<br>(15.5) |
| **Total** | **5243** | **5956** | **6081** | **12876** |
| **Education level** | | | | |
| No education | 1334<br>(25.5) | 1420<br>(23.9) | 980<br>(16.1) | 1538<br>(12.0) |
| Primary | 3161<br>(60.3) | 3610<br>(60.6) | 3732<br>(61.4) | 7689<br>(59.7) |
| Secondary | 615<br>(11.7) | 754<br>12.7 | 1127<br>(18.5) | 2776<br>(21.6) |
| Higher | 132<br>(2.5) | 171<br>(2.9) | 242<br>(4.0) | 873<br>(6.8) |
| **Total** | **5243** | **5956** | **6081** | **12876** |
| **Place of residence** | | | | |
| Urban | 768<br>(14.7) | 885<br>(14.9) | 1071<br>(17.6) | 3202<br>(24.9) |
| Rural | 4474<br>(85.3) | 5071<br>(85.1) | 5010<br>(82.4) | 9674<br>(75.1) |
| **Total** | **5243** | **5956** | **6081** | **12876** |
| **Marital status** | | | | |
| Never married | 210<br>(4.0) | 263<br>(4.4) | 238<br>(3.9) | 728<br>(5.7) |
| Married | 2828<br>(53.9) | 3655<br>(61.4) | 2759<br>(45.4) | 4978<br>(38.7) |
| Living together | 1403<br>(26.8) | 999<br>(16.8) | 2045<br>(33.6) | 4867<br>(37.8) |
| Widowed | 220<br>(4.2) | 321<br>(5.4) | 302<br>(5.0) | 479<br>(3.7) |
| Divorced | 59<br>(1.1) | 63<br>(1.1) | 52<br>(0.9) | 134<br>(1.0) |
| Not living together | 523<br>(10.0) | 655<br>(11.0) | 685<br>(11.3) | 1690<br>(13.1) |
| **Total** | **5243** | **5956** | **6081** | **12876** |
| **Fertility preference** | | | | |
| Have another | 2619<br>(49.9) | 2914<br>(48.9) | 3008<br>(49.5) | 6875<br>(53.4) |
| Undecided | 214 | 257 | 178 | 462 |

| | | | | |
|---|---|---|---|---|
| | (4.1) | (4.3) | (2.9) | (3.6) |
| No more | 2297 | 2634 | 2702 | 5190 |
| | (43.8) | (44.2) | (44.4) | (40.3) |
| Sterilized | 114 | 151 | 193 | 349 |
| | (2.2) | (2.5) | (3.2) | (2.7) |
| **Total** | **5243** | **5956** | **6081** | **12876** |
| **Employment status** | | | | |
| Not working | 1141 | 754 | 1451 | 2475 |
| | (21.8) | (12.7) | (23.9) | (19.2) |
| Working | 4102 | 5201 | 4629 | 10402 |
| | (78.2) | (87.3) | (76.1) | (80.8) |
| **Total** | **5243** | **5956** | **6081** | **12876** |
| **Frequency of listening to radio** | | | | |
| Not at all | 2277 | 1167 | 1091 | 3316 |
| | (43.40 | (19.6) | (18.0) | (25.8) |
| Less than once a week | 326 | 531 | 569 | 1980 |
| | (6.2) | (8.9) | (9.4) | (15.4) |
| At least once a week | 810 | 1082 | 953 | 7580 |
| | (15.5) | (18.2) | (15.7) | (58.9) |
| Almost every day | 1830 | 3176 | 3467 | - |
| | (34.9) | (53.3) | (57.0) | - |
| **Total** | **5243** | **5956** | **6081** | **12876** |
| **Frequency of watching TV** | | | | |
| Not at all | 4747 | 5222 | 4581 | 9035 |
| | (90.5) | (87.7) | (75.3) | (70.2) |
| Less than once a week | 84 | 260 | 522 | 1434 |
| | (1.6) | (4.4) | (8.6) | (11.1) |
| At least once a week | 177 | 216 | 309 | 2407 |
| | (3.4) | (3.6) | (5.1) | (18.7) |
| Almost every day | 235 | 257 | 668 | - |
| | (4.5) | (4.3) | (11.0) | - |
| **Total** | **5243** | **5956** | **6081** | **12876** |
| **Frequency of reading newspaper** | | | | |
| Not at all | 4447 | 4790 | 4686 | 10346 |
| | (84.8) | (80.4) | (77.1) | (80.4) |
| Less than once a week | 189 | 528 | 769 | 1520 |
| | (3.6) | (8.9) | (12.7) | (11.8) |
| At least once a week | 458 | 459 | 446 | 1010 |
| | (8.7) | (7.7) | (7.3) | (7.8) |
| Almost every day | 149 | 178 | 180 | - |

| | (2.9) | (3.0) | (3.0) | - |
|---|---|---|---|---|
| **Total** | **5243** | **5956** | **6081** | **12876** |

(): Percent in parenthesis

**4.3 Prevalence of contraceptive use among the sampled women in the UDHS**

Results demonstrate varying proportions over time, with the highest prevalence of modern contraceptive users, around 36.4%, recorded in 2016, while the lowest was in 2006 (Figure 4.1). Conversely, Uganda consistently registered no significant difference in the number of non-users of modern contraceptives between 2001 and 2011. However, in 2016, there was a drastic decline in the proportion of non-users of modern contraceptives in Uganda (Figure 4.1). This graphical representation offers a succinct insight into changing trends in contraceptive practices among women over the specified timeframe, i.e., from 2001 to 2006, no significant difference; 2006 to 2011 had a rise of 7.5%, whilst 2011 to 2016 had a 9% rise. So, the biggest rise occurred between 2011 and 2016 indicating a progressively rising contraceptive utilization. (see Figure 4.1)

**A graph showing the trend of Modern Contraceptive use between 2001 and 2016.**

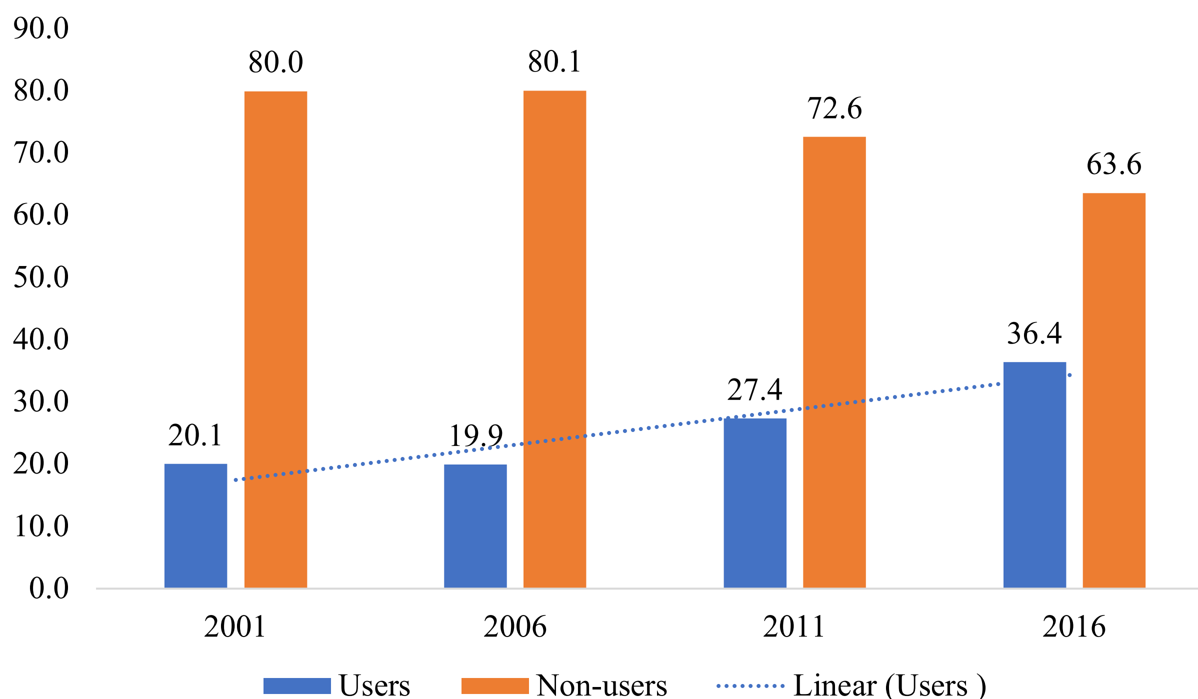



Figure 4.1: Modern contraceptive use between 2001-2016

The histogram visually represents the distribution of modern contraceptive use among women in four distinct years (2001, 2006, 2011, and 2016). The x-axis delineates the years, while the y-axis

measures the frequency or percentage of women. The histogram is divided into two distinct bars for each year, categorizing women into users and non-users of modern contraceptives.

Contraceptive use, which was relatively low, varied during the study period. Analysis of frequently used modern contraceptive methods revealed injections as the most common from 2001 to 2016. Notably, in 2016, there was a slight increase in the number of women using injections, IUDs, Norplant, Emergency contraceptives and the Standard Days Method (Table 4.2).

According to the study's key informants (see section 4.1), injectable contraceptives were the primary modern contraceptive used by women, typically administered every three months which agrees with the UDHS dataset. The informant highlighted the method's popularity due to its ease of use, eliminating the need for daily pill consumption or consistent contraceptive use before each sexual encounter. The key informants further noted that the method's long-acting nature reduces the necessity for frequent healthcare visits and is effective when used correctly. Some clients also preferred this method for its reported reduction in menstrual bleeding.

**Table 4.2: Prevalence of frequently used modern contraceptive methods.**

| Methods used | 2001 | 2006 | 2011 | 2016 |
|---|---|---|---|---|
| Pill | 188<br>(3.6) | 186<br>(3.1) | 172<br>(2.8) | 253<br>(2.0) |
| IUD | 11<br>(0.2) | 9<br>(0.2) | 30<br>(0.5) | 203<br>(1.6) |
| Injections | 356<br>(6.8) | 654<br>(11.0) | 903<br>(14.9) | 2497<br>(19.4) |
| Male condom | 147<br>(2.8) | 163<br>(2.7) | 194<br>(3.2) | 352<br>(2.7) |
| Female sterilization | 103<br>(2.0) | 146<br>(2.5) | 188<br>(3.1) | 340<br>(2.6) |
| Male sterilization | 2<br>(0.0) | 5<br>(0.1) | 5<br>(0.1) | 9<br>(0.1) |
| Norplant ( Implants) | 17<br>(0.3) | 24<br>(0.4) | 162<br>(2.7) | 865<br>(6.7) |
| Lactational amenorrhea | 224<br>(4.3) | 2<br>(0.0) | 11<br>(0.2) | 114<br>(0.9) |
| Foam or jelly | 3<br>(0.1) | -<br>- | -<br>- | -<br>- |
| Female condoms | -<br>- | -<br>- | -<br>- | 1<br>(0.0) |
| Emergency contraceptives | -<br>- | -<br>- | -<br>- | 4<br>(0.03) |
| Standard Days Method | - | - | - | 48 |

| | | | | |
|---|---|---|---|---|
| | - | - | - | (0.4) |
| Other | - | - | - | 1 |
| | - | - | - | 0.0 |

(): Percent in parenthesis

### 4.3.1 Educational level attainment for women in the UDHS between 2001-2016

Figure 4.2 shows the changes in the levels of education among women over the period 2001-2016. The results show improvement in education attainments among women of reproductive age over the years, with increasing higher education and progressive reduction of the NO education group.

**A graph showing the changes in levels of education among women (2001-2016)**

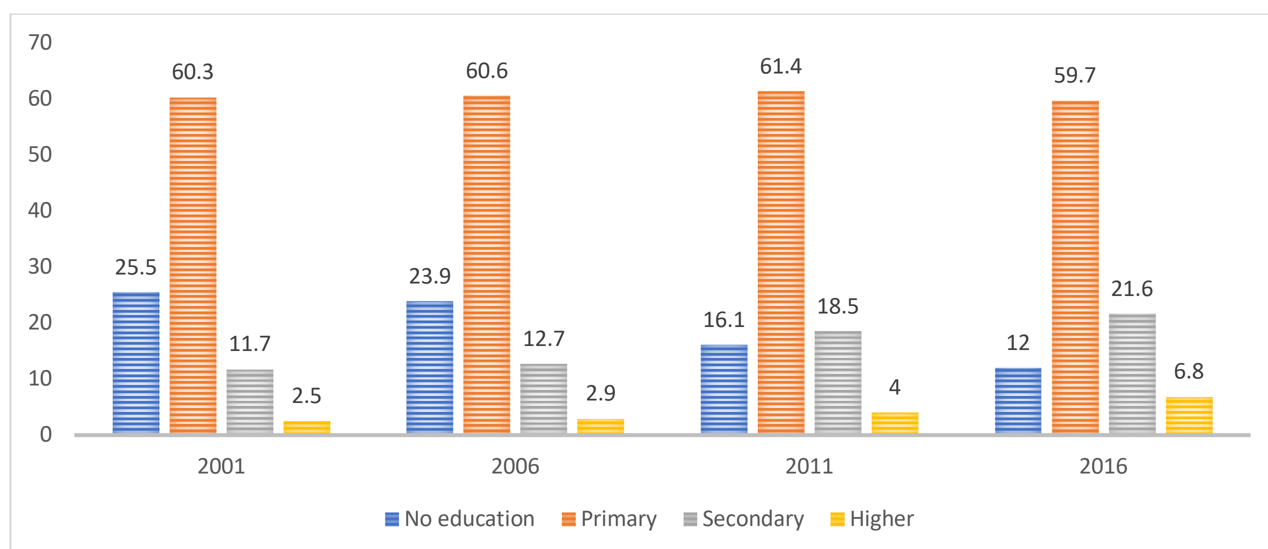



Figure 4.2: Education attainment for women between 2001-2016

### 4.3.2 Places of residence for women between 2001-2016 by percentage distribution

Figure 4.3 shows that the highest proportion of women of reproductive age were rural dwellers, with the highest percentage of women at 85.3% reported in 2001. Though there is no significant difference in all the years studied, there is however a trend of increasing rural- urban migration.

**A graph showing the percentage distribution of the places of residence for women between 2001-2016**

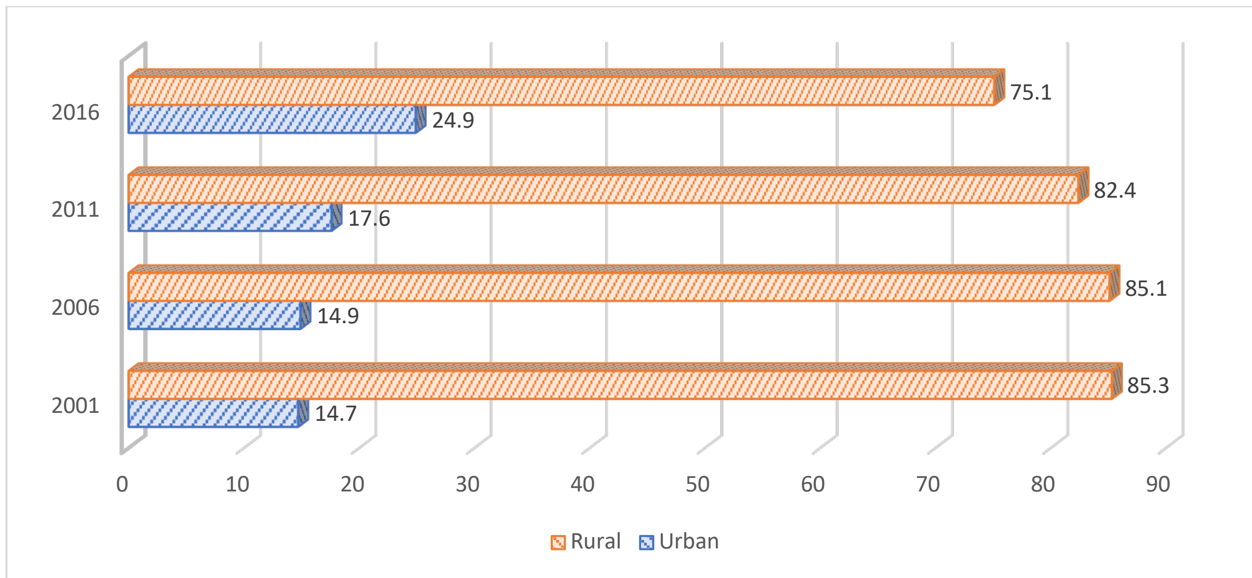



Figure 4.3: Places of residence for women in UDHS between 2001-2016

**4.4 Examining Factors Influencing Modern Contraceptive Use in Uganda (2001–2016)**

This section thoroughly investigates the demographic factors influencing modern contraceptive use in Uganda, spanning the years 2001 to 2016. In 2006, no significant association was found between respondents' marital status and modern contraceptive use ($P = 0.058$). However, an overarching significant association emerged between age, marital status (in 2001, 2011, and 2016), and fertility preference ($P < 0.05$), as detailed in Table 4.3.

It is noteworthy that women aged 25 to 29 years consistently constituted the highest proportion of modern contraceptive users in Uganda, comprising approximately 40.6% of users (refer to Table 4.3). Additionally, those living together with their partners exhibited consistently high modern contraceptive usage over the years, peaking at 38.3% in 2016.

The study uncovered interesting trends regarding fertility preference. Women not desiring more children were the primary users of modern contraceptives in 2001 and 2006. In contrast, those seeking to have another child dominated in 2011 and 2016, with the highest users reaching 36.3% in 2016 (see Table 4.3).

These findings provide a nuanced understanding of the multifaceted demographic factors influencing modern contraceptive use, contributing valuable insights to reproductive health discussions in Uganda.

**Table 4.3: Relationship between modern contraceptive use and demographic factors (2001-2016)**

| Variables | 2001 | | 2006 | | 2011 | | 2016 | |
|---|---|---|---|---|---|---|---|---|
| | User | Non-user | User | Non-user | User | Non-user | User | Non-user |
| **Age** | $X^2$; 5243; 6df, $P < 0.05$ **(0.002)** | | $X^2$; 5956; 6df, P<0.05 **(0.001)** | | $X^2$; 6081; 6df, P<0.05 **(0.000)** | | $X^2$; 12876; 6df, P<0.05 **(0.000)** | |
| 15-19 | 59 (14.8) | 338 (85.3) | 46 (12.8) | 312 (87.2) | 68 (18.7) | 297 (81.3) | 231 (28.3) | 585 (71.7) |
| 20-24 | 236 (19.3) | 991 (80.8) | 235 (18.3) | 1053 (81.8) | 269 (22.4) | 933 (77.6) | 945 (34.4) | 1806 (65.6) |
| 25-29 | 262 (21.4) | 965 (78.6) | 269 (21.1) | 1005 (78.9) | 419 (29.3) | 1014 (70.7) | 1103 **(40.6)** | 1616 (59.4) |
| 30-34 | 191 (21.6) | 694 (78.4) | 265 (23.7) | 854 (76.3) | 324 (32.1) | 685 (67.9) | 929 (39.5) | 1421 (60.5) |
| 35-39 | 167 (23.3) | 551 (76.7) | 172 (20.4) | 672 (79.6) | 310 (32.8) | 635 (67.2) | 721 (38.6) | 1144 (61.4) |
| 40-44 | 97 (20.4) | 380 (79.6) | 125 (19.9) | 502 (80.1) | 192 (29.4) | 461 (70.6) | 530 (37.8) | 872 (62.2) |
| 45-49 | 38 (12.4) | 272 (87.6) | 75 (16.9) | 369 (83.1) | 81 (17.2) | 391 (82.8) | 227 (23.4) | 745 (76.6) |
| **Marital status** | $X^2$; 5243; 5df, P<0.05 **(0.014)** | | $X^2$; 5956; 5df, P>0.05 (0.058) | | $X^2$; 6081; 5df, P<0.05 **(0.000)** | | $X^2$; 12876; 5df, P<0.05 **(0.000)** | |
| Never married | 47 (22.6) | 162 (77.4) | 54 (20.6) | 208 (79.4) | 59 (24.7) | 179 (75.3) | 218 (29.9) | 510 (70.1) |
| Married | 569 (20.1) | 2259 (79.9) | 726 (19.9) | 2929 (80.1) | 809 (29.3) | 1950 (70.7) | 1982 (39.8) | 2996 (60.2) |
| Living together | 306 (21.8) | 1096 (78.2) | 215 (21.5) | 784 (78.5) | 583 (28.5) | 1462 (71.5) | 1863 (38.3) | 3003 (61.7) |
| Widowed | 21 (9.4) | 199 (90.6) | 44 (13.8) | 277 (86.2) | 41 (13.4) | 262 (86.6) | 78 (16.2) | 402 (83.8) |
| Divorced | 8 (13.2) | 52 (86.8) | 6 (9.8) | 57 (90.2) | 11 (21.0) | 41 (79.0) | 28 (20.6) | 106 (79.4) |
| Not living together | 100 (19.1) | 424 (80.9) | 142 (21.7) | 513 (78.3) | 162 (23.7) | 522 (76.3) | 519 (30.7) | 1171 (69.30 |
| **Fertility preference** | $X^2$; 5243; 3df, P<0.05 **(0.000)** | | $X^2$; 5956; 3df, P<0.05 **(0.000)** | | $X^2$; 6081; 3df, P<0.05 **(0.000)** | | $X^2$; 12876; 3df, P<0.05 **(0.000)** | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Have another | 462 (17.6) | 2157 (82.4) | 501 (17.2) | 2413 (82.8) | 759 (25.2) | 2249 (74.8) | 2494 (36.3) | 4382 (63.7) |
| Undecided | 30 (14.0) | 184 (86.0) | 35 (13.5) | 223 (86.6) | 38 (21.3) | 140 (78.7) | 129 (27.8) | 334 (72.2) |
| No more | 452 (19.7) | 1844 (80.3) | 501 (19.0) | 2133 (81.0) | 675 (25.0) | 2027 (75.0) | 1716 (33.1) | 3474 (66.9) |
| Sterilized | 107 (94.1) | 7 (5.9) | 151 (100.0) | 0 (0.0) | 193 (100.0) | 0 (0.0) | 349 (100.0) | 0 (0.0) |

(): Percent in parenthesis, $X^2$: Chi Square test number, df: degrees of freedom, P: Probability

Through further analysis, the study revealed significant differences in the proportion of women utilizing modern contraceptives across various socioeconomic indicators over the years 2001-2016 (P<0.05), as detailed in Table 4.4. However, it is important to note that employment status in 2001 did not show significance (P=0.697).

Examining wealth indices, the study indicated notable disparities in the usage of modern contraceptives among women in Uganda. Higher wealth indices were associated with increased use, reflecting a consistent trend over the specified period. Results illustrated an upward trajectory in modern contraceptive use between 2006 and 2011, indicating a positive shift in adoption rates within the studied timeframe (refer to Table 4.4).

Notably, in 2016, Catholics emerged as the highest users, with a proportion of 39.2%, while Muslims consistently had the highest number of modern contraceptive users between 2001-2011, as highlighted in Table 4.4.

A noteworthy fluctuating trend emerged concerning education levels, indicating that the most educated women consistently reported higher usage of modern contraceptives, with the peak at 57.3% in 2001. This aligns with the understanding that education enhances access to information and employment opportunities, including access to modern contraceptives.

The study found that the prevalence of non-users among women of reproductive age was consistently high among rural dwellers, reaching its zenith at about 83.7% in 2001. Contrastingly, urban dwellers consistently exhibited higher average usage of modern contraceptives compared to their rural counterparts, with the peak observed in 2016 at 42% (refer to Table 4.4), this observation is in tandem with the responses from the key informants as well (see section 4.1).

Interestingly, employment status played a dynamic role in contraceptive usage. In 2001 and 2006, unemployed women reported higher usage than their working counterparts. However, this trend reversed in 2011 and 2016, with the highest usage observed at 37% in 2016 (see Table 4.4). This shift suggests that education may contribute to increased access to information and employment opportunities, influencing modern contraceptive usage among women attending higher-level schools as also highlighted by the key informants (see section 4.1).

**Table 4.4: Relationship between modern contraceptive use and socio-economic factors (2001-2016)**

| Variables | 2001 | | 2006 | | 2011 | | 2016 | |
|---|---|---|---|---|---|---|---|---|
| | User | Non-user | User | Non-user | User | Non-user | User | Non-user |
| **Wealth index** | $X^2$; 5243; 4df, P<0.05 **(0.000)** | | $X^2$; 5956; 4df, P<0.05 **(0.000)** | | $X^2$; 6081; 4df, P<0.05 **(0.000)** | | $X^2$; 12876; 4df, P<0.05 **(0.000)** | |
| Poorest | 188 (17.4) | 890 (82.6) | 92 (7.5) | 1134 (92.5) | 158 (13.2) | 1036 (86.8) | 589 (23.7) | 1897 (76.3) |
| Poorer | 245 (30.5) | 559 (69.5) | 154 (12.5) | 1075 (87.5) | 259 (21.3) | 958 (78.7) | 833 (32.8) | 1706 (67.2) |
| Middle | 117 (14.2) | 702 (85.8) | 179 (15.6) | 968 (84.4) | 293 (25.2) | 870 (74.8) | 918 (37.8) | 1509 (62.2) |
| Richer | 124 (13.1) | 820 (86.9) | 267 (23.8) | 856 (76.2) | 394 (34.4) | 752 (65.6) | 1061 (42.9) | 1413 (57.1) |
| Richest | 378 (23.6) | 1220 (76.4) | 496 (40.3) | 735 (59.7) | 562 (41.3) | 800 (58.8) | 1286 (43.6) | 1664 (56.4) |
| **Religion** | $X^2$; 5243; 3df, P<0.05 **(0.096)** | | $X^2$; 5956; 3df, P<0.05 **(0.000)** | | $X^2$; 6081; 3df, P<0.05 **(0.000)** | | $X^2$; 12876; 3df, P<0.05 **(0.008)** | |
| Catholic | 395 (18.7) | 1715 (81.3) | 477 (18.3) | 2132 (81.7) | 646 (25.7) | 1866 (74.3) | 1576 **(39.2)** | 2444 (60.8) |
| Protestant | 429 (20.1) | 1709 (79.9) | 412 (20.3) | 1619 (79.7) | 525 (29.3) | 1268 (70.7) | 1812 (35.1) | 3349 (64.9) |
| Muslims | 170 (24.6) | 523 (75.4) | 177 (26.9) | 480 (73.1) | 232 (28.9) | 570 (71.1) | 608 (35.9) | 1086 (64.1) |
| Others | 57 (19.0) | 244 (81.0) | 123 (18.6) | 537 (81.4) | 262 (26.9) | 712 (73.1) | 691 (34.5) | 1310 (65.5) |
| **Education level** | $X^2$; 5243; 3df, P<0.05 **(0.000)** | | $X^2$; 5956; 3df, P<0.05 **(0.000)** | | $X^2$; 6081; 3df, P<0.05 **(0.000)** | | $X^2$; 12876; 3df, P<0.05 **(0.000)** | |
| No education | 135 (10.1) | 1200 (89.9) | 133 (9.4) | 1288 (90.6) | 163 (16.6) | 817 (83.4) | 365 (23.8) | 1173 (76.2) |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Primary | 583<br>(18.5) | 2578<br>(81.6) | 705<br>(19.5) | 2906<br>(80.5) | 967<br>(25.9) | 2765<br>(74.1) | 2718<br>(35.4) | 4971<br>(64.7) |
| Secondary | 257<br>(41.9) | 358<br>(58.2) | 277<br>(36.7) | 477<br>(63.3) | 429<br>(38.1) | 698<br>(61.9) | 1200<br>(43.2) | 1575<br>(56.8) |
| Higher | 76<br>**(57.3)** | 56<br>(42.7) | 74<br>(43.0) | 98<br>(57.0) | 106<br>(43.9) | 136<br>(56.1) | 404<br>(46.3) | 469<br>(53.8) |
| **Place of residence** | $X^2$; 5243; 1df, P<0.05 **(0.000)** | | $X^2$; 5956; 1df, P<0.05 **(0.000)** | | $X^2$; 6081; 1df, P<0.05 **(0.000)** | | $X^2$; 12876; 1df, P<0.05 **(0.000)** | |
| Urban | 322<br>(41.9) | 447<br>(58.1) | 343<br>(38.8) | 542<br>(61.2) | 428<br>(39.9) | 643<br>(60.1) | 1345<br>**(42.0)** | 1858<br>(58.0) |
| Rural | 729<br>(16.3) | 3745<br>**(83.7)** | 844<br>(16.7) | 4226<br>(83.4) | 1237<br>(24.7) | 3773<br>(75.3) | 3343<br>(34.6) | 6331<br>(65.5) |
| **Employment status** | $X^2$; 5243; 1df, P>0.05 (0.697) | | $X^2$; 5956; 1df, P<0.05 **(0.010)** | | $X^2$; 6081; 1df, P<0.05 **(0.046)** | | $X^2$; 12876; 1df, P<0.05 **(0.022)** | |
| Not working | 234<br>(20.5) | 907<br>(79.5) | 182<br>(24.1) | 573<br>(75.9) | 364<br>(25.1) | 1087<br>(74.9) | 838<br>(33.9) | 1637<br>(66.2) |
| Working | 817<br>(19.9) | 3285<br>(80.1) | 1006<br>(19.3) | 4195<br>(80.7) | 1301<br>(28.1) | 3329<br>(71.9) | 3850<br>**(37.0)** | 6552<br>(63.0) |

(): Percent in parenthesis, $X^2$: Chi Square test number, df: degrees of freedom, P: Probability

To comprehensively explore the association between modern contraceptive usage and media exposure among sexually active women in Uganda, the study rigorously tested this relationship, presenting the detailed findings in Table 4.5.

A consistent pattern emerged regarding radio consumption, indicating a significant difference in modern contraceptive usage across all years. Women who listened almost every day displayed the highest usage, peaking at 31.6% in 2011. Subsequently, those who listened at least once a week recorded the highest number of users in 2016, reaching 38.9% (refer to Table 4.5).

In parallel, television viewership also played a vital role, with women who watched TV almost every day consistently reporting the highest modern contraceptive usage. Despite a decline from the peak of 46.7% in 2006, this group remained notably high. In 2016, the trend shifted, and the highest usage was observed among women who watched TV at least once a week, accounting for 44.4% (see Table 4.5).

Similarly, women who read newspapers almost every day consistently exhibited higher modern contraceptive usage than their counterparts, although their proportions declined from the peak of

54.2% in 2006. The maximum in 2016 was observed among those who read the newspaper at least once a week, standing at 44.8% (refer to Table 4.5).

Notably, there were no observations in 2016 across all variables for women who used the different media factors almost every day of the week, suggesting a potential shift or change in media consumption patterns among this demographic over the years. These findings illuminate the intricate dynamics between media exposure and modern contraceptive usage, providing valuable insights for understanding and addressing reproductive health behaviour among women in Uganda.

**Table 4.5:Relationship between modern contraceptive use and media factors (2001-2016)**

| Variables | 2001 | | 2006 | | 2011 | | 2016 | |
|---|---|---|---|---|---|---|---|---|
| | User | Non-user | User | Non-user | User | Non-user | User | Non-user |
| **Freq. of listening to radio** | $X^2$; 5243; 3df, P<0.05 **(0.000)** | | $X^2$; 5956; 3df, P<0.05 **(0.000)** | | $X^2$; 6081; 3df, P<0.05 **(0.000)** | | $X^2$; 12876; 3df, P<0.05 **(0.000)** | |
| Not at all | 265 (11.7) | 2012 (88.4) | 105 (9.0) | 1062 (91.0) | 224 (20.5) | 868 (79.5) | 1057 (31.9) | 2259 (68.1) |
| Less than once a week | 51 (15.7) | 275 (84.3) | 69 (12.9) | 463 (87.1) | 120 (21.1) | 449 (78.9) | 680 (34.4) | 1300 (65.6) |
| At least once a week | 177 (21.8) | 633 (78.2) | 189 (17.5) | 893 (82.5) | 226 (23.7) | 728 (76.3) | 2950 **(38.9)** | 4631 (61.1) |
| Almost every day | 558 (30.5) | 1272 (69.5) | 825 (26.0) | 2350 (74.0) | 1096 **(31.6)** | 2372 (68.4) | - - | - - |
| **Freq. of watching TV** | $X^2$; 5243; 3df, P<0.05 **(0.000)** | | $X^2$; 5956; 3df, P<0.05 **(0.000)** | | $X^2$; 6081; 3df, P<0.05 **(0.000)** | | $X^2$; 12876; 3df, P<0.05 **(0.000)** | |
| Not at all | 837 (17.6) | 3910 (82.4) | 896 (17.2) | 4327 (82.9) | 1118 (24.4) | 3464 (75.6) | 3038 (33.6) | 5996 (66.4) |
| Less than once a week | 25 (30.1) | 59 (69.9) | 89 (34.2) | 171 (65.8) | 153 (29.3) | 369 (70.7) | 581 (40.5) | 853 (59.5) |
| At least once a week | 80 (45.0) | 97 (55.0) | 87 (40.0) | 130 (60.0) | 112 (36.3) | 197 (63.7) | 1068 **(44.4)** | 1339 (55.6) |
| Almost every day | 110 **(46.7)** | 125 (53.3) | 116 (45.3) | 140 (54.7) | 282 (42.2) | 386 (57.8) | - - | - - |
| **Freq. of reading newspaper** | $X^2$; 5243; 3df, P<0.05 **(0.000)** | | $X^2$; 5956; 3df, P<0.05 **(0.000)** | | $X^2$; 6081; 3df, P<0.05 **(0.000)** | | $X^2$; 12876; 3df, P<0.05 **(0.000)** | |
| Not at all | 717 (16.1) | 3730 (83.9) | 773 (16.1) | 4017 (83.9) | 1116 (23.8) | 3571 (76.2) | 3569 (34.5) | 6777 (65.5) |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Less than once a week | 53<br>(27.8) | 137<br>(72.2) | 171<br>(32.5) | 357<br>(67.6) | 281<br>(36.6) | 488<br>(63.4) | 665<br>(43.80 | 855<br>(56.3) |
| At least once a week | 201<br>(43.9) | 257<br>(56.1) | 171<br>(37.2) | 288<br>(62.8) | 194<br>(43.5) | 252<br>(56.5) | 453<br>**(44.8)** | 557<br>(55.2) |
| Almost every day | 81<br>**(54.2)** | 68<br>(45.8) | 73<br>(40.6) | 106<br>(59.4) | 74<br>(41.2) | 106<br>(58.8) | -<br>- | -<br>- |

(): Percent in parenthesis, $X^2$: Chi Square test number, df: degrees of freedom, P: Probability

### 4.4 Determinants of contraceptive use between 2001-2016

This study conducted a meticulous examination using logistic regression to discern the influencing factors on modern contraceptive use, utilizing UDHS data from 2006 to 2011. The ensuing odds ratios (OR) and their significance levels, marked with ** for P < 0.05, are presented comprehensively below:

**Age of Respondents**: The odds of modern contraceptive use exhibited a decline with age. Notably, women aged 25-29 years displayed lower odds than those aged 20-24 years in both 2006 (OR=0.635**) and 2011 (OR=0.616**). Conversely, women aged 45-49 years had higher odds than those aged 20-24 years, with significant increases observed in 2001 (OR=1.826**) and 2011 (OR=2.497**) (see Table 4.6). Experts emphasized that older women, drawing on their life experiences, tend to be more informed about reproductive health and contraception, contributing to higher usage. Access to healthcare facilities is also more convenient for older women.

**Wealth Index**: Women in the poorest wealth quintile consistently had lower odds of modern contraceptive use compared to their counterparts in the richest wealth quintile across all years. Similarly, those in the middle wealth quintile exhibited lower odds than the richest quintile (see Table 4.6). Experts attribute these disparities to differences in healthcare access and affordability based on income levels.

**Religion**: Muslim women consistently exhibited a lower rate of modern contraceptive use than Protestant women, with the pattern extending across the years. Women of other religions, on the other hand, exhibited a higher rate of modern contraceptive use than Protestant women (see Table 4.6).

**Education Level**: Women with higher education consistently had a higher rate of modern contraceptive use compared to those with only primary education. Conversely, women with secondary education displayed a lower rate of modern contraceptive use than those with higher

education (see Table 4.6). Experts emphasized that educated women possess greater awareness and knowledge about contraceptive methods and also have a higher chance of acquiring gainful employment, which in turn enables them to be able to afford modern contraceptive options.

**Residence**: Women residing in rural areas consistently portrayed lower rates of modern contraceptive use than their urban counterparts across all years (see Table 4.6). Experts attributed these differences to variations in healthcare access, awareness, education, and living standards between urban and rural areas.

**Marital Status**: Married women consistently exhibited lower odds of using modern contraceptives than unmarried women. Widowed and divorced women, however, consistently showed higher odds across various years (see Table 4.6).

**Fertility Preference**: Women who are undecided about their fertility preference consistently demonstrated higher odds of modern contraceptive use compared to those desiring no more children. Interestingly, insights from 9 key informant interviews (KII) shed light on a cultural perspective, indicating that some women may only consider initiating contraceptive use after giving birth to a male child. This cultural belief, as voiced by the experts, underscores the significance of gender preferences in reproductive decision-making. Despite this cultural nuance, the data underscore the importance of addressing fertility intentions and gender norms in contraceptive programming to ensure the provision of comprehensive and culturally sensitive reproductive health services.

**Employment Status**: Working women consistently had higher odds of using modern contraceptives than non-working women, with some fluctuations across the years (see Table 4.6). Experts explained that employed individuals often have the financial means to afford contraceptives.

**Frequency of Listening to Radio**: Women who listened to the radio less than once a week consistently had higher odds of using modern contraceptives than those who listened almost every day. Conversely, those who listened at least once a week exhibited lower odds compared to almost daily listeners (see Table 4.6).

**Frequency of Watching TV**: Women who watched TV less than once a week had lower odds of using modern contraceptives than those who watched at least once a week. The odds increased over the years, reaching a peak in 2016 (see Table 4.6).

**Frequency of Reading Newspapers**: The odds of reading newspapers less than once a week decreased over time, with the lowest OR in 2006 and the highest in 2001. The OR of reading newspapers at least once a week fluctuated, with the lowest in 2001 and the highest in 2016. The OR of reading newspapers almost every day was recorded only in 2001 and 2011 (see Table 4.6).

**Table 4.6: Factors associated with use of modern contraception as demonstrated from UDHS 2006 - 2011 data.**

| Contraceptive use | 2001 | 2006 | 2011 | 2016 |
|---|---|---|---|---|
| | OR | OR | OR | OR |
| **Respondents' age (Ref = 15 – 19 years)** | | | | |
| 20-24 | **0.819**** | 0.712 | 0.815 | 0.876 |
| 25-29 | 0.721 | **0.635**** | **0.616**** | **0.716**** |
| 30-34 | **0.725**** | **0.568**** | **0.592**** | **0.751**** |
| 35-39 | 0.686 | 0.712 | **0.620**** | 0.820 |
| 40-44 | 1.005 | 1.044 | 0.819 | 0.969 |
| 45-49 | **1.826**** | 1.269 | **2.497**** | **2.166**** |
| **Wealth index (Ref = Poorest)** | | | | |
| Poorer | **0.865**** | **0.668**** | **0.579**** | **0.648**** |
| Middle | 1.107 | **0.561**** | **0.470**** | **0.524**** |
| Richer | 1.363 | **0.431**** | **0.363**** | **0.442**** |
| Richest | **0.734**** | **0.279**** | **0.326**** | **0.516**** |
| **Religion (Ref = Catholic)** | | | | |
| Protestant | 1.047 | **1.073**** | 0.860 | 1.089 |
| Muslims | 0.850 | 0.932 | 1.196 | **1.250**** |
| Others | 1.096 | **1.472**** | 1.176 | **1.296**** |
| **Education level (Ref = No education)** | | | | |
| Primary | **0.654**** | **0.543**** | **0.558**** | **0.632**** |
| Secondary | **0.328**** | **0.382**** | **0.417**** | **0.526**** |
| Higher | **0.263**** | **0.417**** | **0.459**** | **0.584**** |
| **Place of residence (Ref = Urban)** | | | | |
| Rural | **1.979**** | **1.526**** | **1.321**** | 1.089 |
| **Marital status (Ref = Never married)** | | | | |
| Married | **0.701**** | 0.753 | 0.745 | **0.592**** |
| Living together | 0.669 | 0.738 | 0.760 | **0.638**** |
| Widowed | 2.001 | 1.368 | **1.828**** | **1.882**** |
| Divorced | 1.280 | 2.130 | 1.222 | **1.851**** |
| Not living together | 0.913 | 0.801 | 1.121 | 0.885 |

| Fertility preference (Ref = Have another) | | | | |
|---|---|---|---|---|
| Undecided | 1.148 | 1.069 | 1.244 | 1.373** |
| No more | **0.758**** | **0.747**** | **0.767**** | 0.883** |
| Sterilized | **0.012**** | 1.000 | 1.000 | 1.000 |
| **Employment status (Ref = Not working)** | | | | |
| Working | 0.848** | 0.829 | 0.869 | 0.818** |
| **Freq. of listening to radio (Ref = Not at all)** | | | | |
| Less than once a week | 0.839 | 0.738 | **1.354**** | 1.067 |
| At least once a week | **0.691**** | **0.641**** | 1.038 | 1.006 |
| Almost every day | **0.556**** | **0.541**** | 0.869 | - |
| **Freq. of watching TV (Ref = Not at all)** | | | | |
| Less than once a week | **0.838**** | 0.786 | 0.995 | 0.876 |
| At least once a week | 0.722 | 0.846 | 1.042 | **0.836**** |
| Almost every day | 0.942 | 0.812 | 1.035 | - |
| **Freq. of reading newspaper (Ref = Not at all)** | | | | |
| Less than once a week | 1.011 | 0.783 | 0.861 | 0.904 |
| At least once a week | **0.684**** | 0.980 | 0.842 | 0.931 |
| Almost every day | 0.684 | 0.942 | 1.040 | - |

OR= Odds Ratio ** = p-value<0.05

Table 4.6 presents logistic regression results, detailing factors correlated with modern contraception use. Data is drawn from Uganda Demographic and Health Surveys (UDHS) spanning 2006-2011. The table identifies significant predictors (age, wealth, place of residence, Marital status, fertility preference, Employment status, access to media) associated with contraceptive adoption in Uganda, offering insights into demographic, socioeconomic, and contextual influences on family planning practices.

# CHAPTER FIVE

# GENERAL DISCUSSION

## 5.1 Discussion of results

This comprehensive analysis of factors influencing modern contraceptive use in Uganda from 2001 to 2016 unveils intricate patterns. The analysis commences with age dynamics, revealing a declining trend in the initiation of sexual activity among women aged 15-49. Wealth indices showcase a gradual decrease in poverty rates, probably linked to governmental poverty reduction initiatives hence increased use of family planning. Education emerges as a pivotal determinant of family planning, with a positive trajectory in women achieving higher education. Residency patterns highlight a predominantly rural demographic, while employment status undergoes notable fluctuations, indicating enduring socio-economic challenges. Media exposure to family planning messages reveals a dynamic landscape, with radio maintaining prominence. Contraceptive use, initially relatively low, varied during the study period. Notably, injections emerged as the most commonly used modern contraceptive method throughout the study period (2001 to 2016). This finding adds a crucial layer to the discussion, suggesting a preference for specific contraceptive methods that align with the broader socio-economic trends outlined. This holistic exploration sets the foundation for an in-depth discussion on contextual factors influencing modern contraceptive use, weaving together age, wealth, education, residence, employment, and media exposure into a nuanced narrative that underscores the dynamic reproductive health landscape in Uganda.

### 5.1.1 Objective One: Socioeconomic Influences on Modern Contraceptive Usage Among Women in Uganda (2001-2016)

This detailed analysis delves into the intricate factors influencing the utilization of modern contraceptives among women in Uganda, unravelling significant variations across socioeconomic indicators from 2001 to 2016. The examination of wealth indices uncovers discernible disparities, elucidating a consistent association between higher wealth status and increased modern contraceptive use. The observed upward trend between 2006 and 2016 suggests a positive evolution in adoption rates, emphasizing the pivotal role of economic status in shaping contraceptive behaviour [30].

**Religious Affiliation as a Determinant**: The study brings to light the nuanced influence of religious affiliations on modern contraceptive usage. In 2016, contrary to what was reported, Catholics emerged as the leading users, contrasting with the consistent leadership of Muslims in

the period between 2001 and 2011 who were the leading users of family planning. This underscores the profound impact of religious beliefs on reproductive health choices, highlighting the imperative for tailored interventions that respect and understand diverse cultural and religious perspectives [39]. The decision to take up modern contraception is a personal one, and with increased sensitization and education, as well as elevation in household income levels, most couples are more willing to look past societal and religious pressures and actually take their reproductive health decisions into their own hands. This explains the reason why Catholics, who are taught against modern contraception, are seen as the highest consumers instead.

**Educational Attainment and Informed Decision-Making**: A captivating narrative unfolds regarding educational attainment and its link to modern contraceptive usage. The fluctuating trend across education levels reveals that the most educated women consistently report higher usage, echoing the idea that education acts as a catalyst for improved access to information and employment opportunities and affordability of services [36]. This narrative reinforces the crucial role of educational empowerment in shaping the reproductive health choices of the populace.

**Geographical Disparities**: Geographical location emerges as a pivotal factor shaping modern contraceptive usage patterns. Rural areas consistently exhibit a higher prevalence of non-users, emphasizing the impact of access to healthcare services, awareness, and living standards. The urban-rural disparities highlight the necessity for region-specific interventions to address variations in reproductive health outcomes [21]. The women in rural areas, in addition, tended to be less educated, therefore less informed, and also poorer than their urban counterparts; all these combined would reduce their contraceptive use.

**Evolving Role of Employment Status**: The dynamic role of employment status in modern contraceptive usage patterns introduces a compelling narrative. The shift from higher usage among unemployed women in 2001 and 2006 to a reversal in 2011 and 2016, with the highest usage observed among working women in 2016, suggests a complex interplay of socioeconomic factors [33]. This evolution implies that education, potentially facilitating increased access to information and employment opportunities, plays a role in shaping modern contraceptive choices among women attending higher-level schools [31].

In conclusion, this study unfolds a nuanced tapestry of factors (age, wealth, place of residence, Marital status, fertility preference, Employment status, access to media) influencing modern

contraceptive use in Uganda over the period between 2001 and 2016. The findings advocate for tailored interventions that consider economic status, religious beliefs, education levels, and geographical disparities to enhance reproductive health outcomes among women. The dynamic role of employment status underscores the evolving nature of socio-economic factors, emphasizing the need for ongoing research and targeted interventions to address the complex dynamics shaping modern contraceptive choices.

### 5.1.2 Objective Two: In-Depth Insights into Demographic Influences on Modern Contraceptive Use in Uganda (2001-2016):

**Marital Status:**

Marital Status and Contraceptive Use in 2006: The absence of a significant association between marital status and modern contraceptive use in 2006 might be attributed to the complex interplay of various factors influencing contraceptive decisions. Marital status alone may not be the sole determinant of the choice of modern contraception used during this specific period. Other contextual elements, such as cultural attitudes, access to information, and individual autonomy, could be contributing factors shaping contraceptive behaviour [24]. Generally, in African society, it is believed that marriage is meant majorly for procreation; a married woman would ordinarily have no reason as to why she would be interested in the discussion on modern contraceptives and, later on, their uptake unless she has finally decided that she has concluded her childbearing phase of life, which also occurs on rare occasions. In conclusion, it's important to recognize the crucial role that men play in contraceptive decision-making within marital relationships. Without the right support and sensitization, a married woman may face barriers to engaging in the usage of modern contraceptives, potentially leading to the absence of a significant association between marital status and modern contraceptive use across the years under discussion. It is essential to involve men in discussions about family planning and contraceptive use to ensure comprehensive decision-making and promote reproductive health and gender equality within partnerships. However, the slight increase in percentage from 2001 to 2016 is attributed to increased sensitization on modern contraceptive use by the government through its programs, an increase in the number of girls and women going to school to attain knowledge, and this also leads to a delay in initiation to first sexual encounter as well as a notable increase the number of women who are gainfully employed.

Cohabitating Women and Contraceptive Usage: The high modern contraceptive usage among cohabitating women suggests that relationship dynamics play a crucial role in reproductive health decisions. In this day and age, most cohabiting women are very cautious as there are no clear laws in place to protect them and their children in case of a separation, thus the high interest in modern contraceptive usage and uptake. Cohabitating couples may have clearer communication about family planning, resulting in proactive contraceptive use. This finding highlights the importance of considering the unique dynamics of varied relationship structures when designing family planning interventions [15].

**Age:**

Pivotal Role of Women Aged 25 to 29 Years: The consistent prominence of women aged 25 to 29 as the highest users of modern contraceptives may be influenced by several factors. This age group often represents individuals in the early stages of their reproductive years with high fertility, balancing family planning decisions with career aspirations and personal goals. Access to education and increased awareness during this life stage may contribute to the sustained reliance on modern contraceptives [15]. Its noteworthy that in 2001unlike the other years of the study, adolescent women aged 20-24 exhibited a significant odds ratio for modern contraceptive use(Table 4.6), indicating their pivotal role in contraceptive uptake. This finding underscores the importance of targeted interventions and support mechanisms tailored to address the specific needs and preferences of this demographic group. Factors such as increased access to reproductive health services, improved education on contraceptive options, and evolving societal norms likely contributed to this trend, a concept the experts also suggested. Understanding and addressing the unique challenges and opportunities faced by adolescents in accessing and utilizing modern contraceptives are crucial for promoting reproductive health and empowering young women to make informed choices about their sexual and reproductive well-being.

**Fertility Preference:**

Dynamics in Fertility Preferences: The shift in contraceptive usage based on fertility preferences highlights the evolving nature of reproductive intentions. Conversely, the surge in usage among those wanting another child in 2011 and 2016 suggests a nuanced response to changing life circumstances and societal perceptions of family size [47]. Birth spacing has, in recent years, become a very crucial component of family planning; as couples plan for their family size, they

will factor in the fact that every child desires a certain level of attention and provision, which in turn informs the decision for women desiring more children to actively take up modern contraceptive options as they space out their births. In addition, medically, women are advised to have a spacing of at least two years between births to allow their bodies to heal and regenerate before the next pregnancy, hence the decision to utilize modern contraceptives as a measure against pregnancy.

**Consistent Usage Among Sterilized Women (Dual Contraception)**: The stable trend of high modern contraceptive usage among sterilized women is an interesting discovery. According to the Key Informant, a nurse from Kisenyi Health Center IV, most women who have been sterilized still opt for a modern contraceptive option, which is a female condom, as a measure to protect themselves from acquiring HIV/AIDS. In addition, the sustained preference for sterilization suggests that women who have undergone sterilization may value its permanence and reliability, contributing to consistent usage.

In lieu of the above, analyzing modern contraceptive use in Uganda (2006-2016) through logistic regression revealed key determinants. Women aged 25-29 consistently had lower odds, reflecting nuanced decision-making tied to life experience. Wealth disparities showed a clear association between income levels and contraceptive access, with consistently lower odds among the poorest and middle quintiles compared to the richest.

Religious affiliations played a role, as Muslim women consistently exhibited lower odds, emphasizing the impact of cultural and religious norms. Higher education consistently correlated with increased odds, highlighting the knowledge advantage of educated women. Rural-urban differences in contraceptive odds underscored disparities in healthcare access and awareness.

Marital status nuances demonstrated consistently lower odds among married women, while widowed and divorced women exhibited higher odds, showcasing the influence of marital status on contraceptive choices. Fertility preferences and employment status contributed to the complexity of factors influencing odds, reflecting the interplay between personal choices and socio-economic considerations.

Media factors, including radio listenership, TV watching, and newspaper reading, offered diverse channels shaping contraceptive behaviour, with varying influences on odds observed over the

years [26, 27]. This analysis provides valuable insights into the multifaceted nature of modern contraceptive decision-making, facilitating targeted interventions for Uganda's diverse demographic landscape.

In conclusion, the comprehensive insights gained from this analysis contribute to the broader reproductive health discourse by acknowledging the multifaceted nature of modern contraceptive use. The findings emphasize the importance of tailoring interventions to accommodate varying age groups, relationship structures, and fertility preferences. Such nuanced understanding is crucial for informed policymaking, program development, and the provision of accessible and culturally sensitive reproductive health services in Uganda. These explanations provide a deeper understanding of the demographic factors influencing modern contraceptive use in Uganda, shedding light on the complexities inherent in reproductive health decision-making. The dynamic interplay of age, relationship dynamics, and fertility preferences underscores the need for flexible and context-specific family planning interventions to meet the diverse needs of women across different demographic groups.

# CHAPTER SIX

# CONCLUSION AND RECOMENDATIONS

## 6.1 Conclusion:

- Wealth index influences contraceptive use by providing financial resources for purchasing contraceptives and transportation to healthcare facilities. Additionally, wealthier individuals may have greater knowledge about contraceptive methods.
- Fertility preferences play a significant role in contraceptive use, as evidenced by Tables 4.1 & 4.2. Women's decisions regarding family size influence their contraceptive choices.
- The factors influencing contraceptive use, as observed in both UDHS data and expert opinions, largely agree, highlighting the multifaceted nature of contraceptive decision-making.
- In conclusion, the analysis of modern contraceptive use in Uganda (2001-2016) reveals nuanced patterns influenced by age, wealth status, religion, education level, residence, marital status, fertility preferences, employment, and media exposure.
- The determinants highlight the complexity of decision-making, emphasizing the need for tailored interventions across diverse demographic groups.
- This comprehensive understanding informs strategies aimed at enhancing access and uptake of modern contraceptives, contributing to informed reproductive health laws, policies, and practices in Uganda.

## 6.2 Recommendations:

In light of the determinants influencing modern contraceptive use in Uganda from 2006 to 2016, targeted interventions are essential to address nuanced factors. Recommendations include:

1. Educational Initiatives: Prioritize comprehensive reproductive health education, particularly in regions with lower educational attainment. This initiative aims to empower women with knowledge about contraceptive methods. Implementation: The Ministry of Education and NGOs focus on women's health and ensure community engagement to identify workable solutions.

2. Wealth Gap Bridging: Focus on bridging the wealth gap and improving socio-economic conditions to enhance contraceptive accessibility, especially among the poorest and middle-income quintiles. Implementation: The Ministry of Finance and NGOs should focus on poverty alleviation while targeting the adolescents who are not working (have no jobs) but are sexually active.

3. Engagement with Religious and Cultural Institutions: Collaborate with religious and cultural institutions to promote awareness and dispel misconceptions about contraceptives, particularly in

communities where religious norms influence decision-making. Implementation: Religious leaders, community leaders, Ministry of Health.

4. Improving Healthcare Access in Rural Areas: Develop strategies to improve healthcare access and awareness in rural areas, acknowledging disparities in contraceptive use between urban and rural populations. Implementation: Ministry of Health, NGOs focused on rural healthcare should diversify the distribution sites to make access to modern contraceptives easier vis-à-vis community distribution.

5. Tailored Family Planning Initiatives: Tailored family planning initiatives to cater to the unique needs of different marital statuses, including married, widowed, and divorced women. Implementation: Ministry of Health, local healthcare providers.

6. Integration of Family Planning Support in Workplace Environments: Integrate family planning support into workplace environments to address the dynamic interplay between fertility preferences and employment status. Implementation: Ministry of Labour, private sector employers.

7. Adaptation of Media Channels: Recognize the changing landscape of communication channels and incorporate modern methods such as mobile phones into family planning campaigns to enhance outreach. Implementation: The Ministry of Information, communication agencies, and NGOs focused on media outreach in collaboration with.

These recommendations aim to create a responsive framework for modern contraceptive promotion in Uganda, acknowledging the diverse socio-economic and demographic factors shaping women's contraceptive choices. Implementation should be guided by correct and well-targeted information dissemination strategies.

**LESSONS LEARNED**

Throughout this research journey, I've had the privilege of delving deep into the intricacies of modern contraceptive use in Uganda.

Along the way, I've learned the invaluable lesson of humility in research—recognizing that true understanding comes from embracing diverse perspectives and engaging with data in a thorough and thoughtful manner.

Through meticulous analysis of UDHS data and insightful discussions with key informants, I've gained a deeper appreciation for the multifaceted nature of reproductive health and contraception decision-making in Uganda.

**RESEARCH CONTRIBUTION**

I'm humbled to have played a part in advancing knowledge in the field of reproductive health. By synthesizing data and insights from various sources, I believe I've provided a more nuanced understanding of the determinants influencing contraceptive practices in Uganda (i.e. age, education, wealth, health-these enhance contraceptive uptake while fertility preference, young age and poverty hinder uptake).

My hope is that the results of this research will serve as a catalyst for evidence-based interventions and policies aimed at improving access to and uptake of modern contraceptives, ultimately contributing to better reproductive health outcomes for women in Uganda and beyond.

**LIMITATIONS**

While this research journey has been enlightening, it's important to acknowledge certain limitations that may have impacted the findings and implications of this study. One such limitation is the reliance on secondary data sources, such as the Uganda Demographic and Health Surveys (UDHS), which may be subject to inherent biases or inaccuracies. Additionally, the scope of the study may not have fully captured all relevant factors influencing contraceptive practices, as certain contextual nuances or individual experiences may not have been adequately explored. Furthermore, the cross-sectional nature of the UDHS data limits our ability to establish causal relationships between variables of interest. Despite these limitations, this research represents a significant contribution to the field of reproductive health and provides valuable insights for future research and intervention efforts.

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## List of appendices

## Appendix one:

## KEY INFORMANT CONSENT FORM

Study Title: Determinants of modern contraceptive use among women of reproductive age in Uganda: between 2001-2016

Dear Sir/Madam,

Greetings! My name is Joyce Ahumuza, and I am a student at Uganda Christian University (UCU), pursuing my master’s degree in Public Health Leadership (Save the Mothers). Currently, I am conducting research as part of my program, focusing on factors influencing modern contraceptive use in Uganda.

Your expertise and insights hold significant value in enhancing the outcomes of this study. Your perspective as a key informant will provide invaluable depth and understanding to my exploration of modern contraceptive practices in Uganda.

Purpose:

The aim of this study is to explore trends, determinants, and factors affecting modern contraceptive use among Ugandan women. By gathering information from key informants like yourself, I seek to gain deeper insights into this important public health issue whilst validating the UDHS data set.

Involvement:

As a key informant, you will provide information based on your expertise in reproductive health and family planning in Uganda. This may include discussing trends, challenges, successes, and factors influencing contraceptive use.

Confidentiality:

Your responses will be kept confidential, and your identity will remain anonymous in the final report and publications.

Voluntary Participation:

Participation is voluntary, and you may withdraw at any time without consequences. Your decision will not affect your relationship with my university.

Please sign below if you agree to participate.

For any questions/queries, feel free to contact my supervisor at,

Prof. Mirembe Florence

+256772467655
+256703535503

flomir2002@yahoo.com

Thank you for considering this invitation. Your contribution is highly valued.

Sincerely,

Joyce Ahumuza (+256770704712/+256753570307)

Msc Student, UCU

I voluntarily agree to participate as a key informant in the study "Determinants of modern contraceptive use among women of reproductive age in Uganda: between 2001-2016."

Key Informant's Signature: ___________________________

Date: ___________________________

## Appendix Two:
## KEY INFORMANT INTERVIEW GUIDE

### Introduction

This interview aims to investigate the contributing factors to the changes in contraceptive use in Uganda over the years. I want to assure you that the study I am carrying out is purely academic

and will enable me to complete my master`s degree in Public Health Leadership (Save the Mothers) at Uganda Christian University (UCU). The interview will take 30 minutes maximum. This anonymous interview means that your personal information, like name and place of residence, will not be questioned. You are free to leave this interview at any point if you feel you cannot go on.

Would you accept to take part in this interview?

If yes, tick in the corresponding Box and continue with the interview ☐

If no, tick and end the interview. ☐

**Biography of the participants**

| **Participant`s biography** | **Response** |
|---|---|
| Sex | |
| Position | |
| Location of Health Center IV | |
| Years at work | |

**Interview Questions**

**Qn 1.** How long have you been providing family planning services to the community?

**Qn 2.** What contraceptive methods are available at your health facility?

**Qn3.** Among them, which one is the most used contraceptive method among the women who seek these services.

**Qn 4**. Is there a difference between the young and older: 15 to 24. 25 and above. 40 and above

**Qn5.** What kind of women seek for contraception mostly?

**Qn 6.** Which of the factors mentioned below influence women's utilization of modern contraceptives use the most, in your facility?

1. Age of the women
2. Income levels (money they have)
3. Place of residence (town or village)
4. Education levels
5. Marital status (widowed, separated, single)
6. Fertility preference (still wants to have more children and sex of children)
7. Do you think these factors are the same affecting all Ugandan?
8. Where do women get information about contraceptives?

**Qn 7.** What reason can you give for the factor mentioned in Qn 4 above?

**Qn 8.** Is there any other reason besides those mentioned in Qn 4 that may have influenced women's utilization of contraceptives over the years in Uganda?

**Qn9.** In your opinion, what are the main reasons that prevent women to use contraceptives?

**Qn 10**.Do you have any suggestion on how the use of modern contraceptives can be improved in Uganda?

**Thank you**

## Appendix Three: Approval letter to UDHS dataset

Feb 20, 2023

Ahumuza Joyce
Uganda Christian University
Uganda
Phone: +2567535703070
Email:ahumuzajoyce.m1@gmail.com

Request Date: 02/17/2023

Dear Ahumuza Joyce:

This is to confirm that you are approved to use the following Survey Datasets for your registered research paper titled: "Determinants of modern contraceptive use among women of reproductive age in Uganda between 2001-2016".

For restricted surveys, you must also request special permission from the Implementing Agencies. If approved, the restricted datasets will be provided to you by FTP.

To access the datasets, please login at: https://www.dhsprogram.com/data/dataset_admin/login_main.cfm. The user name is the registered email address, and the password is the one selected during registration.

The IRB-approved procedures for DHS public-use datasets do not in any way allow respondents, households, or sample communities to be identified. There are no names of individuals or household addresses in the data files. The geographic identifiers only go down to the regional level (where regions are typically very large geographical areas encompassing several states/provinces). Each enumeration area (Primary Sampling Unit) has a PSU number in the data file, but the PSU numbers do not have any labels to indicate their names or locations. In surveys that collect GIS coordinates in the field, the coordinates are only for the enumeration area (EA) as a whole, and not for individual households, and the measured coordinates are randomly displaced within a large geographic area so that specific enumeration areas cannot be identified.

The DHS Data may be used only for the purpose of statistical reporting and analysis, and only for your registered research. To use the data for another purpose, a new research project must be registered. All DHS data should be treated as confidential, and no effort should be made to identify any household or individual respondent interviewed in the survey. Please reference the complete terms of use at: https://dhsprogram.com/Data/terms-of-use.cfm.

The data must not be passed on to other researchers without the written consent of DHS. However, if you have coresearchers registered in your account for this research paper, you are authorized to share the data with them. All data users are required to submit an electronic copy (pdf) of any reports/publications resulting from using the DHS data files to: references@dhsprogram.com. Sincerely,

*Bridgette Wellington*

Bridgette Wellington
Data Archivist
The Demographic and Health Surveys (DHS) Program

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