

**Knowledge, Attitude and Practices of Contraceptives Use among Women Living with HIV  
in Ibadan**

**Afiniki BULUS- EJOGA  
LCU/PG/002293**

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## Certification

This is to certify that **Afiniki BULUS- EJOGA** with matriculation number LCU/PG/002293 carried out this research work titled “Knowledge, Attitude and Practices of Contraceptives Use among Women Living with HIV in Ibadan “in the Department of Public Health, Faculty of Basic Medical and Health Sciences, Lead City University, Ibadan, Oyo State, Nigeria for the award of Master’s degree in Public Health (MPH) and this has not been previously submitted.

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**Dr. Folahanmi Akinsolu**  
Supervisor

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Date

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**Dr. Tubosun Olowolafe**  
Head of Department

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Date

## **Dedication**

This work is dedicated to the Almighty God, the giver of knowledge and wisdom for His unquantifiable love and through whom I can make all the achievements I have recorded.

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## Acknowledgment

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Even though the above-mentioned institution and persons have assisted in the process of this study, I alone stand responsible for the errors, if any found in the study.

## Abstract

Contraception services can help meet the family planning goals of women living with HIV as well as prevent mother-to-child transmission (MTCT). This study aimed to assess the knowledge attitude and practice of contraceptive use among women of reproductive age [15-49yrs] living with HIV in Ibadan Nigeria. A facility-based cross-sectional study was used with the sample size of 469 sexually active WLHIV. The inclusion criteria were WLHIV aged between 18-49, who asserted being fecund and sexually active. An adopted questionnaire was used to collect data and the data was analyzed using Statistical Package for Social Sciences (SPSS) windows version 22 and statistical significance was set at  $p < 0.05$ . Among women living with (n=469), 96.6%(453) have a good knowledge of contraceptive and 3.4%(16) have poor knowledge of contraceptive methods, 257(55%) have positive attitude while 212(45%) have negative attitude towards the use of contraceptive. 70.4% used contraceptive with 29.6% unmet needs and 28.6 % of the participants are making use of more than 1 methods of contraceptive. The results revealed significant association between payment for services ( $p=0.019$ , OR=8.616 95% CI (1.429,51.982), Partner not providing food ( $p=0.002$ , OR= 0.2169 95% CI 0.083,0.0564), distance to health facility ( $p=0.016$  OR=3.576 95% CI (1.270,10.069) and previous reaction to contraceptive ( $p=0.000$  OR=69.945 95% CI(9.65,506.73)). Based on the findings it was asserted that contraceptive use among WLHIV was found high with moderate positive attitude to contraceptive use and the knowledge about contraceptive use is equally high, however there is need for the healthcare givers to undertake continuous sensitization and counselling services on contraceptive use for WLHIV. There is need to strengthen integration of family planning into activities of Antiretroviral therapy (ART) clinics in order to live a healthy sexual life and increase their productivity.

**Keywords:** Contraceptive, Women, Human Immunodeficiency Virus

**Word Count:**280

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#### **List of Acronyms**

<b>Abbreviation</b>	<b>Meaning</b>
AIDS	Acquired Immunodeficiency syndrome
ART	Antiretroviral Therapy
DM	Dual Method
IUCD	Intra Uterine Contraceptive Device
HIV	Human Immunodeficiency Virus
PLHIV	People Living with HIV
PMTCT	Preventing Mother-to-Child Transmission
SDG	Sustainable Development Goals
SM	Single Method
STD	Sexually Transmitted Diseases
STI	Sexually Transmitted Infection
UNAIDS	United Nations Programme on HIV/AIDS
USDHSO	United States Department of Health and Human Services, Office
WHO	World Health Organization
WLHIV	Women Living with HIV

## Chapter One

### Introduction

#### 1.1 Background to the Study

HIV epidemic has had a unique impact on women as a result of their reproductive role in society and the fact that they are biologically more susceptible to human immunodeficiency virus (HIV) infection than men<sup>1</sup>. In many parts of the world, women have less negotiating power when it comes to condom use, making them more vulnerable to unprotected sexual encounters and the spread of HIV and other STDs (STIs). One of the greatest challenges to global public health is posed by the Human Immune Virus and Acquired Immune Deficiency Syndrome (HIV/AIDS), which is causing widespread human suffering in sub-Saharan Africa (SSA) and other regions<sup>1</sup>. After nearly half a century, HIV has become a worldwide epidemic and a major public health concern. It's a major killer throughout human history, ranking among the top two or three killers. But Social Security Administration workers carry the greatest share of it<sup>2</sup>.

However, SSA bears the brunt of the cost. HIV infection rates among young women in sub-Saharan Africa are two times higher than those among young men. Seven out of ten young women worldwide, including eight out of ten in sub-Saharan Africa, do not have complete knowledge about HIV. Every week, approximately 6900 adolescent girls and young women (ages 15-24) are newly infected with HIV around the world<sup>1</sup>. Women are disproportionately affected by HIV/AIDS; in 2018, 58.3 percent of the infected people (totaling 1.72 million people) were females. Worldwide, there are an estimated 36.7 million people living with HIV; in Nigeria, there are an estimated 1.7 million people living with HIV<sup>1</sup>.

Contraceptive services can assist women with HIV in achieving their goals for family planning and preventing mother-to-child transmission (MTCT). Antiretroviral therapy (ART) has increased survival, and more HIV-positive women may desire to become parents in the future. Unwanted pregnancies are nevertheless frequent, even among women who do not have HIV<sup>3</sup>.

However, the rise in the frequency of HIV in women is also accompanied with a rise in the risk of mother-to-child transmission of the HIV virus to newborns (MTCT). As a result, every day around the world 1,800 kids contract the HIV infection through MTCT. The great majority of these are in Africa. Breastfeeding, childbirth, and pregnancy all carry MTCT risk. It is estimated that there is a 15 to 30% probability of transmission during pregnancy and labor. Breastfeeding for 18 to 24 months raises the risk from 30 to 40% overall<sup>4</sup>. Having children in the future is something that HIV-positive people should strongly consider. However, literature has shed light on the global community's rising acknowledgment of the difficult reproductive choices faced by people with HIV. While the HIV epidemic has significantly decreased in many regions of the world over the past 20 years, things are radically different in Africa. According to Joint United Nations Programme on HIV/AIDS (UNAIDS), SSA continues to be the area with the highest prevalence of HIV infections, accounting for 67% of the global prevalence of infections. The majority of people living with HIV in the region are women of reproductive age. Due to high levels of poverty, a lack of innovation, a lack of capacity, and government commitments to fighting HIV, the Joint United Nations Programme on HIV/AIDS (UNAIDS) highlighted in 2018 that Africa is the leading continent and remains the center of the global HIV epidemic. The low uptake of PMTCT services in developing countries could also be mentioned as a reason for the higher prevalence of MTCT of HIV. These factors include: factors at the individual and communal levels (poor maternal education, poor awareness of pregnant women, and

psychological concerns) (stigma and fear of disclosure) <sup>6</sup>. An estimated 35 million individuals have died in Africa as a result of HIV infection since the epidemic's start, and more than 70 million people have been infected with the virus. According to UNAIDS' estimates from 2008, 75% of the 3.3 million HIV-positive pregnant women who gave birth annually lived in Africa, where the majority (700,000) of yearly new HIV infections in children took place <sup>8</sup>. Another UNAIDS report from 2018 revealed that over 70% of the 34 million HIV-positive individuals living worldwide were female and made up 58% of the population. These disproportionately higher HIV prevalence rates among reproductive-age women in SSA have an impact on both health and life transitions like childbirth.

Women made up about two-thirds of the 25.7 million persons living with HIV in sub-Saharan Africa (SSA) in 2017; comparable percentages were seen in Nigeria<sup>9</sup>. According to a 2015 World Health Organization (WHO) recommendation, there shouldn't be any criteria that prevent someone from starting antiretroviral medication (ART), which has been essential in lowering HIV-related morbidity and mortality. Meeting contraceptive needs is essential with the present ART expansion to achieve fertility targets as well as decrease maternal, infant, and child mortality as well as orphaned children's numbers <sup>10</sup>.

Because it prevents unplanned pregnancies, contraception may also be essential in the prevention of mother to child transmission of HIV (PMTCT). As a result, enhancing contraceptive services may help achieve the Sustainable Development Goal 3.3 of eradicating the AIDS epidemic by 2030<sup>11</sup>. Despite the advantages of contraception, women living with HIV (WLHIV), especially in SSA, have significant gaps in its use. There appears to be a substantial unmet need for contraception among WLHIV and contraceptive failure due to high incidence of unwanted pregnancy and abortion. Women who are fertile, sexually active, and who report not wanting any

more children or wishing to defer having another child are considered to have an unfulfilled need, according to the WHO<sup>2</sup>.

A defined reproductive life plan and easy access to contraception are necessary for WLHIV given the increased longevity of the HIV-positive population due to ART. Married women have been the focus of studies looking at contraception use among WLHIV. Due to the presumption that sex only occurs in the context of marriage, this puts sexually active unmarried women at a greater risk of unexpected pregnancy (and results in a lack of reproductive planning for these women through health services)<sup>12</sup>. The WHO has recommended that WLHIV have the same freedom to choose their contraceptive methods as HIV-negative women, but the decision to use contraception while HIV is present seems more challenging because WLHIV must balance the avoidance of both unplanned pregnancy and HIV transmission.

There appears to be a substantial unmet need for contraception among WLHIV and contraceptive failure due to high incidence of unwanted pregnancy and abortion. Women who are fecund, sexually active, and who report not wanting any more children or wishing to defer having another child are considered to have unmet needs, according to the WHO. The successful adoption of contraceptive use in Nigeria has historically faced obstacles. Nigeria has a low prevalence of access to and use of contraception, partly as a result of structural and individual-level obstacles<sup>13</sup>. In Nigeria, married women have the choice to determine the quantity and spacing of their children thanks to knowledge of and usage of contraception. Additionally, it offers them a host of benefits that can save their lives, such as reduced maternal and infant mortality, ideal child spacing, and enhanced postpartum health outcomes. Women now have the option to use long-acting reversible contraceptives, which are implant and intrauterine device contraceptive techniques that are highly effective and practical with the added bonus of being

long-lasting and requiring little to no maintenance. However, it has been found that most women, particularly those in rural regions, lack sufficient awareness of these contraceptives' functions and are unable to use them. According to studies, a number of enablers and impediments influence how married women perceive and use contraception.<sup>14</sup>

Furthermore, previous studies have shown that Nigerian women living with HIV are knowledgeable about contraception. However, this knowledge does not appear to be correlated with the level of contraceptive use, and this appeared to be linked to the high rates of unintended pregnancies among women living with HIV<sup>15</sup>. This study has identified a number of factors that affect the use of contraception among women living with HIV, including the level of knowledge and practices, as well as with the level of knowledge and practices.

## 1.2 Statement of the Problem

The significant rise in the number of new HIV infections among women and young children has prompted urgent measures to curb the disease's spread through the bloodstream and mother-to-child contact. Without treatment, there is a 20-50% chance that an HIV-positive mother would infect her child<sup>12</sup>. In addition, there is a wide range of opinions in the literature on the future reproductive goals of HIV-positive people in SSA. However, the quality of life for people living with HIV has also improved with the advent of Anti-Retroviral Therapy, which may influence the fertility intentions of HIV-infected individuals, although little is known about their fertility intentions<sup>15</sup>. Since ART is now available for free, having HIV is much less of a deterrent to starting a family. The ramifications of this shift on the choices and actions of people living with HIV who wish to have children are substantial. In addition, studies on the utilization and unmet demand of family planning among women living with HIV in Nigeria are extremely limited.

This study aims to update existing knowledge and assist healthy policymakers and programs to support efforts for the provision of safer and healthier reproductive alternatives among HIV-positive women in Nigeria by assessing the prevalence of contraceptive use among this population.

### **1.3 Aim and Objectives of the Study**

This study aimed to assess the knowledge attitude and practice of contraceptive use among women of reproductive age (15-49yrs) living with HIV in Ibadan, Nigeria.

#### Specific Objectives

The specific objectives of this study are to:

- i. assess the level of knowledge of contraceptive use among women living with HIV in Ibadan.
- ii. assess the attitude of women living with HIV in Ibadan towards the use of contraceptives among women living with HIV in Ibadan.
- iii. assess the level of use of contraceptive methods among women living with HIV in Ibadan
- iv. identify factors that influences the utilization of contraceptive use among women leaving with HIV in Ibadan.
- v. identify the different contraceptive method practice by women living with HIV in Ibadan.

### **1.4 Research Questions**

The following research questions were answered in the study;

1. What is the level of knowledge of contraceptive use among women living with HIV in Ibadan?
2. What are the attitudes of women living with HIV in Ibadan towards the use of contraceptives among women living with HIV?

3. What is the level of contraceptive use among women living with HIV in Ibadan?
4. What are the factors that influence the utilization of contraceptive use among women living with HIV in Ibadan Nigeria?
5. What are the various contraceptive method practice by women living with HIV in Ibadan?

### **1.5 Justification for the Study**

An effective and cost-efficient method of preventing mother-to-child HIV transmission is the use of contraceptives by women living with HIV/AIDS which has been shown to reduce the number of new pediatric HIV infections<sup>22</sup>. This research is on target because it aims to help HIV clinics better serve women with HIV/AIDS by revealing the impact of a program promoting the use of contraceptives in that population.

### **1.6 Significance of the Study**

Understanding why HIV-positive women aren't using the available contraceptive techniques requires looking into their knowledge, attitudes, and practices around contraceptive use. As such, it could be a natural next step in the development of various programs aimed at encouraging these women to make better use of available contraceptive options. Incorporating such services into preexisting HIV care and treatment programs is one option, as is increasing the emphasis on education on contraceptive use to increase women's understanding and alter their attitudes.

### **1.7. Scope of the Study**

The study included Women Living with HIV attending anti-retroviral treatment clinics in Ibadan, Oyo State, Nigeria.

### 1.8. Limitation of the Study

Self-reported data were used, which may be affected by social desirability and recall bias.

The study only focused on women living with HIV and did not include men living with HIV, which limits the understanding of the contraceptive needs of male partners of women living with HIV. The study did not explore the impact of cultural and religious beliefs on contraceptive use, which could be a significant factor influencing contraceptive use among this population.

### 1.9 Operational Definitions of Terms

**Modern Family Planning Method:** This refers to Family Planning methods such as oral contraceptive pills (OCPs), injectable (Depo-Provera), implants, intrauterine contraceptive devices (IUCDs), condoms, vasectomy (male sterilization), and bilateral tubal ligation (female sterilization).

**Modern Contraceptive Use:** This refers to the use of at least one type of modern contraceptive method.

**Dual Method:** This refers to using two methods of contraception, which is using a condom with another contraceptive method.

**Unmet Need for Contraceptives:** WLHIV who say they are not using contraception and who say either that they do not want any more children or that they want to wait 2 or more years before having another child are considered to have an unmet need for contraceptives.

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## **Chapter Two**

### **Literature Review**

This chapter presents previous works done by researchers which have relevance to this study. The review of related and relevant literature was carried out under theoretical framework, theoretical review, empirical review, appraisal of literature, and conceptual model.

#### **2.1 Conceptual Review**

The key concepts that were identified in the literature review concerning the health belief model structures focus on contemporary methods of contraception and women of reproductive age living with Human Immunodeficiency Virus (HIV). The Nigerian Federal Ministry of Health has acknowledged that contraception is a multisectoral issue that has benefits beyond those related to health<sup>1</sup>. As a result, the ministry has taken initiatives to include both the public and private sectors in the effort to expand the availability of quality contraceptive and family planning services. Services and procedures related to contraceptives have been made available at public health facilities, and the leadership of the health system is continuing to improve the quality of training that healthcare practitioners receive in order to ensure that women included in this category remain as healthy as possible<sup>2</sup>.

The use of modern contraceptives results in the prevention of unintended and high-risk pregnancies, a subsequent decrease in the rate of maternal mortality, and an overall improvement in the health of women, children, and the entire population<sup>3</sup>. Nigeria is one of the developing countries in sub-Saharan Africa that encourages the use of contraceptives to either space or limit pregnancies. Despite this, Nigeria has a poor adoption and uptake of modern contraceptives among women of reproductive ages<sup>4</sup>. As a result of the fact that the contraceptive behavior of

Nigerian women is also related to their region and cultural traits, the contraceptive prevalence rates typically vary between cultural zones<sup>5</sup>.

Family planning is one of the 10 great public health successes of the twentieth century, on par with such milestones as advancements in motor vehicle safety and vaccination. Family planning was one of the first methods used to reduce the number of unplanned pregnancies. Family planning has over time become an important phenomenon in the control of population both in emerging countries and in those that have already achieved some level of development<sup>6</sup>. The importance of family planning is clear from its benefits to individuals, as well as to families, communities, and societies.<sup>7</sup>The capacity of individuals to choose the size of their families, as well as the timing and spacing of the births of their children, has led to substantial gains in the health as well as the social and economic well-being of societies.<sup>7</sup> A drop in the rates of infant and child mortality, along with improvements in the social and economic conditions of women and their families, as well as improvements in maternal health, have been contributed to by smaller families and improved child spacing<sup>8</sup>.

Contemporary family planning attempts in the United States began in the early part of the twentieth century. By the year 1960, modern methods of contraception had been established, and in 1970, legislation was passed to provide federal money for family planning<sup>9</sup>. According to the World Health Organization (WHO), "family planning" is defined as "the ability of individuals and couples to predict and reach their desired number of children and the spacing and timing of their births". According to the working definition adopted by the WHO Department of Reproductive Health and Research, this can be achieved by the usage of strategies of contraception in conjunction with the medical therapy of involuntary infertility.

Family planning addresses three fundamental sexual and reproductive health needs. They are:

1. It helps couples avoid unwanted pregnancies.
2. It minimizes the spread of sexually transmitted illnesses (STDs).
3. It helps reduce rates of infertility by addressing the problem of STDs.

Through the prevention of unwanted and high-risk pregnancies, the capacity to time and distance children helps to lower the risk of maternal mortality and morbidity. Unwanted pregnancies are associated with an increased risk of morbidity for the mother, as well as with health-related behaviours during pregnancy, such as delaying prenatal care, smoking, and alcohol consumption, which are linked to adverse effects for the child. This is because unintended pregnancies are more likely to occur in women who have not planned to become pregnant.<sup>10</sup>

The child that results from an unwanted pregnancy, in particular (as opposed to one that occurred at an inappropriate time), has a significantly increased risk of having a low birth weight, of passing away within the first year of life, of being abused, and of not receiving adequate resources for healthy development. It is possible that the mother will be at a larger risk of clinical depression as well as of being the victim of physical violence, and that her relationship with her partner will be at a greater risk of falling apart<sup>11</sup>. It's possible that both the mother and the father will struggle financially and fall short of their educational and professional aspirations. These kinds of outcomes unquestionably make it more difficult to start and keep stable families together<sup>12</sup>. It was estimated that in the year 2020, about half of all unwanted pregnancies would end in abortion; hence, the availability of contraception and the proper use of it can also help reduce abortion rates. The use of effective contraceptives, such as latex condoms, can help

minimize the spread of sexually transmitted diseases in addition to the prevention of unexpected births<sup>13</sup>.

When children are appropriately spaced, which means that a minimum of 18 months pass between live births and that approximately 2.5 years pass between births, there is a decreased risk of complications occurring in the children. This is because conception does not take place for at least 18 months after a live birth. Low birth weight is one of these effects, and it's linked to a wide variety of health and developmental concerns, so it's important to avoid it. Infants who are born to mothers who are younger than 18 and/or older than 35, as well as to women who have already given birth at least four times, have an increased risk of having a low birth weight and being prematurely born<sup>14</sup>. In addition to the beneficial impact it has on the health of the mother and the newborn, family planning can make it simpler for couples to reach consensus on significant issues such as whether or not to have children and at what age they should have children. When it comes to supporting people with their pregnancy planning, one of the most important aspects is assisting them in avoiding unintended pregnancies. Couples who are able to successfully plan their families in advance experience less stress on all fronts (financial, emotional, and physical), are able to devote more time and energy to their own growth as well as the growth of their family, and have access to a wider variety of options in both their professional and personal lives. Because of this, successful family planning results in less strains being placed on the resources of the community, such as those found in the social service and healthcare delivery systems<sup>14 15</sup>.

Among the nearly 50 million sexually active women aged 18–44, 28 million (56 percent) are at risk of unintended pregnancies<sup>15</sup>. Women are considered to be at risk for unintended pregnancy, If a woman has had sexual contact with another person, then she is regarded to be at risk of

having an unintended pregnancy. Are able to conceive children, meaning that neither they nor their partners have undergone sterilization or contraceptive procedures designed to prevent pregnancy and they do not believe that they are sterile for any other reason. Neither intend to become pregnant nor have they been actively trying to conceive at any point throughout the year<sup>15 16</sup>.

### 2.1.1 Concept of Human Immunodeficiency Virus (HIV)

Globally, there are currently about 35.3 million people living with HIV infection around the world, of which there are about 46 percent women<sup>16</sup>. However, the accessible availability of antiretroviral medications and their simple accessibility have contributed to a significant reduction in the frequency of infections in recent years. According to the most recent estimates from around the world, there were only 2.3 million newly diagnosed cases of HIV. This number is 34 percent lower than it was in the year 2000. It was estimated that there were close to 40,000 people living in Nepal who were infected with HIV in 2015, which corresponds to a prevalence rate of 0.2 percent across the country as a whole. People who inject drugs (also known as PWID), men who have sex with other men (also known as MSM), transgender people (also known as TG), male sex workers (also known as MSW), female sex workers (also known as FSW), the clients of sex workers, male labour migrants (also known as MLM), and their wives are disproportionately affected by the HIV epidemic. Transmission of the virus from one heterosexual partner to another is the most prevalent and widespread form of HIV transmission, accounting for eighty percent of all new infections<sup>17</sup>. Children younger than 14 years old account for roughly five percent of the total infection rate. Transmission from mother to child, commonly known as MTCT, is the most common method of infection among this particular group. 65 percent of infections have been detected in adult males, whereas 35 percent of infections have

been found in adult females, of whom roughly 26 percent are in the reproductive age group of 15–49. Among the adult population, males account for 65 percent of infections, whereas infections in females account for 35 percent. According to the figures obtained at the national level in 2014, the number of newly HIV-positive pregnant women was 498, while the number of newly infected children was 178<sup>19</sup>. In light of the fact that a large percentage of persons living with HIV are of reproductive age, it is of the utmost necessity to promote awareness of and involvement in family planning choices in order to minimize the risk of passing the virus on to children whose mothers are HIV positive<sup>18</sup>. It is vital for all women, regardless of their HIV status, whether or not they have HIV, to have their children at the right time, as decided by them and space them out adequately in order to promote both their own health and the health of their children<sup>19</sup>. Women living with HIV should enjoy the same reproductive rights as other women, including the freedom to choose the number of pregnancies they want to have, when they want to have them, and to realize their safe sexual and reproductive goals. People living with HIV are able to utilize all of the methods of contraception that are presently accessible without risk and to great effect. They should be aware and informed of all of the frequently accessible methods of birth control, including those for preventing unintended pregnancies in an emergency<sup>20</sup>. Couples living with HIV who are interested in permanent sterilization should have access to a variety of birth control options, including female sterilization and vasectomy<sup>21,22</sup>. One of the four initiatives that make up the United Nations Strategy for the Prevention of Mother-to-Child Transmission of HIV (PMTCT) is to reduce the incidence of unintended pregnancies that occur among women who are living with HIV and AIDS<sup>23</sup>.

Most of the research related to the needs, knowledge and utilization of family planning methods in PLHIV has been concentrated in African nations with very few in Asian countries. HIV

related stigma and discrimination are still prevalent in both rural and urban areas that may contribute to the non-utilization of available services including family planning<sup>24</sup>. To date, little research has focused on identifying specific family planning needs and exploring the barriers for utilization of family planning services of Nigerian women living with HIV and AIDS. This research finding is expected to contribute in enhancing the present understanding of family planning needs of people living with HIV and AIDS. It may also aid in developing better designed, better directed and more culturally sensitive localized intervention programs to optimize the utilization of family planning services by HIV infected men and women<sup>25</sup>.

### 2.1.2 Contraceptives and its Categories

Contraceptives are used all around the world to either space out or limit the number of pregnancies, and they can be divided into two categories: modern (or contemporary) and traditional<sup>25</sup>. One of the most important health interventions that enables women to plan their births and determine the number of children to have is the use of contemporary contraceptives, which can be considered to be one of the most essential types of contraceptives<sup>26</sup>. There is a record of low utilization of the contraceptive services among the women in Nigeria, often resulting in high maternal mortality which is linked to complications of unplanned pregnancies despite that the Ministry of Health has family planning schemes and programs readily available, as well as modern contraceptive methods<sup>27</sup>.

Despite the availability of family planning facilities, there is a relatively low rate of utilization of contemporary contraception, according to data collected from around the world and the Ministry of Health. This shows that there are knowledge gaps in this aspect<sup>28</sup>. It is estimated that about 225 million women who are of reproductive age but live in low to middle income countries

(LMICs) do not make use of any modern method of contraception, despite their desire to delay or discontinue childbearing. Comparatively, the contraceptive prevalence rate in Latin America and the Caribbean was 66.7 percent between 2008 and 2015, while it ranged from 23.6 percent to 28.5 percent in sub-Saharan Africa throughout those same years<sup>29</sup>. This was an indicative sign that contraceptive use is low in sub-Saharan Africa, which means that many women get pregnant without having any prior planning or a desire to increase the size of their family<sup>30</sup>. In spite of the extensive number of methods of birth control that are made available to women, there are still records of poor utilization, along with an increase in the number of reports of unwanted pregnancies and unsafe abortions. The use of current contraceptive methods helps to avoid unexpected pregnancies and abortions that are unsafe, lowers the mortality rate of infants, protects women from the health hazards associated with pregnancy, slows the expansion of the population, and improves the overall health of the population<sup>31</sup>.

The utilization of contraceptives makes it possible to delay or space out pregnancies, which is especially beneficial for younger women who run the danger of developing serious health conditions or even dying as a result of having children at a younger age<sup>13</sup>. Indicators are suggesting poor progress in the uptake of contraceptives, particularly in sub-Saharan Africa, notwithstanding the increases that have been made in the prevalence rates of contraceptives<sup>32</sup>. Because of this, it is essential to have a solid understanding of the current disparity that exists between the availability of contraceptives and their actual use. Contraceptive services seem to have a different value or level of urgency compared to disease prevention programs, according to research that evaluated programs aimed at preventing unwanted pregnancies and diseases. This may be connected to the fact that some sexually active women do not want to have children, but they do nothing to achieve this desire by avoiding pregnancy or delaying the birth of future

children, despite the fact that they are engaging in sexual activity<sup>33</sup>. It is estimated that approximately 70 percent of unplanned pregnancies are linked to either the non-use of contraceptives or a stop in the use of contraceptives by women who seek to avoid pregnancy<sup>34</sup>.

Lack of access to family planning services, with an emphasis on physical proximity, lack of information or ignorance of procedures, fear of side effects, and opposition from the husband are among the numerous factors that have been cited as the primary reason for the unmet need for family planning<sup>35</sup>. It has been determined that the utilization of contraception is one of the four pillars that support the Safe Motherhood Program; among them, emergency contraception (EC) is a highly efficient strategy<sup>36,37</sup>. A contraceptive may refer to either a drug or a medical technique that prevents or reduces the likelihood of a pregnancy resulting from sexual activity. It also refers to the percentage of women who are presently using at least one form of contraception or whose sexual partner is currently using at least one form of contraception, regardless of the method that is being employed. It is typically recommended for women ages 15 to 49 who are married or in committed relationships<sup>38</sup>. Both reversible treatments (such as behavioral, barrier, and hormonal), as well as permanent approaches, can be utilized. Hormonal techniques include intrauterine devices, vaginal rings, oral contraceptive tablets, transdermal patches, emergency contraception, injectable contraception, and implantable contraceptives<sup>39</sup>.

Both modern (contemporary) and traditional (conventional) approaches to birth control can be considered to be the two main types of contraception<sup>40</sup>. The barrier system, which consists of female and male condoms as well as the diaphragm, the hormonal method, which can take the form of a pill, injection, or implant, the intrauterine device (IUD), and male and female sterilization are all examples of modern techniques<sup>41</sup>. On the other hand, conventional methods include the method of withdrawal as well as the method of intermittent abstinence (coitus

interruptus)<sup>42</sup>. The terms "traditional" and "contemporary" are used to describe the various methods of birth control that are used nowadays<sup>43</sup>. The term "modern methods" refer to clinic and supply methods such vaginal barrier methods, the lactation amenorrhea method (LAM), implants, the intrauterine device (IUD), pills, injectables, condoms, and the lactation amenorrhea method (LAM)<sup>44</sup>. The most common types of non-supply or traditional treatments are intermittent abstinence and withdrawal, in addition to traditional folk treatments whose effectiveness is questionable<sup>45</sup>.

Oral contraceptive pills, implants, injectables, patches, vaginal rings, intra uterine devices, condoms, male and female sterilization, lactational amenorrhea methods, withdrawal, and fertility awareness-based approaches are some of the various ways of modern contraception methods that have been identified<sup>46</sup>. Different modes of action and degrees of success in avoiding unplanned pregnancies are associated with each of these options. The number of live births that occur per year among 100 women who use a strategy to prevent pregnancy is used as a measurement of how effective the method is. Methods are categorized according to their effectiveness in terms of how frequently they are used as follows: Very effective (zero to 0.9 pregnancies per 100 women); effective (one to nine pregnancies per 100 women); moderately effective (10 to 19 pregnancies per 100 women); and ineffective (more than 19 pregnancies per 100 women). Less effective (20 or more pregnancies per 100 women)<sup>47</sup>.

### **2.1.3 Birth Control Methods**

It has been demonstrated that the use of contraceptive methods, which are the primary component of family planning (FP), is essential to a person's health. This is due to the fact that these methods prevent unwanted pregnancies, which in turn lowers the number of cases of

maternal mortality around the world. Additionally, it enables women to better plan their pregnancies, which in turn contributes to the expansion of the human population<sup>48</sup>. The prevention of pregnancy through the utilization of a variety of methods, including but not limited to devices, medications, agents, sexual behaviors, or surgical operations, is referred to as contraception or birth control methods. There is a wide variety of contraceptives, with each method varying in their mode of operation<sup>49</sup>. The barrier methods prevent sperm from entering a woman's uterus and fertilizing an egg by preventing the sperm from reaching the ovum<sup>50,51</sup>.

Pills, patches, implants, injections, the Intrauterine System, and rings are all forms of hormonal birth control that can be used<sup>52</sup>. They accomplish this by altering the levels of reproductive hormones that are present in women, which makes conception more difficult. Other contraceptives, known as spermicides, are designed to eliminate sperm that are present in the vagina; these spermicides can take the form of gels or foams that are introduced into the vagina. They are protected from exposure by a one-of-a-kind sponge that is placed over the cervix<sup>53,54</sup>. Abstinence is the only form of birth control that offers one hundred percent protection against sexually transmitted diseases as well as the possibility of an unplanned pregnancy<sup>55</sup>. The most common adverse effects of birth control pills include increased weight, breast discomfort, mood swings, and headaches; however, these symptoms might manifest differently in each woman<sup>56,57,58,56</sup>. Since it is necessary for women to take some action during labour and delivery, the most prudent step for them to take is to consult with their primary care physicians to receive guidance regarding their individual circumstances. When it comes to methods of reversible birth control, intrauterine contraception and the contraceptive implant continue to be very successful even after years of use, provided that they are administered correctly<sup>57</sup>. The correct and constant application of the contraceptive shot methods, capsules, patch, and ring, as well as the

knowledge of barrier techniques and fertility, is required for the methods to be effective. Because of this, the methods' efficacy decreases with continued use<sup>58,59</sup>.

#### **2.1.4. Hormonal Contraceptives**

Hormonal birth control methods involve the use of hormones to either regulate or completely stop ovulation in order to avoid pregnancy. Pills, injections, skin patches, vaginal rings, intrauterine systems, and implantable rods are only some of the ways that hormones can be administered into the body. Other ways include intrauterine systems and vaginal rings. These approaches can stop ovulation from occurring, thicken cervical mucus, which helps to prevent sperm from reaching the egg or thin the lining of the uterus, all of which contribute to infertility. Long-acting hormonal methods and short-acting hormonal methods are both referred to as combined oral contraceptive (COC) methods. Long-acting hormonal methods include transdermal combined hormonal patch, transvaginal combined hormonal, intramuscular combined hormonal injectable, and progestin-only methods. Short-acting hormonal methods include progestin-only methods.

Intrauterine contraceptive devices (IUDs) and implants are two examples of hormonal long-acting reversible contraceptives. Injectables, pills, patches, and rings are all examples of short-acting hormonal treatments; collectively, these hormonal delivery systems are referred to as combined hormonal approaches.

##### **2.1.4.1 Oral Contraceptives**

The Combine Pill, Estrogen and progesterone, the two female sex hormones that govern the menstrual cycle, are employed in the combo pill. Rarely suggested for minors, the progestin-only pill contains only progesterone. The pill does not provide protection against STIs, thus using

condoms is still recommended. Unless concealed under Emergency contraception (Plan B One-Step or Next Step), it can raise the risk of blood clots and noticeable to other individuals. It is also called the 'morning after pill' Emergency contraception prevents a woman from being pregnant when she has had unprotected sexual intercourse<sup>60</sup>. Emergency contraception can be administered in two doses or as a single pill injection. Therapy with a single dose works as well as with two doses and has no additional side effects. It functions by preventing the ovaries from being released by an egg or retaining the sperm, which may annoy some women. Headache, nausea, inflammation of the skin, or tenderness of the breast may accompany its use<sup>61</sup>.

The effects may include lighter cycles, fewer cramps and acne, decreased risk of ovarian and endometrial malignancies, and anemia with an iron shortage<sup>62</sup>. Severe, although infrequent, adverse effects include blood clots, stroke, high blood pressure, and migraine, but many suffer headaches, nausea, or soreness of the breast. Combined oral contraceptives limit ovulation by blocking the gonadotropin-releasing hormone that is resulting in follicle-stimulating hormone and luteinizing hormone (LH) suppression<sup>63</sup>. Other secondary mechanisms by which OCPs give contraception include changes produced by progestin. (e.g. thickening in cervical mucus viscosity, endometrial atrophy, and alterations in the tubal transport system)<sup>64</sup>.

Oral contraceptive tablets containing just progestin (POPs) and combined oral contraceptives (COCs) are both accessible for purchase in the public and commercial sectors of the Nigerian healthcare system. In the public sector, you can get Microgynon, which is a combination pill containing ethinylestradiol and levonorgestrel, as well as Microlut, which only contains levonorgestrel. On the other hand, you can get other branded combined oral contraceptives in the private sector, such as Secure and Lydia Oral Contraceptive Pills, as well as the Lydia Daphne Pill, which only contains progestin. Some women are of the notion that the use of oral

contraceptives may be related with an impairment in fertility after their usage has been discontinued. This belief stems from the oral contraceptives' high level of efficacy.

#### 2.1.4.3 **Injectables**

Injectables are a hormonal form of birth control that either just contain progestin or a combination of the two hormones progestin and oestrogen. Progestin alone or in combination with oestrogen is the active ingredient. Both public and private health facilities in Nigeria offer two different injectable forms of contraception: Norigynon, a monthly injectable form of contraception that contains two hormones (a progestin and an estrogen), and Depo Provera, an injectable form of contraception that only contains progestin and that is administered every three months. The primary mechanism via which they exert their effect is that they stop the ovaries from releasing eggs. Injections into the muscle, often known as intramuscular injections, or subcutaneous injections are both possible routes of delivery (subcutaneous injection). Effectiveness is contingent on receiving injections on a consistent basis; hence, a woman runs the chance of becoming pregnant if she misses an injection. Some people who use it say that it causes them to gain weight, gives them headaches and dizziness, causes abdominal bloating and pain, alters their mood, and decreases their sex drive.

Medroxyprogesterone acetate is a long-acting progestin that is administered as a single dose once every 12 weeks<sup>65</sup>. This method of birth control offers a number of benefits for women, including the efficient prevention of pregnancy, convenience (no regular drug regimen is required, and there is no need to prepare before engaging in sexual activity), absence of side effects related to estrogen, protection against endometrial cancer and anemia caused by iron deficiency, and protection against anemia. The most significant negative effects of these methods of birth control

for women are changes in mood and sadness, increased appetite, headaches, and bloating, and disruptions in the menstrual cycle. Prescribed doses of this method of birth control are safe for use in women diagnosed with chronic conditions (i.e. seizures, sickle cell disease). In order to prevent sexually transmitted infections (STIs), it is imperative to make use of condoms in conjunction with medroxyprogesterone acetate<sup>66</sup>.

#### **2.1.4.4 Implant Contraceptive**

Implants are small flexible rods or capsules that are implanted just beneath the skin of the upper arm. They are approximately the size of a matchstick and are about the same length. They provide long-term protection against pregnancy by releasing a progestin in a woman's body that is similar to the natural hormone progesterone. Depending on the type of implant, they are quite effective for up to five years at preventing pregnancy. The technique mix consists of three different types of contraceptive implants: Jadelle, Implanon, and Sino Implant. Jadelle consists of two flexible levonorgestrel containing silicone rods, while Implanon consists of one flexible etonogestrel containing plastic rod. Implants are effective because they stop ovulation, which is the process by which eggs are released from the ovary, and they also thicken the cervical mucus, which prevents sperm from coming into contact with eggs. Implants can be reversed at any time, but only by a medical professional who has received the appropriate training to install and remove them. The majority of women go through a period of lengthy irregular bleeding throughout the first year of pregnancy, followed by lighter bleeding, then regular flow, and finally infrequent blood or no bleeding at all. These fluctuations in bleeding are typical, but they are not hazardous.

In 1990, the contraceptive method known as Norplant was first established. During this process, six elongated silastic capsules were injected subcutaneously into the upper arm of the patient<sup>67</sup>. The Implanon is yet another implant that has been introduced as a device known as a 1-rod implant that slowly distributes progesterone. This helps to reduce the likelihood of pregnancy while having adverse effects that are comparable to those of the 6-rod system.<sup>68</sup> Norplant allows for a steady release of levonorgestrel (85 ug/d for the first eight months, and then 30 ug/d thereafter), and it provides effective contraception for a period of five years. The success rate of DepoMedroxyprogesterone Acetate (DMPA) is just around one percent, and the medication is quite similar to the mechanism of action. There is an increase in the viscosity of the cervical mucus, a reduction in the maturation of the oocytes, and consequences of atrophic endometrial tissue. The majority of births that occur during the first year of usage are the result of unrecognized pregnancies at the time of insertion<sup>69</sup>. Within six months of having Norplant inserted, about 14% of individuals demand to have it removed due to some of the Norplant's side effects. These side effects include irregular menstruation (more than 40% in the first year), amenorrhea, moderate headaches, and weight gain<sup>70</sup>. Despite the occurrence of irregular bleeding, anemia does not typically occur. The failure rate under normal conditions is 0.05 percent<sup>71</sup>.

#### **2.1.4.5 The Patch**

The skin patch is worn on the lower belly, the upper body or the buttocks (but not on the breasts). A doctor usually prescribes this form of contraceptive and it releases progestin and estrogen hormones into the bloodstream. Once a week for three weeks, a new patch is worn. A patch should not be worn during the fourth week, to enable the individual to have a menstrual cycle. The typical failure rate for use: is 9%, but in women weighing more than 198 pounds, it may be

greater. Users may experience lighter periods; fewer cramps and acne will contribute to improvement. Every week, some teens have difficulty remembering to adjust the patch.

#### **2.1.4.6 Hormonal Vaginal Contraceptive Ring**

This activates the hormones progesterone and estrogen when put within the vagina. You're going to wear the ring for three weeks, you're going to take it out for the week you have your period, and then you're going to put it in a new ring. The ring is small, flexible and two inches or so. The ring is inserted into the vagina, where it continuously releases hormones for three weeks. The female removes it for the fourth week and reinserts a fresh ring seven days later. Risks for this method of contraception are close to those of combined oral contraceptive pills, and a vaginal ring is not recommended for any woman with a history of blood clots, heart attack or stroke, or some types of cancer. The only FDA-approved vaginal ring at present is the NuvaRing. Clinical research is underway to create a new vaginal contraceptive ring that can be used for 13 cycles. The average failure rate for usage is 9%.

#### **2.1.4.7 Lactational Amenorrhea Method**

A temporary technique of family planning called the lactational amenorrhea method (LAM) is based on the natural effect that nursing has on a woman's fertility. LAM is a form of contraception that can be used by the mother, and the primary mechanism by which it works is that it stops the ovaries from releasing eggs. The resumption of ovulation postpartum is delayed while a woman is breastfeeding, and this can be exploited to prevent conception as long as the mother fully or nearly fully breastfeeds and is amenorrheic for the duration of the breastfeeding relationship. The efficiency of LAM is dependent on the individual using it; therefore, the mother's menstrual bleeding must not have returned; the baby must be completely or nearly

completely breastfed and must be fed frequently, day and night; the baby must be less than six months old.

### **2.1.5 Barrier contraceptives**

#### **Condoms**

Condoms are barrier means of contraception, and they operate by preventing spermatozoa from coming into touch with the ovum; they also protect against sexually transmissible infections (STIs). Condoms exist in male and female forms, and they are hormone-free. Most of them are constructed of thin latex rubber, and other materials like polyurethane, polyisoprene, lambskin, and nitrile. Condoms are the most frequently known and used barrier device among male partners around the world. Male condoms are rolled onto the penis, and operate as a physical barrier; the female condom is put into the vagina right before sex. Advantages are: easy availability, prevention against sexually transmitted diseases, affordable, and safe<sup>72</sup>.

There are also additional advantages to using male condoms. They encourage men to share the responsibility of birth control with their partners. They may be obtained, and access to them is simple<sup>73</sup>. They can be bought without a doctor's prescription, the price is reasonable, and children are allowed to lawfully purchase them<sup>74</sup>. Fear of AIDS was the primary factor that drove a threefold increase in the number of individuals who used condoms during the 1980s<sup>75</sup>. However, many women believe that purchasing condoms or obtaining them from clinics is embarrassing, and as a result, they do not use one for every coitus act<sup>76</sup>. The barrier technique of contraception is represented by the male condom. It is a thin sheath that covers the penis in order to absorb any sperm that may be present and prevent them from entering the body of the woman. Lambskin is a more natural alternative to latex and polyurethane, which are the typical

components of male condoms. Condoms constructed from lambskin do not avoid STIs<sup>77</sup>. The use of spermicidal condoms allows for an increase in the effectiveness of male condoms, which are only good for one use before being thrown away. Condoms made of latex considerably cut down on the risk of sexually transmitted infections (STIs), and as a result, all sexually active women—regardless of whether or not they use another kind of birth control—ought to use them<sup>78</sup>. In this day and age, when HIV infection is so prevalent, the use of the condom not only as a method of contraception for family planning but also as a protection against sexually transmitted diseases (STDs) has assumed great importance. The perception of male condoms among women is strong, and despite the fact that it is one of the most extensively used techniques, condom usage rates are still very low. This is similar to the perception that women have of other methods of contraception<sup>79</sup>.

The term "condom" can refer to either male or female preservatives (femidom). The primary advantage of using condoms as a method of birth control is the protection they offer against sexually transmitted diseases (STDs). Condoms also offer indirect protection against infertility and cervical cancer<sup>80</sup>. On the other hand, another form of contraceptive barrier approach is the female condom, often known as a Femidom. These are pliable little pouches made of plastic, and they are little. Before engaging in sexual activity, a woman will have a piece of the condom placed into her vagina. This will prevent any sperm from entering her uterus. The overall rate of unsuccessful use of feminism is approximately 18 percent. However, the risk of STIs can be decreased by using a female condom. After a single-use, female condoms are intended to be thrown away<sup>81</sup>.

## **Intrauterine Device (IUD)**

The intrauterine contraceptive device, more commonly known as an IUD or IUCD, is one of the techniques of birth control that is utilized most frequently all over the world. The intrauterine device (IUD) is widely acknowledged as a contemporary, long-acting, and reversible method of contraception that is acceptable for all women of reproductive age. With an average pregnancy rate of 3-5 per 100 typical users after one year of usage, the intrauterine device (IUD) is one of the most effective reversible contraceptive techniques available. The intrauterine device (IUD) is a reversible contraceptive that has been scientifically shown to be both safe and effective in preventing unintended pregnancies. It is also the most cost-effective treatment of its kind. IUDs can be placed in the uterus at any time during the menstrual cycle, as long as it has been determined that pregnancy is not possible. Some medical professionals recommend doing so either near the conclusion of a woman's menstrual cycle or immediately after<sup>82</sup>. However, its application occurs nowhere near as frequently as several specialists believe it ought to. It is generally assumed that this is the outcome of clinicians' concerns regarding the danger of problems associated to its use, specifically pelvic inflammatory disease (PID) and later sequels<sup>83</sup>.

Infertility, pain, and/or bleeding, along with vaginal infections, are the most prevalent underlying medical conditions that prompt an early removal of an IUD<sup>84</sup>. An intrauterine device is a reliable method of long-term contraception; nevertheless, this method should not be used by women because of the increased likelihood that they may contract sexually transmitted illnesses<sup>85</sup>.

Candidates with more life experience, such as older women who are married or in monogamous relationships, would be appropriate. There is widespread concern among young people that the use of intrauterine devices will reduce fertility, but having no previous children does not rule out the possibility of using an intrauterine system, and that fertility can be maintained even after the

procedure is finished. When used appropriately, intrauterine devices (IUDs) are highly effective and trustworthy methods of contraception<sup>86</sup>. IUDs should only be given to female women who are unable to utilize other forms of contraception and whose sexual behavior does not put them at risk of developing sexually transmitted infections (STIs). IUDs and condoms are the only effective methods for preventing sexually transmitted infections (STIs)<sup>87</sup>.

### **Diaphragm and Cervical Cap**

Both the diaphragm and the cervical cap are effective barrier methods for preventing pregnancy, however they do require the use of spermicidal and condoms<sup>88</sup>. Because a doctor's prescription is required, the effectiveness of these methods of birth control among women is limited. Before engaging in sexual activity, you inject them with a spermicide in order to prevent or eliminate the production of sperm. Because diaphragms and cervical caps exist in a variety of sizes, you should consult your physician to find the one that best fits you. It is essential to utilize the diaphragm and cervical cap in the correct manner and consistently<sup>89</sup>.

### **Vaginal Spermicides**

Vaginal spermicides include creams, jellies, foams, and suppositories used for different barrier technique approaches. (condom, diaphragm, cervical cap, sponge, female condom). Levels of failure are higher if used alone<sup>90</sup>. The risk of cervical gonorrhea and chlamydia can be lowered by vaginal spermicides that are used without condoms. Defense against HIV infection, however, has not been established if vaginal spermicides are used alone. Vaginal odor, local discomfort, allergic responses, and a probable increase in urinary tract infections are the side effects of this therapy<sup>91,92</sup>. Nonoxynol-9, a chemical surfactant that kills the cell wall of sperm, is the major spermicide utilized in these products, octoxynol being another<sup>93,94</sup>. Another potential spermicide

is under evaluation that can prevent HIV replication. Chlorhexidine, benzalkonium chloride (present in contraceptive sponges), propanol, and acrosine inhibitors are further spermicides (e.g., nifedipine)<sup>94</sup>. Nifedipine inhibits ovum sperm recognition and the entry of sperm into zona pellucida<sup>95</sup>. Seminal liquefaction inhibitors, compounds that restrict semen from releasing sperm, are also being investigated<sup>96</sup>.

## **2.1.6 Surgical Contraception Procedure**

### **Sterilization**

The procedure of sterilization involves totally removing an individual's biological capability to reproduce by means of either open or minimally invasive surgery. It is a technique of contraception that is effective for a lifetime and is appropriate for individuals who are certain that they do not want children or any additional children<sup>97</sup>. Both men and women can undergo sterilisation if they so choose.

Tubal ligation is the name given to the process that is used to sterilise females. During this procedure, the fallopian tube is either severed or sealed up so that eggs are unable to enter the uterus. There are significant regional disparities in the prevalence of female sterilization among women of reproductive age around the world, where just approximately 19 percent of married women have undergone the procedure<sup>98,99</sup>. The procedure for male sterilization is known as a vasectomy, and it entails cutting and sealing the vas deferens in order to prevent sperm from entering the ejaculatory stream after the vas deferens has been severed. When compared to female sterilization, vasectomy is not a frequent modern method of contraception in Nigeria, and understanding of the procedure is likewise low<sup>100</sup>. Vasectomy is a modern contraception procedure that is both safe and affordable, yet despite these benefits, it is not generally utilized<sup>101</sup>.

### **2.1.7 Prevalence and Improving Contraceptive Use**

Modern contraceptive usage is increasingly growing globally (63 percent) but remains poor in Sub-Saharan Africa<sup>102</sup>. In Nigeria, estimates that the prevalence of modern contraceptive use among reproductive-age women is 22%. Family planning has been described as the primary measure to help nations achieve Sustainable Development Goal 5 (SDG-5), which aims to achieve gender equality and empower both women and girls<sup>103</sup>. In LMICs, The usage of contemporary contraceptives among women aged 15-19 (19 percent) and women aged 45- 49 (18 percent ) is inadequate. While the chance of contraceptive use was low among women aged 15-24 years, it was lower among women aged 35 and above and higher among women aged 25-35 years. In industrialized countries, sexual activity among women is generally reported to be high, however there is considerable variance between countries<sup>104</sup>. Every year in sub-Saharan Africa, as many as 14 million unwanted pregnancies occur and roughly half are ascribed to women aged 15 to 24 years. As the space between sexual debut and marital age grows, premarital sexual activity has also grown, resulting to greater premarital exposure to the risk of pregnancy<sup>105</sup>.

### **2.1.8 Knowledge on Contraceptives**

Various researches on the sources of sexual and reproductive health information for young people indicate that multiple sources are used for information. Centred on the radio and television results of family planning. Of the participants who were subjected to a family planning radio program, 75 percent accepted the message <sup>106</sup>. Findings suggest that less than half of adolescent and young females have heard or seen something in the mainstream media on family planning through community forums. The data suggest that the predominant source of

knowledge for young people appears to be the news media. The dependency on interpersonal contact with parents or family members for information on sexual and reproductive health is likewise relatively inadequate. This is because older people, especially parents, may not know the answers to concerns about sexual health problems<sup>107</sup>. Relatively, there is low level of communication between young women and their parents. However, the most popular type of people with whom women spoke about contraception and other sexual issues were romantic partners and best friends<sup>108</sup>.

### **2.1.9 Access to Contraceptives**

Sex plays an important part in many social interactions and as a consequence of insufficient or no contraception, many unplanned pregnancies and sexually transmitted infections occur. Many women do not use contraceptives the first time they have sex, and many younger female women, in particular, wait for a year or more after first intercourse before using contraceptives<sup>109</sup>. The concerns of sexually transmitted infections and abortion are typically not discussed by physicians, although these are topics that most women would like to explore with their providers<sup>110</sup>. Women living with HIV can speak with their doctor about their sexuality, HIV status and contraceptive needs if they understand that these conversations are private. Early pregnancy prevention and poor reproductive outcomes for young women in developing countries are the secret to improving reproductive health and access to and use of contraceptives. These results discouraged marriage before the age of 18, increased understanding and appreciation of the importance of preventing pregnancy, and avoided coercive sex<sup>111</sup>.

Studies were performed in a variety of low- and middle-income countries LMICs that met the inclusion criteria for this outcome. Some focused solely on condom use, while others spoke about oral contraceptives and emergency contraception (EC). The primary outcome of

contraceptive use was studied by others, while others examined it as secondary to outcomes such as HIV prevention or changing knowledge and attitudes. Focused on health sector practices such as the distribution of contraception by over-the-counter or hospitals, while others focused on actions directed at leaders and members of the group. Collectively, rises in contraceptive use, including condoms, oral contraceptives and emergency contraceptives, were seen as a result of multi-level actions, such as legislation and policies; individuals, families and communities; and the health systems through which the interventions were performed<sup>112</sup>. A crucial component is addressing restrictive laws and policies on early pregnancy prevention and poor reproductive outcomes for women in developed countries. Laws and regulations limit the availability of contraceptives to pregnant women or those under a certain age in many countries<sup>113</sup>. In order to ensure that women are able to access contraceptive information, therapy and services, policy makers must act to change these laws and policies. Policy makers should also consider offering contraceptives to women living with HIV at no or reduced cost. Premarital sexual activity is considered immoral in many cultures, and there is significant opposition to the provision of contraceptive information and services to unmarried individuals. In order to address this obstacle, it is necessary to increase the degree of awareness of the knowledge and contraceptive requirements of women by prominent community leaders and the community at large, and the risks to their well-being if these needs are not met<sup>114</sup>.

Social and group norms in many places impede conversation regarding contraception between couples. Furthermore, the use or proper use of contraceptive procedures is discouraged by knowledge gaps and misconceptions. Mass media (radio and television programs), peer education, and communication materials (such as posters and leaflets) for interpersonal

communication and awareness education have been used successfully to convey health information to youth and to affect their standards<sup>115</sup>.

In addition, mobile phone technology, the internet and social media are rapidly being used in LMICs. These technologies can be useful for the quick and discreet transfer of contraceptive information and alternatives to women. The proof of the benefits of rigorous curricula-focused sexuality education is strong. The most productive sexuality education programs provide relevant and age-appropriate information and also improve life skills and encourage ideas, emotions and experiences that accompany sexual maturity (e.g. falling in love and refusing sex). They are also related to the provision and services of contraceptives. Although in many nations, laws requiring sexuality education for women are in place, there is insufficient implementation, if any. Policy makers and administrators of health and education must ensure that curriculum-based sexuality education is successfully enforced. To reach the many individuals who do not attend school, complementary efforts are required. Since many individuals have knowledge gaps and misconceptions about contraception, benefits and its side effects, it is important to provide them with accurate information and opportunities to ask questions and answer their concerns<sup>116</sup>.

The reproductive health care of women living with human immunodeficiency virus (WLHIV) has never been adequately met despite intention of public health policies to provide universal access to reproductive health care service. HIV has a serious effect on the reproductive health of women, not only its transmission sexually but annual occurrence of infection in women<sup>117</sup>. In Nigeria, HIV prevalence among currently married and never-married women is 3.4%. Being under 15 years of age at first sex, and having engaged in transactional sex were found to be the strongest HIV risk factors among women. Nigeria has over 80% cases of HIV transmission through heterosexual intercourse<sup>118</sup>. Inability to make sexual decisions, and forced abortion

experience has been reported by WLHIV Nigeria. About 2 million (90%) of childhood HIV in sub-Saharan Africa is through mother to child transmission, this signifies high levels of fertility and low modern contraceptive use among HIV positive women in Sub-Saharan Africa. Fertility is a vital transition in sub-Saharan Africa, fertility rate in this region is higher than other region of the world.<sup>4</sup> Nigeria account for 70% of sexually active WLHIV, fertility rate of 5.5 million per children among WLHIV and (15%) low contraceptive uptake. Reproductive family health as related to preventing unintended pregnancy and supporting planned pregnancy is an area that is especially relevant to HIV-infected women<sup>119</sup>.

According to the World Health Organization's (WHO's) Medical Eligibility Criteria for Contraceptive usage, most contraceptive methods are safe and effective for WLHIV, both with asymptomatic HIV and AIDS. Modern contraceptives should be made readily available and accessible to women living with HIV to assist reduce mother-to-child transmission of HIV and consequent new pediatric HIV infections<sup>120</sup>. Various studies have demonstrated that there is need for more information on safer contraception methods among WLHIV<sup>121</sup>. About 2 million (90%) of childhood HIV in sub-Saharan Africa is through mother to child transmission<sup>122</sup>, this signifies high levels of fertility and low modern contraceptive use among HIV positive women in Sub-Saharan Africa<sup>123</sup>. However, integrated HIV and family planning (FP) service model developed enable linkage with antiretroviral therapy (ART) services for eligible clients<sup>124</sup>. Globally, there is an unmet need of family planning services among at least 25 per cent of all HIV married women<sup>125</sup>. In sub-Saharan Africa, eight male condoms are available per year for each sexually active individual, there is low access to condom among young people. Evidence suggests that in Sub Saharan Africa (especially Nigeria and Zambia) WLHIV utilize contraception at higher rate to prevent unplanned pregnancy than women not living with HIV. In

contrast, there is significant low uptake of family planning services, majority of WLHIV were conversant with at least one method of family planning<sup>126</sup>. Utilization of contraceptives is significantly predicted by women's knowledge of their HIV-positive status. In Nigeria, it was reported that 39.8% utilization of condom among WLHIV with cohabiting partner. However, some recent studies have reported increased level of contraceptive uptake and satisfaction among WLHIV. Availability and accessibility of highly active antiretroviral therapy (HAART) to treat HIV infection results in increase reproductive opportunity for women living with HIV. It is every woman's right to conceive, yet there are various problems related to pregnancy, especially amongst WLHIV. Evidence show that these women have different reproductive desires with majority desirous of childbearing. Despite the impact of provision of antiretroviral treatment for people living with HIV and AIDS to improve pregnancy outcome, transmission of HIV from mother to child is still high<sup>85</sup>.

There is a significant association between fertility intention and ART use among WLHIV in Ethiopia<sup>127</sup>. Unintended/unwanted pregnancy continues to be a burden in Sub-Saharan Africa, with an estimated 14 million cases occurring each year<sup>128</sup>. Similarly, researchers noted high rate of unplanned pregnancy among women living with HIV in South Africa. In contrast, some noted that majority of women living with HIV on ART in South Africa and Kenya planned their pregnancy, also unplanned pregnancies involve higher HIV risk and could undermine efforts to eliminate new infections. Many studies also noted that substantial number of women living with HIV declared their pregnancies to be unplanned. Unplanned pregnancies among women living with HIV are targeted through availability and accessibility of Family Planning Services. The researchers observed that WLHIV can also plan their reproductive lives to avoid unwanted pregnancy and enjoy parenthood like their counterparts who are not infected by the virus. Hence,

this study intended to bridge this gap of limited information on contraceptives option and helps provide necessary information for informing reproductive practice and care of WLHIV<sup>94</sup>.

HIV infection and the resultant immune suppression in an affected individual contribute hugely to the global health challenge, particularly in resource-constrained countries such as Nigeria. The availability of effective antiretroviral therapy (ART) as the standard treatment in most settings has significantly reduced morbidity and mortality linked to HIV infection. ART has also helped to reduce vertical transmission during gestation, delivery, and breastfeeding. Individuals infected with HIV are living longer and healthier in an era of effective combined therapy and expanded treatment access. Individuals infected with HIV now live a normal life with the ability to work and acquire education, which has contributed immensely to reducing poverty in affected regions<sup>120</sup>. In addition, women living with HIV/AIDS are sexually active and have a normal desire for children. Globally, women of childbearing age between 18 and 30 years living with HIV/AIDS across Sub-Saharan Africa account for more than 13 million (61%) women living with HIV/AIDS. Family planning education and sensitization to contraceptive use, coupled with effective prevention of mother-to-child transmission therapy, have led to a reduced fear of motherhood. Several reports have confirmed the aspiration of women living with HIV/AIDS to start a family and have children even after knowing their HIV status. The desire for children among HIV-infected women has been attributed to strong traditional values and pressure from the society. In some cultural societies, childlessness can be more stigmatizing than the HIV condition itself<sup>84</sup>. Historically, many HIV-prevention efforts have focused on reducing the risk of HIV acquisition among the uninfected population or those of unknown status. UNFPA's prevention of mother-to-child transmission strategy has recommended the prevention of unwanted pregnancies among women with HIV infection as its second pillar<sup>129</sup>. There are many

factors that influence the decision of HIV-infected women and men to have children, including knowledge of status, socio-cultural expectations of motherhood, awareness of the reduced risk of mother-to-child transmission, availability of ART, knowledge of partner's HIV status, and the stigmas associated with HIV status and childlessness. Infected women and their partners need to make various reproductive health decisions that pertain to pregnancy, childbearing, and contraception. These decisions should be made by themselves, just as other women and couples do. Many sexually active women with HIV/AIDS might not want to have children and therefore use a contraceptive for the same reasons as women who are not HIV-positive. In Sub-Saharan Africa, however, family planning services are usually separate from clinics providing HIV-related care. This arrangement institutes a structural barrier for affected women seeking family planning services<sup>45</sup>. Contraceptive options for women with HIV/AIDS are similar to those for individuals without HIV and include barrier methods, hormonal methods, the intrauterine device (IUD), female and male sterilization, the lactational amenorrhea method, and fertility awareness-based methods. Condoms are the only type of contraceptive that reduces the risk of all sexually transmitted infections (STIs), including HIV. They are most effective in preventing STIs that are transmitted through bodily fluids such as HIV. In general, most contraceptive methods can be safely used by women with HIV/AIDS on ART. It is widely accepted that contraceptives and ART medications do not interfere with each other. Countries in Sub-Saharan Africa are facing the challenge of successfully providing reproductive health services including family planning in a cost-effective manner to women living with HIV/AIDS<sup>131</sup>.

Condom use is the most common contraceptive and the preferred method of choice by the participants. Overall, most studies reported that their participants used condoms to prevent HIV transmission to their partner. Participants' preferences for sharing their family planning-related

issues and concerns were investigated. Family planning has overtime, been a major phenomenon in the control of population both in the developing and developed world. This is because a nation's development is not only dependent on the resources she has, but also on the number of people to share from the resources. The population of the Nigerian society has no doubt increased continually, despite the challenges of maternal and infant mortality rates<sup>54</sup>. This is observed to be prominent in rural communities than urban. Also, acceptability and practice of family planning methods is more observed among educated people than among the uneducated that are more resident in rural communities. It is therefore not surprising that a significant difference was revealed in the attitude of women towards family planning with reference to their place of residence, rural and urban residence where the majority were illiterate. Although contraceptive use in developing countries including the Sub-Saharan part of Africa was observed to have increased from 10 percent in the 1960s to 50 percent in the 1990s, population growth in this part of the world is still eminent. Many women in developing countries use family planning methods to prevent unwanted and unplanned pregnancies, however, the unmet need for child-spacing and limiting the number of children to be born per couple is still posing a great challenge to the controlling population growth in Nigeria. This is because family planning methods are not practiced in such a manner that will commensurate with the intention to space and/or limit the rates of unwanted pregnancies and child birth<sup>35</sup>. This to a large extent is not unconnected with the implication of patriarchy and marginalization of women experienced more in the rural communities of the Nigerian society. Women's decisions regarding family planning are usually undermined and overpowered by those of their husbands. This is also aggravated by the level of dependency of women on their husbands due to lack of education and economic empowerment<sup>100</sup>.

Unfortunately, most men will not want to approve of family planning methods that will affect their enjoyment of the sexual relationship between them and their wife with or without sufficient knowledge of the family planning methods. Sometimes however, lack of spousal communication increases the barriers to family planning as some women do perceive some wrong opinion that their husbands do not approve of some family planning methods when in actual fact, they do<sup>130</sup>. Most importantly is the fact most health centres that educates women on family planning hardly create environments that will attract male spouses to such discussions so as to ease the spousal communication. The high value for marriage especially on the part of the women also limits their independence and freedom as the fear of losing their husbands to other women in polygynous settings as theirs, makes the average rural woman succumb to the husbands views regarding reproductive health issues even when it does not go down well with the woman<sup>43</sup>. More importantly is the inadequate knowledge and misconceptions which adversely influence people's attitude towards family planning and in turn the utilization of its methods in rural areas. Thus, inhibiting the fulfillment of the goals family planning in the reproductive health of rural women<sup>160</sup>. It was hypothesized that the fertility level in sub-Saharan Africa could be reduced by about one birth per woman on the average if it were possible to meet the unmet need for family planning. Attitude towards family planning has been discovered to greatly influence the practice of family planning among individuals both in the urban and rural areas despite their knowledge of the methods<sup>97</sup>.

Also, level of cost-effectiveness, accessibility and ease of administering modern family planning methods do not only influence the attitude of people towards utilizing contraceptive, but also goes a long way to affect their practice of the method even when it seems essential. Despite the fact that several publications on contraceptives and other family planning methods had existed

for some time, the utilization of family planning method is still low in developing countries. Lack of knowledge of contraceptive use transforms to lack of use in developing countries. Although research has established some of the factors that serve as barriers to family planning have to include cultural influence, poverty and poor access, very few focus on women's self-identified barriers and attitude towards family planning. Furthermore, women's attitude towards family planning as well as its measures goes a long way to influence their participation in adopting any kind of family planning measure to space their children and contribute to population control. Thus, studies that will bring to limelight the attitude of women towards family planning especially in rural areas become necessary in providing basis for planning intervention programmes on the control of population explosion<sup>89</sup>.

It's being observed overtime in developing countries that women bear children over a short period of their lives. For the average woman in developing countries with relatively low fertility rates, such as Indonesia and Mexico, fifteen years elapse between first and the last birth, which is less than 20 percent of the mother's lifetime<sup>127</sup>. In Nigeria, with higher fertility and low expectancy, the average interval is nineteen to twenty years, or about 40 percent of a women's lifetime. Thus, the size of the family is a matter of great importance not only for the country as a whole, but also for the welfare and health of the individual, the family and the community and also maintained that the size of the family affects the quality of life of human being; every increase in family size results in decrease in per capital food and nutrition availability and this slows down the quality of nutrition and improvement of health standard<sup>100</sup>.

However, available data indicates that Nigeria currently has one of the highest rates of maternity in the world. It is also evident 40% of these maternal deaths are due to complications of unsafe abortion, and abortion is a response to an unwanted pregnancy that could have been prevented by

effective contraceptive programmes. Yet, studies stressed further that contraceptive prevalence rate is less than 13%. This situation is further compounded by the persisting challenge of high fertility rate of about 5.8% and an annual growth rate of 2.8% in the face of a large population size of over 140 million persons. However, to date contraception has not been well consolidated in Nigeria, with evidence from recent DHS data indicating that only about 13 percent of sexually active Nigerian women currently practice effective contraception. Part, of the reasons as observe include the persisting personalist culture of the people, religious doctrines which discourage the use of contraception, poor availability and distribution of contraceptive and women's fear of contraceptive side effect. More importantly, is the perception that contraception could lead to infertility in the later part of one's life which is one major reason why Nigerian women have always preferred for not accepting effective contraception<sup>131</sup>. Hence, to overcome this barrier, studies in Nigeria have reported that by the very way contraception is perceived, community involvement and participation is the gold standard to the initiation of an effective debate towards acceptance as seen with programmes aimed at reducing maternal mortality. This according to a study that further buttressed by the fact that community practices and cultural beliefs play a significant role in decision making vital to women's reproductive health<sup>126</sup>.

Attitude of Women towards Family Planning Contraceptive use is still low in many developing countries, including Nigeria, where 23.7% of currently married women had ever used one. Over the past four decades, there have been numerous publications on contraceptives and other family planning methods. While culture, poverty and poor access have been widely understood as militating against their use, studies presenting women's self-identified barriers are relatively few. Much attention is given to eliciting clients' knowledge and utilization gaps regarding family planning methods, but specific attention to eliciting their knowledge gaps regarding the benefits

of family planning is often deficient. Yet, identifying women's self-reported barriers and benefits is central to any intervention to promote their use especially in developing countries. Fortunately; available literature shows that carefully conducted studies addressing these variables provide important guides for intervention<sup>61</sup>. For example, a study conducted among the Kanuris in Nigeria revealed that few Kanuri women used modern methods of family planning, the barriers being objection by their husbands, the fear of delayed return to fertility, damage to the reproductive apparatus and the belief that modern contraception was introduced to reduce Muslim populations. Also, the Suri people of Ethiopia prevent and delay pregnancies using natural family planning methods. The desired benefits are that women regain their strength following the injuries caused by pregnancy and delivery, and that attention can be given to the welfare of growing children. But these objectives are often countered by lack of access to modern family planning methods and the desire for many children within a socio-demographic context of threats to their tribal survival. Similarly, a study found that by data from the 1988 Ghana Demographic and Health Survey 77 per cent of cohabiting marital partners held similar attitudes towards family planning and that 73 percent of the concordant couples approved of contraceptive. However, only 61 percent of the wives correctly, reported their husband's attitude. Although 76 percent of the couples agreed on whether they wanted more children, just 44 percent gave concordant responses on ideal family size. Regression analysis showed that urban residence, the wife's attitude toward family planning and discussion of family planning between spouses has significant independent effects on current contraceptive use. It was examined in their study that most women had positive perceptions regarding their reproductive rights. Women's demographic factors were statistically significant to concepts and practices of sexual health, marriage and having a family, as well as awareness of and practice of screening procedures for

the early detection of cancer. The study encourages active participation of men to empower women to exercise their reproductive rights, as well as to enhance women's participation in public life and decision-making. Brochures on women's reproductive rights should be published to disseminate information to youth. Men, women and the elderly to increase awareness programmes about the reproductive rights of women should be encouraged, stressing the importance of sexual health through religious education as one of the best strategies for the elimination of all forms of discrimination against women. The health team should address the importance of reproductive right issues in health education or counseling at any clinical setting. In these examples, any approach to promote family planning use must take into consideration the specific barriers and desired benefits identified in the communities, rather than only performed general lessons on family planning. Indeed, in many hospitals in Nigeria, a common practice is to deliver performed general messages on family planning methods of women attending antenatal clinics with little bearing on locally known and experienced barriers and benefits.

**Benefits of Family Planning** The use of contraceptives and safe sexual practices can also help to curb the impending world population explosion. The Food and Agricultural Organization (FAO) has projected that the world, and particularly the developing nations, currently face possible starvation if the population growth rate is not checked<sup>87</sup>.

Contraception over the years has been medically proven to be of tremendous medical advantage to its users. As a form of family planning, it reduces maternal mortality and improves women's health by preventing unwanted and high-risk pregnancies, thus reducing the need for abortion to terminate unwanted pregnancies. In the developing countries of the world one of the most common causes of maternal death are complications during pregnancy and delivery. For each maternal death in a developing country, more than 30 women suffer injuries related to pregnancy

and childbirth. Medical records have shown the pregnancy is particularly dangerous to certain groups of women-with more than four children and women with existing health problems. If all high-risk pregnancies were prevented, maternal mortality could be reduced by up to 25 percent. Contraception promotes survival of infants as it supports birth spacing and reduces high-risk pregnancies. Achieving adequate birth spacing could reduce child mortality by 20 percent or more, particularly in developing countries with myriads of socio-economic problems. The World Bank estimates for 1993 indicated that expanding contraceptive services to meet the needs of couples who wish to avoid pregnancy, but currently are not using contraception, could prevent as many as 850,000 deaths per among children under the age of five. A study observes that family planning has also been found to help in reducing the economic and emotional burden of parenthood as it has provided as means for couples to have smaller, healthier families. It is an uncontested fact that families with fewer children can assign more resources to provide their children and educational opportunities. The status of women and their quality of life are also enhanced through the use of contraceptives, as access to these contraceptives allows them to decide the number and spacing of their children. Similarly, mothers with smaller, healthier families are more likely to have increased opportunities for participation in educational, economic, and social activities<sup>98</sup>. However, a cycle of low status and high fertility is perpetuated when girls leave school early to marry and bear children, as is the case in Africa and Nigeria in particular in any developing countries. Thus, at this juncture, every indication points to the need to bombard the media with more education messages on the need for safe sexual practices. Men, in particular, should be made aware of the dangers of careless, promiscuous behaviour in this era of Acquired Immune Deficiency Syndrome (AIDs). Social Action Theory The social action theory of Max Weber will be useful in explaining the attitudes of individuals towards family

planning. A study in their analysis of the fundamental concept of sociology, maintains that the notion of action plays a central part in human interactions. He stated that the defining feature of action is its meaningfulness to the actors in an interactive process. Included in action according to him is that all human behavior in as much as the actor attaches a subjective meaning to it. For him, "individuals are creative actors, agents whose actions determine both the structure of the society and the road which history travels". This means that the end product of society is determined by the actions of individuals within the society. Existing structural circumstances are constraints within which actors have to choose to act. Weber further stated that though these structural circumstances are there to shape and direct man's activities, what should be of interest is the actor's perception of those constraints. To him, human beings have a unique ability to interpret the world around them and to choose to act in the light of those interpretations and meanings. The decision and choice to or not to utilize family planning methods according to Weber is therefore dependent on the interpretative meanings attached to the idea of family planning itself as well as the utilization of its methods. Thus, women who attach positive meanings or interpretation to planning their families will not only display positive attitudes towards family planning, but will also utilize the methods of family depending on the particular method they deem rational to utilize<sup>120</sup>.

## **2.2 Theoretical Review**

### **2.2.1 Health Belief Model (HBM)**

The Health Behavior Model, is a tool that assists in the identification of factors that influence the utilization of contemporary contraceptives. According to the findings of the researchers, the use or no utilization of contemporary contraceptives can be attributed to specific circumstances; as a

result, the HBM was utilized to evaluate the factors related with the utilization of modern contraceptives. The HBM components of the model are congruent with the particular goals of the investigation being carried out. In addition to this, it is frequently utilized in establishing the components that influence the utilization of modern contraceptives in various regions<sup>118</sup>.

The HBM was modified so that it could give a good theoretical grounding in the process of comprehending the utilization of contraceptives among women of reproductive age.

The HBM is a psychosocial model that makes an attempt to explain and predict behavior. The concept was first devised in 1950 in an effort to comprehend the general lack of engagement by individuals in programs that are designed to prevent and diagnose diseases. Perceived susceptibility, perceived severity, perceived advantages, perceived barriers, perceived self-efficacy, and cues to action are the six components that make up this model. The model argues that individuals are more likely to take action after they are convinced that the benefits of the action outweigh the disadvantages of the action. This makes people more willing to take action. The implementation of this model served as a guide for the study, and it assisted in the development of research questions based on the model's constructs. The HBM was decided upon as the most suitable framework to direct the research investigation into the utilization of contemporary contraceptives among women of reproductive age. An examination of the HBM reveals a number of researchers who have successfully employed the constructs in the course of their investigations.

Using the HBM, researchers have investigated a wide variety of topics investigated women's intentions to take long-acting contraceptives in South East Wales by employing the HBM. Other health issues, including as adherence to hypertension treatment, HIV testing habits, and

perceived hazards and advantages of smoking among women, have also been researched using the HBM. The HBM proved to be the most useful theoretical model for shedding light on the contraceptive practices of the people who took part in the study. It was anticipated that utilizing this model for the research will add to the previous body of work on the contraceptive behaviors of women, hence promoting reproductive health.

Studies have also been conducted using the HBM to investigate the use of modern contraceptives as a health behavior. This line of inquiry is predicated on certain perceptions, such as the potential repercussions of terminating an unwanted pregnancy and a person's susceptibility to complications that may arise as a result of having an illegal abortion. Ineffective contraceptive behavior is associated with a host of adverse effects on reproductive health. There are different ways of looking at adopting a healthy behavior, and these ways include the potential rewards that may be obtained as well as the potential challenges that can be faced. The key constructs of the HBM, including modifying factors, individual beliefs, and action, are examined in relation to the usage of contraceptives among women of reproductive age. In a typical scenario, an individual will evaluate the risk that may be posed to their health as a result of a health condition or health issue, as well as the advantages that may be gained or the steps that may be done to lessen the severity of the health risk. The application of this model involved conducting an evaluation of the individual's preparedness to comply with the model and engage in preventive health care practices.

The Health Belief Model attempts to predict health behaviours by focusing on the attitudes and belief patterns of individuals. The model was originally introduced in 1950s by psychologists working in the United States Public Health Service. They assumed that people feared diseases, and that health actions were motivated in relation to the degree of fear (perceived threat) and

expected fear-reduction potential of actions as long as that potential outweighed practical and psychological obstacle to taking action (net benefit). Since then, HBM has been adopted to explore a variety of long-term and short-term health behaviours including sexual risk behaviours and the transmission of HIV/AIDS, family planning and other reproductive health issues. The HBM attempts to predict health-related behaviours in terms of certain belief patterns. This model is used in explaining and predicting health behavior, as well as sick-role and illness behavior.

### **Perceived Susceptibility to Unwanted Pregnancy**

The health belief model offers predictions about how persons who are at risk of acquiring a health problem, such as unplanned pregnancy, will engage in actions to decrease or prevent that health problem in order to protect themselves from developing that health problem. The HBM includes a very significant component called perceived susceptibility, and this part of the model focuses on the motivated activities that are made to prevent health problems. The HBM operated under the presumption that motivation is a prerequisite for behavior (Herold, 1983). Individuals are presumed to engage in a particular health-related behavior if they have a favorable anticipation of evading a hazardous health risk. This presumption is supported by the findings of several studies, including: According to the findings of research, the vast majority of women believe that they have a low chance of becoming pregnant or that they do not feel like they are at risk of being pregnant even if they do not take any form of birth control. Some of the women have the perception that they are less fertile than other women and that it will be challenging for them to conceive a child. According to the findings of this study, perceived susceptibility is connected to the perceived risk of becoming pregnant. This risk is what drives a woman's decision regarding whether or not she will use a modern contraceptive.

Women who do not use any kind of birth control are at a significantly increased risk of unexpected pregnancy, according to research. A study using a cross-sectional design in order to investigate the factors that are accountable for the utilization of family planning services and the utilization of contraceptives among married women who were in their reproductive age group (15- 49 years). The research was carried out in three areas located within the province of Punjab in Pakistan, where approximately 35 percent of married women of reproductive age participate in some form of family planning. Women under the age of 30 and from disadvantaged socioeconomic backgrounds were more likely to use family planning. According to the authors, the women sought the health facilities for contraceptive services because of the closeness of the facilities, the good reputation of the provider, and the sort of services that were available. This information served as the basis for the study, which sought to determine whether or not women in the Municipality who were of reproductive age (20-39 years old) faced similar issues.

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information served as the basis for the study, which sought to determine whether or not women in the Municipality who were of reproductive age (20-39 years old) faced similar issues.

### **Perceived Threats to Non-Use of Modern Contraceptives Severity of Unplanned Pregnancy**

Perceived Threat: This includes perceived susceptibility and perceived severity of a health condition. Perceived susceptibility refers to an individual's perception of the likelihood of experiencing a condition that would adversely affect one's health. While perceived severity refers to how life threatening an illness condition is perceived severity as the model entails could be applied to women attitude towards family planning as women are likely to display positive attitude towards family planning when there is a perceived threat to their health with another pregnancy.

Individuals' perceptions of the negative effects associated with the non-use of contraceptives are an additional significant dimension of the HMB. Due to their nomadic way of life, early initiation into marriages, high level of illiteracy, and female circumcision, the low or non-use of modern contraceptives is considered to be a health burden for reproductive-age women, especially in Africa. This is especially true in countries where female circumcision is common. Inadequate time between births is frequently linked to a number of health problems, including stillbirths, greater rates of childhood mortality, unlicensed abortions, and increased rates of maternal illness and mortality. The repercussions of unplanned pregnancies, which are the result of bad prenatal behavior in the mother, have been linked to poor health outcomes in the children who are the offspring of those pregnancies. According to carried out, the women are unable to identify their pregnancies at an early enough stage. As a result, they put off getting prenatal care and participate in other behaviors that are detrimental to their health. Unwanted pregnancies

frequently result in unsafe abortions and deaths related to abortions, and there is a widespread belief that unwanted pregnancies lead to shame, withdrawal from society, child neglect, and abandonment. Unwanted pregnancies often result in unsafe abortions and deaths related to abortions. There are several negative outcomes that can result from being pregnant at a young age, including social stigma, fear, shame, embarrassment, depression, social marginalization, low self-esteem, and significant financial implications. The purpose of the research study was to determine whether or not the participants in the study faced similar potential dangers due to their lack of use of contemporary contraceptives.

### **Perceived Benefits of Modern Contraceptives Use**

Perceived Benefits:

This is the belief of effectiveness of strategies designed to reduce the threat of illness. The perceived benefits of family planning by women will encourage and motivate them to practice family planning generally and specific method dependent on the benefits they perceive in that particular method. Such will go a long way too to affect their attitude towards such methods as well as family planning in general. Perceived benefits of taking action refers to taking action toward the prevention of disease conditions such as utilizing family planning methods to prevent further pregnancies and child birth which are perceived detrimental to the health of the women.

The provision of contraceptive services acts as a conduit for the provision of other reproductive health services, such as the reduction of maternal mortality and the prevention of and treatment for sexually transmitted infections. The use of contemporary contraceptives is an effective strategy to stagger births and subsequent pregnancies, so protecting the health of mothers and children. Use of modern contraceptives has been given top priority as a critical component in

preventing unexpected births and the unfavorable consequences that are linked with them. The use of contemporary contraceptives has several benefits, including improvements in maternal and child health as well as increased agency for women. Other benefits, such as the prevention of pregnancy-related health risks in women, the reduction of infant mortality, the reduction of adolescent pregnancies, empowerment, and enhancement of education, and the slowing of population growth, have been associated with the use of modern contraceptives. For the purpose of this investigation, the research inquiries should be able to elicit from the participants in the study their thoughts regarding the advantages they are likely to acquire as a result of utilizing contemporary methods of birth control.

There is a correlation between a woman's ability to exercise control over her reproductive choices and her overall health and well-being. Therefore, the use of contemporary contraceptives can help lower both the risk of abortion and the number of unplanned pregnancies. The researcher who conducted the study to assess the knowledge and determine the future wants of women in urban Cameroon to use contraceptives pointed out that an increase in the use of modern contraceptives could, as a result, lead to a reduction in the rate of maternal death. The data for this cross-sectional study was acquired by face-to-face questionnaires administered to childbearing women who participated in a community-based survey. The data collected primarily focused on the participants' levels of awareness regarding the practice of family planning; no attempt was made to assess the participants' perceptions or attitudes regarding family planning.

### **Perceived Self-Efficacy to Use Modern Contraceptives**

Prevention of unplanned pregnancy has been contrasted with illness prevention programs, and there is a difference in the value or urgency for contraceptive services. Some women do not have

the desire to have children, yet they are sexually active, and yet are not avoiding pregnancy or postponing future births. A study reported an approximately 70 percent of undesired pregnancy associated with nonuse or discontinuation in the use of contraceptives among women trying to avoid pregnancy. The main cause of an unmet demand for family planning has been related to a lack of access to services with an emphasis on physical closeness. Other factors include lack of understanding or ignorance of methods, fear of adverse effects, husband's rejection, among many others. Most of these factors outlined imply that women are challenged with making judgments on the usage of contraceptives, which were studied in this study.

Women are often faced with restrictive variables that stand between their preferences on the number and timing of pregnancies. When women are faced with barriers to contraception, their ability to avoid unplanned pregnancy is constrained. The non-use of contraception is connected with individual variables such as lack of knowledge or awareness of family planning methods and sources of supplies, lack of motivation, low self-efficacy, and health concerns. The position or status of women serves as a barrier to contraceptive uptake, especially in instances where the woman is financially dependent on the spouse and may be pressured into making reproductive decisions based on the wishes of other people. Women can also be challenged by medical hurdles to contraceptive uptake, whereby a spouse has to grant approval; it may also be owing to eligibility restrictions. Low self-efficacy and ignorance is another possible challenge to the use of contemporary contraceptives. For this study, it was vital to determine the levels of self-efficacy and its influence on the usage of modern contraceptives.

### **Perceived Barriers to the Use of Modern Contraceptives**

A perceived barrier is a key construct of the HBM, whereby women are faced with barriers to the use of contemporary contraception. Contraceptive use can be influenced by structural and external constraints such as lack of access to a variety of methods, cost of service, as well as medical contraindications. For instance, male partners' objection serves as a barrier to contraceptive use, where males oppose the use of contraceptives by their partners while some women have a general distaste of contraceptive methods because it inhibits fertility. The fear of adverse effects and difficulty sticking to certain contraceptive techniques have also been recognized as challenges to contraceptive use. The fear of spousal reprisal resulting from the dispute on the decision to take contraception has also proved to be a significant obstacle to women, among other considerations.

Other research has shown that women are not patronizing contraception services because of a lack of spouse support. A report by UNFPA reveals that the low level of acceptance for family planning extends from lack of access to information to lack of support from partners or communities. A study reported that women who are sexually active, and do not want to become pregnant, but are not using contraception have an unmet demand for contraception. According to the study, married women in poor countries, who are not using contraception while desiring to avoid pregnancy, citing concerns such as side effects linked with contraceptives, health risk, and infrequent sexual activity. These women needed help preventing unexpected pregnancies through initiatives that will reduce undesired births and unsafe abortions, and improve reproductive health.

The Sustainable Development Goals of enhancing maternal health, lowering child mortality, and eradicating extreme poverty will be reached only when there is an improvement in reproductive health, through the elimination of barriers to contraceptive usage. The adoption of current

contraceptive techniques can drastically lower unsafe abortions, as well as unexpected pregnancies among reproductive-age women. Other reasons that have globally been related with the nonuse of modern contraceptives include a restricted choice of techniques, fear or experience of side-effects, cultural or religious opposition, low quality of available services, as well as user and provider bias. The results of this study will contribute to eliminating barriers to the use of contemporary contraceptives so that maternal health will improve, and young women can prevent unwanted pregnancy.

Studies have indicated some hurdles to the use of contraception, or, for the prevention of undesired births. Male partners' resistance serves as a barrier to contraceptive use, where males oppose the use of contraceptives by their partners and some women have a general hatred of contraceptive methods because it inhibits fertility. The fear of adverse effects and difficulty sticking to certain contraceptive techniques have also been recognized as barriers to contraceptive use. The fear of spousal retaliation stemming from the dispute on the decision to take contraception has also shown to be a substantial obstacle to women, among other considerations. The incidence of contraceptive use and its associated restrictions among reproductive-age women cut across sub-Saharan African countries. For instance, a study did a qualitative study to better understand the difficulties experienced by young women in Kenya, concerning the usage of contraceptives. The study was carried out in urban and peri-urban districts within several regions in Kenya where the population has low socioeconomic profiles and the contraceptive prevalence rate was closer to the regional average rate. The results of the study suggested that the young women were not using contraceptives because they had myths and misconceptions that contraceptives are associated with birth deformities or abnormalities, and they also feared that a particular method would render them infertile. The difficulties

identified in the above study are likely to be confronted by the participants in this research study, which could hinder their acceptability and uptake of modern contraception.

Nigeria is one of the developing countries with a low contraceptive prevalence rate, combined with the consistent drop in contraceptive use over time. Some research studies in Nigeria have highlighted the methodologies that have been utilized to examine and identify the barriers to contraception use among women. A study did a qualitative investigation to better understand why women in Nigeria are not utilizing contraception apart from prior reports of fear of negative effects. Using focus groups with vignettes, the researchers were able to elicit normative beliefs about contraception, and they were able to retrieve such concerns as menstrual irregularities caused by hormonal contraceptives, as well as low knowledge of basic reproductive biology and how the modern contraceptive methods work. In another study, the researchers used in-depth interviews and focus group discussions to gather information on misconceptions as a barrier to the use of contemporary contraceptives, and to identify the reasons behind the misconception. In addition to considering the hurdles to the use of modern contraceptives, the method or approach in collecting information was also crucial for the study.

Some studies have studied determinants of contraception among reproductive age women, in low- and middle-income countries, who aim to prevent or postpone childbirth but are not using any contraceptive technique. A substantial number of women are not using contraception due to such causes as opposition from partners, husband's fear of infidelity, fear of side effects and health difficulties linked with the use of contraceptives. Women's education and occupational status were also identified to influence their utilization of contraception. Distinguishing contraceptive awareness from the understanding of procedures will eliminate the false notion that population education on contraceptive methods is not needed. The challenges associated with the

use of contraceptives are common across low- and middle-income settings, hence the need to design a strategy for collecting data on the challenges to contraceptive uptake among women in my community, and close any gap established concerning the awareness and uptake of contraception.

### **Barriers to Contraceptive Use**

Barriers to taking action:

However, action may not take place even though an individual may believe that the benefits to taking action are effective. This may be due to barriers related to the characteristics of a treatment may be inconvenient, expensive, unpleasant, painful or upsetting. As in the of barriers such as cost, affordability, accessibility, availability and ease of using family planning methods. These characteristics may lead a person away from taking the desired action. Barriers to contraceptives use by the adolescent include lack of information about methods, difficulties in obtaining services from providers, and inability to negotiate with partners. Another barrier that serves as disincentive to adolescent use of contraceptive is lack of knowledge about sexual and reproductive health issues, especially family planning. In some countries, unmarried teens are denied access to contraceptive services and information, leaving them without support when making reproductive health decisions. A report indicated that irregular use of contraceptives is common with women because of poor communication with parents, lack of knowledge of parental contraceptive experience, experience of friends who become parents, low educational achievement and aspirations, low self-esteem and feelings of fatalism and alienation. The traditional and cultural stereotyped idea that sex is for the adult makes it practically difficult for women to freely communicate and discuss with parent's issues concerning sex and contraception use. Similarly, because of the stereotyped idea that family planning clinics are the domain of

women, counsellors lack experience in conveying information on sexuality and contraception to men. Research indicates that while most women are aware of and where to obtain the various contraceptive methods, many challenges, both perceived and real (logistical), restrict the access of women to reproductive health services.

### Logistic Barriers

The drivers of the adoption of family planning are a collection of multiple factors that can be complicated and difficult to address in real-world environments, especially in conflict afflicted areas where things happen in an emergency situation. These factors range from individual and social factors, cultural variables, availability and access factors, to factors such as fear of side effects associated with contraceptive method characteristics. In the conflict zones in sub-Saharan Africa, such as South Sudan, there is insufficient evidence to understand how these factors combine to influence the use of contraceptives. Taking into account the relatively low usage of contraceptives in South Sudan and the inadequate evidence of the determinants of use, the assessment of the current levels of use of contraceptives and of the variables that determine to agree family planning is timely and essential, inaccessible areas, unequal distribution of health facilities, lack of motorways.

### **Cues to Action on the Use of Modern Contraceptives**

There are internal and environmental triggers that activate the woman's awareness to perceive a threat to pregnancy, and this simplifies the contemplation to use contraceptives to remedy that concern. For example, it has been observed that post-partum women in Africa who are poor and resided in urban centers, initiated contraception based on how they timed the resumption of their

menses. It has been suggested in another study that women who began menses immediately after delivery, which is an average of about one month, tend to adopt a contraceptive technique. The signals to action have also been related to either the effect of health care providers in contraceptive choice or information from peers and the internet that have an impact on contraceptive choice, using a quantitative manner. For this study, there was a great need to investigate and understand the contraception behavior of reproductive-age women in the study region utilizing a phenomenological approach. There are internal and environmental triggers that activate the woman's awareness to perceive a threat to pregnancy, and this simplifies the contemplation to use contraceptives to remedy that concern. For example, it has been observed that post-partum women in Africa who are poor and resided in urban centers, initiated contraception based on how they timed the resumption of their menses. It has been suggested in another study that women who began menses immediately after delivery, which is an average of about one month, tend to adopt a contraceptive technique. The signals to action have also been related to either the effect of health care providers in contraceptive choice or information from peers and the internet that have an impact on contraceptive choice, using a quantitative manner. For this study, there was a great need to investigate and understand the contraception behavior of reproductive-age women in the study region utilizing a phenomenological approach.

### **2.3 Review of Empirical Studies**

This study aims to determine how much people practice family planning, make people aware of family planning and introduce new contraception methods. To make proper use of already used contraceptive methods. It also tells people about the significance of family planning. To find out

the outcome of family planning among those who practice family planning. Many studies have been conducted worldwide to study contraception's knowledge, attitude, and practice in women and young adults. A survey conducted among 991 senior students (15–17 years) in North Gondar in 1995 showed the level of knowledge of contraception to be 75%. In 1998 in randomly selected 971 males and females aged 18–24 years in a Nigerian tertiary institution showed that 97.7% of males and 98.4% females respectively knew at least one method of contraception. Two studies were conducted in 1995 and 1999 and reviewed contraception in 498 Nigerian Tertiary School Girls-228 from the Medical Discipline of study and 270 from the non-medical discipline in 1995 and 314 Nigerian teenage school girls comprising 128 students at secondary and 186 at tertiary levels of the institution in 1999. The overall mean awareness of contraception was 70.9% in the first group. However, the mean level of contraceptive awareness for the various methods of contraception was 38.2% for the second survey group: 22.6% for the secondary school girls and 54.4% for the tertiary school girls. Two such studies have been carried out in Delhi and Ludhiana in India. In Delhi surveyed 500 undergraduate students of the medical colleges of Delhi and reported the knowledge regarding contraception to be 83.5%, which was comparable to the study conducted in Ludhiana showed that among 527 senior secondary school children, where 87% were aware of contraception. Similar results were reported from Nigeria, where a survey of 2388 Nigerian undergraduate students showed the contraceptive knowledge level to be 87.5%. In the USA, it was reported that 68% of 283 unmarried school students (at average 19 years of age) had experienced sex, and 44% had used contraception, which was the highest among all the studies documented so far. The United Nations Fund for Population Activities (UNFPA) notes that future population trends will hinge on the fertility decisions of today's men and women aged 15–24 years and on their ability and freedom to act on those decisions. Concern about adolescent

fertility arises from its health implications both for the mother and the child, its demographic implications in societies with rapid population growth and its social development implications. Because of the young age structure of India's population, the reproductive attitude and behavior of women were likely to have an important impact on overall reproductive health, demographic and social outcomes. Adolescent sex and exposure to the risk of pregnancy had attracted considerable research attention to understand its magnitude and address it as a problem. Studies in developed countries have shown a high level of such exposure such as in Latin America, China and some African countries like Uganda and Nigeria, South Africa and India. This study aims to find out how much people were practicing family planning, to determine their level of awareness about family planning, introduce new methods of contraception, and make sure the use of already introduced contraceptive methods. To find out the outcome of family planning among those who practice family planning<sup>23</sup>.

A breakdown of the worldwide health statistics reveals that each year, more than 40,000 women in Nigeria lose their lives as a result of difficulties stemming from pregnancy or childbirth<sup>132</sup>. Therefore, despite the fact that Nigeria only accounts for around 2.5 percent of the world's population, it is responsible for 14 percent of all maternal deaths worldwide each year. These awful figures have led to an increasing interest in Nigeria's efforts to improve the country's maternal health. In spite of this attention, very little progress has been made over the course of the last 15 years in the direction of bettering the health of mothers in the country as a whole<sup>78</sup>.

For instance, the maternal death rate was reported to be 545 per 100,000 live births in the 2008 National Demographic and Health Survey (NDHS), but it was reported to be 576 per 100,000 live births in the 2018 NDHS, which is an increase of around 5.6 percent significantly. This stands in stark contrast to both the fifth Millennium Development Goal (MDG 5) and the third

Sustainable Development Goal (SDG 3) respectively, both of which call for a reduction of maternal mortality rates by 75 percent. Stakeholders have determined that increasing the use of contraceptives among women of reproductive age is essential to any success that Nigeria is to record in order to buck this unfavorable trend. This is because contraceptive use has been observed to delay onset of child bearing as well as reduce parity among users. In turn, research has shown that such women are less likely to die from childbirth. However, the latest 2018 NDHS reports that only 10% of women currently use a modern form of contraceptive<sup>28</sup>.

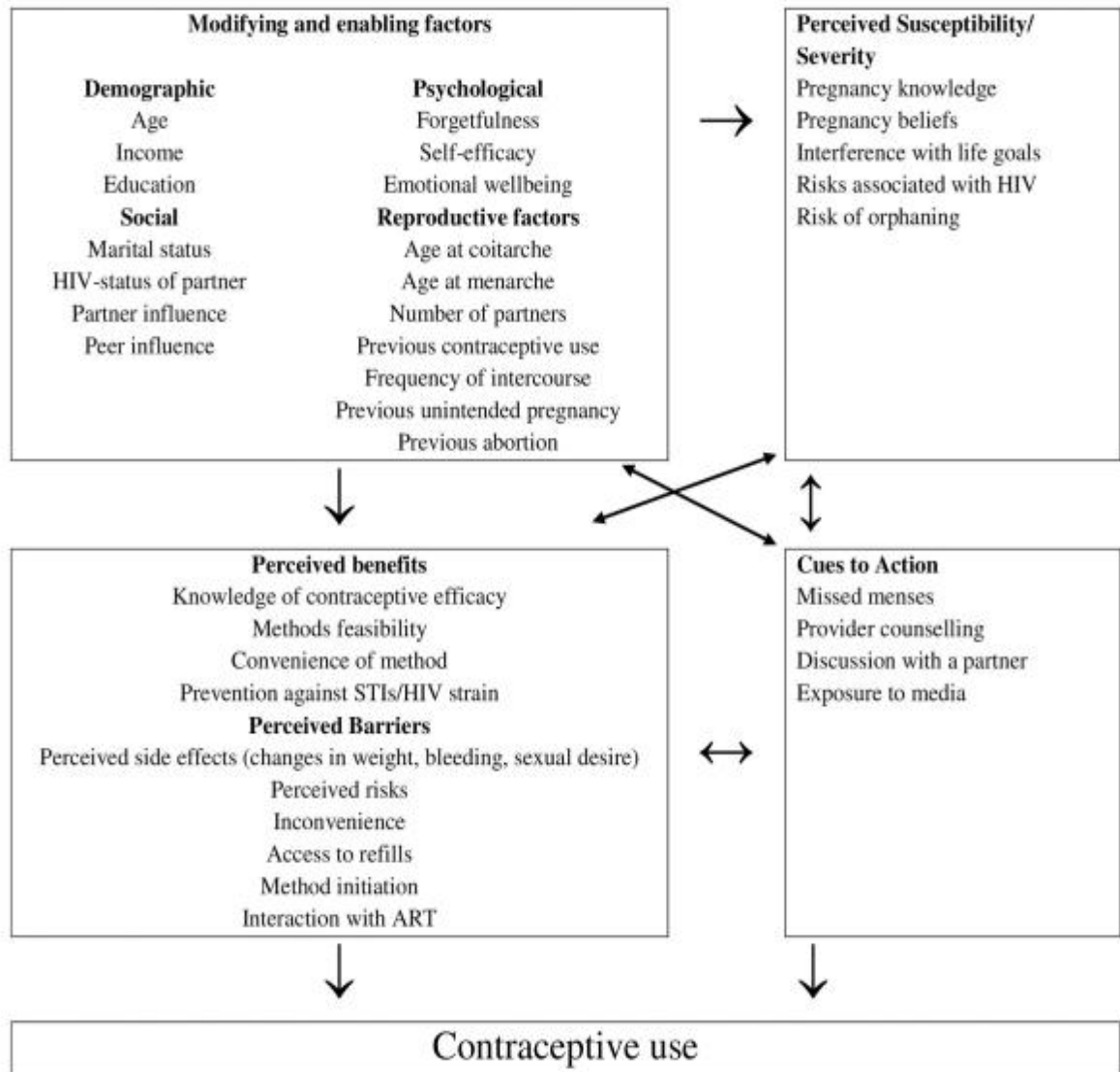
Research reports that the fact that most of the respondents were from urban areas could have played an important part in increasing the level of contraceptive uptake as few of the respondents came from the rural areas. Other studies in urban areas also report higher contraceptive prevalence rates than studies carried out in both urban and rural settings, Awareness and knowledge of FP and contraceptives were found in many studies to be very high indicating that the majority of the respondents had heard of contraceptives. Studies have identified awareness of contraceptives as the important first point in the continuum that leads to contraceptive uptake. A notable finding of this study is that an appreciable portion of respondents cited friends as their main source of information on contraceptives. Thus, the peer-to-peer transmission route appears to be an important one in the dissemination of information about FP and contraceptives in the Country. Despite the high level of awareness reported in many studies, differentials still point to skewed distribution, exposing factors that affect the level of knowledge of different segments of a population about FP and contraceptives.

The majority of research revealed that FP contradicted the religious/cultural beliefs of many women, thus portraying a negative perception of FP and contraceptives, especially in Northern Nigeria and with both studies reporting majority of their sample abstaining from contraceptives

due to religious reasons. Another controversial aspect of the perception discussions and research was that using contraceptives would make a woman promiscuous. This view has also been expressed by other researchers who reported similar findings in other African settings and how they impact negatively on the likelihood of using contraceptives. Among the whole study population, most participants reported currently sharing their reproductive health concerns mainly with the doctor, followed by the nurse, at the HIV clinic. They reported a general preference to share family planning concerns with a doctor (133 [65.8%]) and a nurse (45 [22.3%]) at the HIV clinic. Only 23 (11.4%) of respondents were willing to share their reproductive health concerns with health providers at other family planning units. Participants' reasons for not using available contraceptives were also discussed. Seventy-nine (52%) of 174 women reported a fear of adverse effects as the reason for not using any modern contraceptive, and 39 (25.7%) reported that it was because they would like to have a child<sup>56</sup>.

This is especially important among the lower age groups as improved knowledge among this group could result in their delaying their first pregnancy and hence, reduce maternal mortality. Perception of family planning was not entirely positive with issues surrounding the religious compatibility of FP and the fear of promiscuity coming out as key factors that impact negatively on the perception of WRA on FP and contraceptives. Community advocacy as well as more consultations with stakeholders will be necessary if the buy-in of the majority of the population in the region are to fully embrace contraceptive uptake<sup>74</sup>.

## **2.4 Conceptual Framework**



**Figure 2.1: Conceptual Framework for Contraceptive use among Women Living with HIV**

Source<sup>46</sup>

## 2.5 Summary of Gaps in Literature Reviewed

Unplanned pregnancy is a global public health concern that often arises after sexual activity without the use of contraception. Even if the use of modern contraception serves as a crucial intervention towards reducing unexpected or unintended pregnancy, there are records of millions

of women in underdeveloped countries who are not utilizing any contemporary contraceptive technique. Nigeria is among the developing nations that have made scientific improvements in modern contraceptive methods but still reports a low modern contraception prevalence rate of 23 percent in 2018, as against the target rate of 50 percent by 2020. The HBM is the theoretical framework guiding this study and it gives the basic principles to understand the perceptions and issues connected with current contraceptive usage.

The use of modern contraceptives by women is influenced by the perception of susceptibility to unwanted pregnancy, threats to non-use of modern contraceptives and severity of pregnancy, the perception of benefits, perception of barriers, self-efficacy, cues to action, as well as pregnancy ambivalence. This chapter examined numerous studies that emphasize the necessity for continuing research on contemporary contraception usage among reproductive-age women in Nigeria towards improving maternal health. This study focused on the development of a conceptual framework (HBM) that would enable study participants to share their lived experiences and contribute to strategies of boosting reproductive health. It was also vital to fill the knowledge gap that existed between the availability of contraception and its utilization in Nigeria. Hence, this study intended to bridge this gap of limited information on contraceptives option and helps provide necessary information for informing reproductive practice and care of WLHIV.

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**Chapter Three**

**Methodology**

This section provides more information about the research techniques that were applied in this study. It discusses the techniques and methods such as the research design; sampling frame; the study population; sample size; sampling procedure; study location; research instrument; and the analytical method used for this study.

### **3.1 Research Design**

This study adopted a facility-based cross-sectional survey to assess contraceptive use among women living with HIV in Oyo State, Nigeria.

### **3.2 Study Population**

The study populations were women living with HIV attending anti-retroviral treatment clinics in Ibadan, Oyo state, Nigeria.

#### **Study Site**

Ibadan is the capital and largest city of Nigeria's Oyo State. It is the third-largest city in Nigeria by population, after Lagos and Kano, with a population of 3,649,000 as of 2021 and more than 6 million people residing in its metropolitan region. It is the largest city in the country in terms of area. In 1960, Ibadan was Africa's second-most populous city after Cairo. It is also the largest and most populated metropolis in Nigeria. The southwest Nigerian city of Ibadan is located 530 miles (330 kilometers) southwest of Abuja, the country's capital, and 128 miles (80 kilometers) inland from Lagos. It acts as a key crossroads for transportation between the interior and the coast of the nation. Ibadan had been the focal point of the erstwhile Western Region's administrative structure since the earliest stages of British colonial rule. Some of the city's old defense walls are still standing today. The Ibadan Metropolitan Area is made up of eleven local

governments, including five urban local governments and six semi-urban local governments in the city. Local governments, which were founded by the military administrations but recognized by the constitution of 1999, currently serve as the third tier of government in Nigeria. The Executive Chairman, Vice Chairman, Secretary, and Supervisory Councilors make up the Executive Arm of local government councils<sup>1</sup>.

The study site which are:

1. Adeoyo Maternity Teaching Hospital,
2. State Hospital Ring Road and
3. St. Anne's Anglican Hospital.

### **3.3 Sampling Methods**

A purposive sampling method was adopted in selecting the health facilities because ART treatment is not available in all health facilities. The participants for the study were randomly selected from each of the health facilities.

### **3.4 Sample Size**

Sample size for this study was determined using the Fisher's formula for the determination of sample size for descriptive studies. The sample size for this study was determined considering the following factors:

1. A standard normal deviate of 1.96,
2. 95% confidence interval

3. Acceptable margin of error 5%.

Based on the Fisher's formula,<sup>3</sup> that is

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

Where: n - minimum sample size required

d - Is margin of error 5%

z - Confidence level 95%

p - Estimated proportion of contraceptive use among WLWH, 47%<sup>3</sup>

Correcting for a possible non- response rate of 10%, the final calculation will be  $n/0.9$

$$n = \frac{(1.96)^2 0.47 (1 - 0.47)}{(0.05)^2}$$
$$n = 383$$

Correcting for a possible non- response rate of 10%, the final calculation will be  $383/0.9 = 426$

A total of 469 women of reproductive age (18-49) living with HIV was interviewed.

### 3.5 Eligibility Criteria


The Eligibility criteria refer to a construct that helps to select individuals to be selected or exclude in the study.

Inclusion criteria for this study were restricted to WLHIV who reported to:

- (a) aged between 18 and 49 years;
- (b) being fecund.

### **3.6 Research Instrument**

Data was collected using adapted and self-structured questionnaires<sup>3</sup>. The questionnaire was closed ended. The research instrument has been validated<sup>3</sup>.The following instruments were used for the study:

- 
1. Socio-Demography Data Questionnaire among WLHIV.
  2. Knowledge of Contraceptive Questionnaire among WLHIV.
  3. Attitude towards Contraceptive Use Questionnaire among WLHIV.
  4. Contraceptive use Questionnaire among WLHIV.
  5. Perceived factors that influence Contraceptive Use Questionnaire among WLHIV.

### **3.7 Method of Data Collection**

There are several ways of collecting the appropriate data which differ considerably in terms of cost, time and other resources at the disposal of the researcher, such as questionnaire<sup>3</sup>. Data collection was conducted using a standard survey questionnaire. The questionnaire was adapted from previous studies on contraceptive use among sexually active WLHIV<sup>2</sup>. An introduction letter and ethical approval were given to the Chief Medical Officer of each ART center before proceeding to collect data. Data collection took place between July to August 2022. After the approval, the study plan and methods for maintaining privacy were explained to each client. This was done to increase efficiency and privacy during data collection. The selected participants were those who voluntarily consented to participate. The Research Assistants translated the questionnaires into the language participants understood, Yoruba for ease of communication. The total number of data that was collected (750): St. Annes Anglican Hospital (54), State Hospital Adeoyo Ring Road (41), and, Adeoyo Maternity Hospital Yemetu (655). The excluded data were WLHIV that are above reproductive age (281).

### **3.8 Method of Data Analysis**

The act of presenting and evaluating newly collected data in a manner that is meaningful, as well as providing explanations for observations, is referred to as data analysis. The information obtained from the questionnaire was processed in an objective manner with the help of SPSS 20 (Statistical Package for Social Sciences, Version 20). The questionnaire on knowledge, attitude, and use was scored and graded. There were 10 questions on knowledge, 13 questions on attitude, and 1 question on the use of contraceptives among women living with HIV, respectively.

The data was transferred to Microsoft Excel 2010 for the graphical presentation of results and was presented in both figures and tables.

The highest attainable score for knowledge is 10, knowledge was graded as  $<5$  being poor and  $\geq 5$  being Good. The highest attainable score for attitude is 52 and lowest attainable score is 13, attitude was graded as  $<26$  as negative and  $\geq 26$  as positive. (Attitude was scored using a five-point Likert scale adapted from a previous study on KAP of women living with HIV <sup>1</sup>. Strongly agreed = 4, agree = 3, disagree = 2 and strongly agree = 1, and it was graded as a negative and positive attitude). Frequency and proportion were used for Use of contraceptives and correlation was done to ascertain the significant association between the socio-demographic characteristics and contraceptive use. Meanwhile, factors affecting contraceptive use were analysed using logistic regression. The data obtained were presented as frequency tables.

### **3.11 Ethical Approval**

Ethical approval for this study was obtained from University Research Ethics Committee (HREC) of Lead City University, Ibadan, Oyo State (LUC-REC/22/), and Oyo State Ministry of Health Department of Planning Research & Statistics Division (AD 13/479/125). Official permission was obtained from hospitals included in this study. An information statement was provided to all participants prior to obtaining informed verbal consent. To ensure informed verbal consent from participants, the information statement was read in the local language, Yoruba. The Study contained women who had formal education and women with no formal education so informed verbal consent was more appropriate and was approved by both ethics' committees. In addition, it was a survey and the research involved no more than low risk. Participants were given the opportunity to ask questions prior to the interview. The consent procedure took place in a separate private room by trained data collectors after WLHIV had finished their routine clinical care appointment. Participants were informed that their participation was voluntary and that they were free to decline participation or withdraw their consent at any time. It was made clear that

participation in this study had no bearing on their receipt of clinical care. The participants were also informed that the survey involved some questions that they might find embarrassing or too personal and some that might cause them to worry about their reproductive health issues. Further, participants were informed that they did not have to answer any question that they did not feel comfortable with, and they could withdraw at any time or simply choose not to answer a particular question. Female nurses were prepared to provide psychological support if the need arose. Anonymized data were stored on password protected Laptops during data collection. Data were stored on secure and password-protected computers.

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### Endnotes

<sup>1</sup> Salami Rafiu, Helen Giggins, & Jason Von Meding. "Urban Settlements' Vulnerability To Flood Risks In African Cities: A Conceptual Framework." **Jàmbá: Journal of Disaster Risk Studies** 9, no. 1 ,2017, 1-9.

<sup>2</sup> Adeleye Khadija Kofoworola, Margaret Omowaleola Akinwaare, & Prisca Olabisi Adejumo. "Reproductive Plans And Utilization Of Contraceptives Among Women Living with HIV." **International Journal of Maternal and Child Health and AIDS** 8, no. 2 ,2019:120.

<sup>3</sup> Feyissa Tesfaye Regassa, Melissa Harris, Peta Forder, & Deborah Loxton. "Contraceptive use among sexually active women living with HIV in western Ethiopia." **Plos One** 15, no. 8 ,2020, e0237212.

<sup>4</sup> Ramokolo, Vundli. "Growth Of HIV-Exposed And HIV–Unexposed Children In South Africa. Anthropometric Nutritional Status And Growth Rates." ,2017.

<sup>5</sup> Staunton Hannah, Tom Willgoss, Linda Nelsen, Claire Burbridge, Kate Sully, Diana Rofail, & Rob Arbuckle. "An Overview Of Using Qualitative Techniques To Explore And Define Estimates Of Clinically Important Change On Clinical Outcome Assessments." **Journal Of Patient-Reported Outcomes** 3, no. 1 ,2019:1-10.

## Chapter Four

### Results and Discussion of Findings

This chapter presents the findings of the study and the discussion. The results are presented in the other, in which the objectives were stated in Chapter one of the study.

#### 4.1 Demographic Data Analysis

**Table 4.1:** Socio-Demographic Characteristics of Respondents

<b>Variable</b>	<b>Frequency</b>	<b>Percent (%)</b>
Age (n = 469)	469	
<b>Mean ± SD</b>	36.92 ± 6.94	
Marital Status (n = 469)		
<b>Married</b>	392	83.6
<b>Divorce</b>	11	2.3
<b>Widowed</b>	27	5.8
<b>Separated</b>	17	3.6
<b>Single</b>	22	4.7
Ethnic Group (n = 469)		
<b>Yoruba</b>	410	87.4
<b>Igbo</b>	43	9.2
<b>Hausa</b>	16	3.4
Religion (n = 469)		
<b>Christianity</b>	275	58.6
<b>Islam</b>	194	41.4
Educational Level (n=469)		
<b>Primary level</b>	127	27.1
<b>Secondary level</b>	210	44.8
<b>Tertiary level</b>	88	18.8
<b>None</b>	44	9.4
Employment Status		
<b>Unemployed</b>	98	20.9
<b>Employed</b>	371	79.1
Type of Partner		
<b>Spouse</b>	404	86.1
<b>Steady</b>	18	3.8
<b>Causal</b>	22	4.7
<b>None</b>	25	5.3

What Is Your Monthly Income

<b>&lt;20,000</b>	228	48.6
<b>20,000 – 30,000</b>	82	17.5
<b>31,000 – 40,000</b>	71	15.1
<b>41,000 – 50,000</b>	52	11.1
<b>&gt;51,000</b>	36	7.7

Do You Know Your Partners Status

<b>Yes</b>	357	76.1
<b>No</b>	93	19.8
<b>Not Applicable</b>	19	4.1

If Yes, What Is Your Partner Status

<b>Positive</b>	147	31.3
<b>Negative</b>	207	44.1
<b>Not Applicable</b>	115	24.5

Number of Children After Learning About HIV Status?

<b>0</b>	208	44.3
<b>1</b>	208	44.3
<b>2</b>	33	7.0
<b>3</b>	12	2.6
<b>4</b>	7	1.5
<b>5</b>	1	0.2

When Last Did You Have Sex with Your Partner

<b>Less than 6 months</b>	414	88.3
<b>More than 12 months</b>	55	11.7

Are You Sexually Active

<b>Yes</b>	414	88.3
<b>No</b>	55	11.7

Source: Field Survey, 2022

Results of the analysis of the demographic data of the respondents are presented in the Table.

Table 4.1 show that 83.6% of the respondents are married, 2.3% are divorce, 5.8% are widowed,3.6% are separated and 4.7% are single. 58.6% are Christians and 41.4% are Muslims.

27.1% attended primary level of education, 44.8%, 44.8 attended secondary level of education, 18.8% attended tertiary level of education and 9.4% did not any level of education. Most of the participants are employed with 79.1% and 20.9% are unemployed. 5.3% of the respondents do not have any form of partner, 4.7% have casual partner, 3.8% have steady partners while 86.1% have spouse. 48.6% earn less than 20,000 as their monthly income, 17.5% earn between 21,000-30,000, 15.1% earn between 31,000-40,000, 11.1% earn between 41,000-50,000 and 7.7% earn more than 51,000 as their monthly income. 76.1% of the respondents know the status of their partner while 19.8% do not know the status of their partner. 0.2% of women living with HIV have 5 children after knowing their HIV status, 1.5% have 4 children, 2.6% have 3 children, 7.0% have 2 children and 44.3% have 1 and 0 children respectively all after knowing their HIV status. 88.3% of the respondents had sex with their partner in less than 6 months and 11.7% had sex with their partner more than 12 months last. 88.3% of the respondents are sexually active while 11.7% are not sexually active.

## **4.2 Presentation of Data**

**4.2.1. Research Question One:** What is the level of knowledge of contraceptive methods among women living with HIV in Ibadan?

**Table 4.2: Knowledge of Contraceptive Methods Among Women Living with HIV**

Variable	Frequency	Percent (%)
Have you ever heard about family planning?		
Yes	442	94.2
No	27	5.8
Do you ever receive any formal reproductive health education?		
Yes	416	88.7
No	53	11.3
Are you aware of any contraceptive methods?		
Yes	441	94.0
No	28	4.0
Have you ever been advised about contraceptives by ART provider?		
Yes	441	94.0
No	28	6.0
Do you have any awareness of sexually transmitted infections?		
Yes	448	95.5
No	21	4.5
Have you ever heard about Mother-to-child transmission of HIV		
Yes	449	95.7
No	20	4.3
Have you ever heard about Condom?		
Yes	446	95.1
No	23	4.9
Have you ever heard about male Sterilization?		
Yes	275	58.6
No	194	41.4
Have you ever heard about female Sterilization?		
Yes	279	59.5
No	190	40.5
Are you aware of Implant as a means of contraceptive methods?		
Yes	309	65.9
No	160	34.1

Source: Field Survey 2022

#### 4.3 Grading Knowledge of Contraceptive Methods Among Women Living with HIV

Variable	Frequency	Percent (%)
Good	453	96.6

**Poor**

16

3.4

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Source: Field Survey 2022

Table 2 above shows the knowledge of the respondents on contraceptive methods, 96.6%(453) have a good knowledge of contraceptive and 3.4%(16) have poor knowledge of contraceptive methods.

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**Table 4.4 Bivariate Analysis Of Socio Demographic Characteristics Of Participants And Knowledge Of Respondents On Contraceptive Methods.**

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Variable	Poor Knowledge(n=16)	Good Knowledge(n=453)	P-Value
<b>Religion</b>			0.475

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Christianity	8	267	
Islam	8	186	
<b>Tribe</b>			0.120
Yoruba	13	397	
Igbo	1	42	
Hausa	2	14	
<b>Educational Level</b>			0.006
Primary Level	10	117	
Secondary Level	4	206	
Tertiary Level	0	88	
None	2	42	
<b>Marital Status</b>			0.067
Married	12	380	
Divorce	0	11	
Widowed	0	27	
Separated	1	16	
Single	3	19	
<b>Type of Partner</b>			0.445
Spouse	12	392	
Steady	1	17	
Casual	2	20	
None	1	24	
<b>Employment Status</b>			0.004
Unemployed	8	90	
Employed	8	363	
<b>Are You Sexually Active</b>			0.374
No	3	52	
Yes	13	401	
<b>Monthly Income</b>			0.232
<20,000	6	222	
20,000 – 30,000	6	76	
31,000 – 40,000	2	69	
41,000 – 50,000	2	50	
>51,000	0	36	
<b>Previous Reaction</b>			0.041
No	14	258	
Yes	2	110	
N/A	0	85	

Source: Field Survey 2022

The bivariate analysis of the socio demographic characteristics of the participants; shows that educational level ( $p=0.006$ ), employment status ( $p=0.004$ ) show significant association to knowledge of contraception.

**Research Question Two:** What are the attitudes of women living with HIV in Ibadan towards the use of contraceptives among women living with HIV?

**Table 4.5: The Attitude of Women Living With HIV in Ibadan towards the use of Contraceptives**

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Variable	SA (%)	A (%)	D (%)	SD (%)
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<b>I feel safe when am having sex with condom</b>	278 (59.3)	141 (30.1)	37 (7.9)	13 (2.8)
<b>I feel so bad that my spouse does not like use of contraceptives.</b>	81 (17.3)	212 (45.2)	100 (21.3)	76 (16.2)
<b>I prefer cohabitation relationship to hook up</b>	74 (15.8)	146 (31.1)	130 (27.7)	119 (25.4)
<b>I enjoy having sex without contraceptives</b>	93(19.8)	134 (28.6)	145 (30.9)	97 (20.7)
<b>I feel great with contraceptives it enhances my sexual productivity</b>	84 (17.9)	186 (39.7)	138 (29.4)	61 (13.0)
<b>I feel delighted with contraceptive usage it makes me feel radiant.</b>	124 (26.4)	221 (47.1)	97 (20.7)	27 (5.8)
<b>I dislike contraceptive usage it makes me feel uncomfortable.</b>	60 (12.8)	140 (29.9)	146(31.1)	123 (26.2)
<b>I dislike contraceptives usage; it reduces the level of mutual trust between couples</b>	58 (12.4)	150(32.0)	149(31.8)	112(23.9)
<b>I am happy that my faith supports use of contraceptive.</b>	189(40.3)	154(32.8)	99 (21.1)	27(5.8)
<b>I don't value contraceptives usage it enhances sexual promiscuity.</b>	189 (40.3)	154(32.8)	99(21.1)	27 (5.8)
<b>My spouse supports contraceptives usage, it enhances mutual understanding and family support</b>	147(31.3)	149 (31.8)	148(31.6)	25 (5.3)
<b>I dislike using contraceptives because it reduces my urge for sex</b>	55 (11.7)	146 (31.1)	153(32.6)	115(24.5)

**I feel good with contraceptive usage it gives me sense of control.**    206 (46.5)    156 (33.3)    68 (14.5)    33(7.0)

Source: Field Survey, 2022

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**Table 4.6: Attitude Towards Contraceptive Methods Among Women Living With HIV**

Variable	Frequency	Percent (%)
<b>Positive</b>	257	45.2

<b>Negative</b>	212	54.8
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Source: Field Survey, 2022

Table 4.6 shows the respondents attitude towards contraceptive use, 257(55%) have positive attitude while 212(45%) have negative attitude towards the use of contraceptive.

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**Table 4.7 Bivariate Analysis of Sociodemographic Characteristics of Respondents with Their Level of Attitude Towards Contraceptive Use**

Variable	Negative Attitude (n=212)	Positive Attitude(n=257)	P-Value
<b>Religion</b>			0.118

Christianity	116	159	
Islam	96	98	
<b>Tribe</b>			0.096
Yoruba	185	225	
Igbo	16	27	
Hausa	11	5	
<b>Educational Level</b>			0.928
Primary Level	59	68	
Secondary Level	68	114	
Tertiary Level	37	51	
None	20	24	
<b>Marital Status</b>			0.923
Married	176	216	
Divorce	5	6	
Widowed	12	15	
Separated	7	10	
Single	12	10	
<b>Type of Partner</b>			0.466
Spouse	182	222	
Steady	11	7	
Casual	8	14	
None	11	14	
<b>Employment Status</b>			0.698
Unemployed	46	52	
Employed	166	205	
<b>Are You Sexually Active</b>			0.591
No	23	32	
Yes	189	225	
<b>Monthly Income</b>			0.017*
<20,000	89	139	
20,000 – 30,000	48	34	
31,000 – 40,000	35	36	
41,000 – 50,000	27	25	
>51,000	13	23	
<b>Previous Reaction</b>			0.000*
No	98	174	
Yes	80	32	
N/A	34	51	

Source: Field Survey, 2022

The bivariate analysis of characteristics of participants; monthly income( $p=0.017$ ) and previous reaction to contraception method (0.000) shows significant association to attitude towards contraceptive use.

**Research Question Three:** What is the level of contraceptive use among women living with HIV in Ibadan?

**Table 4.8: Use of Contraceptive Method Among Women Living with HIV**

Variable	Frequency	Percent (%)
Are you using contraceptive now?		

<b>Yes</b>	331	70.6
<b>No</b>	138	29.4
If yes to the above variable, which method of Contraceptive (n=331)		
Male Condom		
<b>Yes</b>	307	65.5
<b>No</b>	162	34.5
Female Condom		
<b>Yes</b>	70	85.1
<b>No</b>	399	14.9
<b>Pills</b>		
<b>Yes</b>	74	15.8
<b>No</b>	395	84.2
Injectable		
<b>Yes</b>	20	4.3
<b>No</b>	449	95.7
IUCD		
<b>Yes</b>	22	4.7
<b>No</b>	447	95.3
Implants		
<b>Yes</b>	15	3.2
<b>No</b>	454	96.8
Female Sterilization		
<b>Yes</b>	5	1.1
<b>No</b>	464	98.9
Male Sterilization		
<b>Yes</b>	3	0.6
<b>No</b>	466	99.4
Emergency Contraceptives		
<b>Yes</b>	16	3.4
<b>No</b>	453	96.6
Periodic Abstinence		
<b>Yes</b>	16	3.4
<b>No</b>	453	96.6
Withdrawal		
<b>Yes</b>	38	8.1
<b>No</b>	431	91.9
Drink Herbal Concoction		
<b>Yes</b>	9	1.9
<b>No</b>	460	98.1

Time on Contraception

<b>12 months or less</b>	190	40.5
<b>&gt;12 to 36 months</b>	88	18.8
<b>&gt; 36 months</b>	53	11.3
<b>Not Applicable</b>	138	29.4
Do you get your contraceptive outside the ART center		
<b>Yes</b>	213	45.4
<b>No</b>	118	25.2
<b>Not Applicable</b>	138	29.4

Source: Field Survey, 2022

Table above shows the use of contraceptive among the respondents, 70.6% were using contraceptive and 29.4% were not using contraceptive. 65.5% were using male condom while 85.1% were using female condom. 15.8% were using pills, uses injectables, 22 use IUCD, 15 use implants.

**Table 4.9: Level of Contraceptive Use among Women Living with HIV**

<b>Variable</b>	<b>Frequency(n=469)</b>	<b>Percent(%)</b>
Usage Level		

No Usage	139	29.6
Usage (atleast 1 method)	330	70.4

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Source: Field Survey 2022

Table above shows that 70.4% of the participants are using contraceptive.

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**Table 4.10 Level of Dual Contraceptive Usage Among Women Living with HIV**

<b>Variable</b>	<b>Frequency(n=469)</b>	<b>Percent(%)</b>
Usage Level		
No Usage	139	29.6
One Method Usage	193	41.2
Dual Method Usage( Condom and another method)	134	28.6

Source: Field Survey, 2022

The table above indicated that 28.6 % of the participants are making use of more than 1 methods of contraceptive

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**Table 4.11: Bivariate Analysis of Respondent's Socio Demographic Characteristics with Contraceptive Usage.**

Variable	No Usage (n=139)	Usage (n=330)	P-Value
<b>Religion</b>			0.608
Christianity	84	191	
Islam	55	139	
<b>Tribe</b>			0.006
Yoruba	113	297	
Igbo	16	27	
Hausa	10	6	
<b>Educational Level</b>			0.160
Primary Level	35	92	
Secondary Level	72	138	
Tertiary Level	19	69	
None	13	31	
<b>Marital Status</b>			0.003
Married	103	289	
Divorce	3	8	
Widowed	15	12	
Separated	7	10	
Single	11	11	
<b>Type of Partner</b>			0.000
Spouse	107	297	
Steady	6	12	
Casual	8	14	
None	18	7	
<b>Employment Status</b>			0.001
Unemployed	43	55	
Employed	96	275	
<b>Are You Sexually Active</b>			0.000
No	28	27	
Yes	111	303	
<b>Monthly Income</b>			0.000
<20,000	45	183	
20,000 – 30,000	33	49	
31,000 – 40,000	30	41	
41,000 – 50,000	15	37	
>51,000	16	20	
<b>Previous Reaction</b>			0.000

No	54	218
Yes	1	111
N/A	84	1

Source: Field Survey, 2022

The bivariate analysis of the participants socio demographic characteristics; shows that tribe ( $p=0.006$ ), marital status ( $p=0.003$ ), type of partner ( $p=0.000$ ), employment status ( $p=0.001$ ), sexual activeness ( $p=0.0000$ ), monthly income ( $p=0.0000$ ) and previous reaction to contraception method ( $p=0.000$ ) all show significant association to contraceptive use.

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**Research Question Four:** What are the factors that influence the utilization of contraceptive use among women living with HIV in Ibadan Nigeria?

Variables	Use	No Use	Odd Ratio(95% CI)	P Value
<b>Religion</b>				
Christianity	191	84	1.686(0.799,3.557)	0.170
Islam	139	55	Ref	
<b>Educational Level</b>				
Primary Level	92	35	0.750(0.317,1.776)	0.513
Secondary Level	138	72	2.594(0.838,8.030)	0.98
Tertiary Level	69	19	0.216(0.083,0.564)	0.403
None	31	13		
<b>How Do You Relate With Your Sexual Partner</b>				
He is Caring	220	61	2.181(0.650,7.312)	0.207
He supports my baby with everything	51	14	0.656(0.232,1.852)	0.406
He does not provide food	29	15		
Does not stay with me	30	49	0.216(0.083,0.564)	0.002*
<b>How Far is the Facility From Your Home</b>				
0.5 to 1 Kilometer	57	29	2.311(0.888,6.012)	0.086
2 to 3 Kilometer	144	56		
4 to 5 Kilometer	129	54	3.576(1.270,10.069)	0.016*
<b>Do You Pay For the Services From the Health Facility</b>				
Yes	49	11	8.616(1.429,51.962)	0.019*
No	281	128		
<b>Are You Giving Standard ART service</b>				
Yes	325	136	1.464(0.178,12.039)	0.723
No	5	3		
<b>What is Your Monthly Income</b>				
<20,00	183	45	0.399(0.151,1.054)	0.064
20,000-30,000	49	33	0.448(0.157,1.282)	0.134
31,000-40,000	41	30	0.815(0.236,2.812)	0.746
41,000-50,000	37	15	0.650(0.169,2.501)	0.531
>51,000	20	16		
<b>Tribe</b>				

Yoruba			0.449(0.149,1.359)	0.157
Igbo			0.640(0.092,4.435)	0.652
Hausa				
Marital Status				
Married			6.047(0.094,390.08)	0.397
Divorce			1.062(0.018,63.260)	0.977
Widowed			2.252(0.028,198.81)	0.706
Separated			1.521(0.020,114.97)	0.849
Single				
Type of Partner				
Spouse	297	107	0.552(0.007,45.947)	0.792
Steady	12	6	0.385(0.005,28.892)	0.665
Casual	14	8	0.328(0.005,22.084)	0.604
None	7	18		
Religion				
Previous reaction to contraceptive				
No	138	219	Ref	
Yes	1	11	69.945(9.65,506.73)	0.000*
Level of Knowledge				
Poor	9	7	Ref	
Good	321	132	1.891 (0.690,5.184)	0.208
Level Of Attitude				
Positive	44	48	3.429(2.138,5.498)	0.000*
Negative	286	91		

Source: Field Survey 2022

The factors that show significant association to contraceptive use includes payment for services ( $p=0.019$ ,  $OR=8.616$  95% CI (1.429,51.982)), Partner not providing food ( $p=0.002$ ,  $OR= 0.2169$  95% CI 0.083,0.0564), distance to health facility ( $p=0.016$   $OR=3.576$  95% CI (1.270,10.069), previous reaction to contraceptive ( $p=0.000$   $OR=69.945$  95% CI (9.65,506.73), attitude of respondents to contraceptive use ( $p=0.000$   $OR=3.429$  95% CI (2.138,5.498) .The odds of contraceptive use to payment of services was 0.19. times higher among the participants, the odds of contraceptive use among participants that did not react to the previous contraceptive methods is 8.616higher than participants that reacted. The odds of contraceptive use among participants that lived 2 to 3 kilometers away from the health facility is 2.311 higher than those that lived 4 to

5 kilometers away, the odds of contraceptive use to sexual partners who does not provide food 0.216 times lower to those that their sexual partners are caring. Educational level ( $P=0.403$ ), Monthly income ( $P=0.064$ ), Tribe ( $p= 0.811$ ), Marital Status ( $p=0.351$ ), Type of partner ( $p=0.928$ ), Employment status ( $p= 0.198$ ) and Religion ( $p=0.170$ ) all show no significant association with contraceptive use.

*Do Not Copy, Lead City University, Nigeria*

Research Question Five: What are the various contraceptive method practice by women living with HIV in Ibadan?

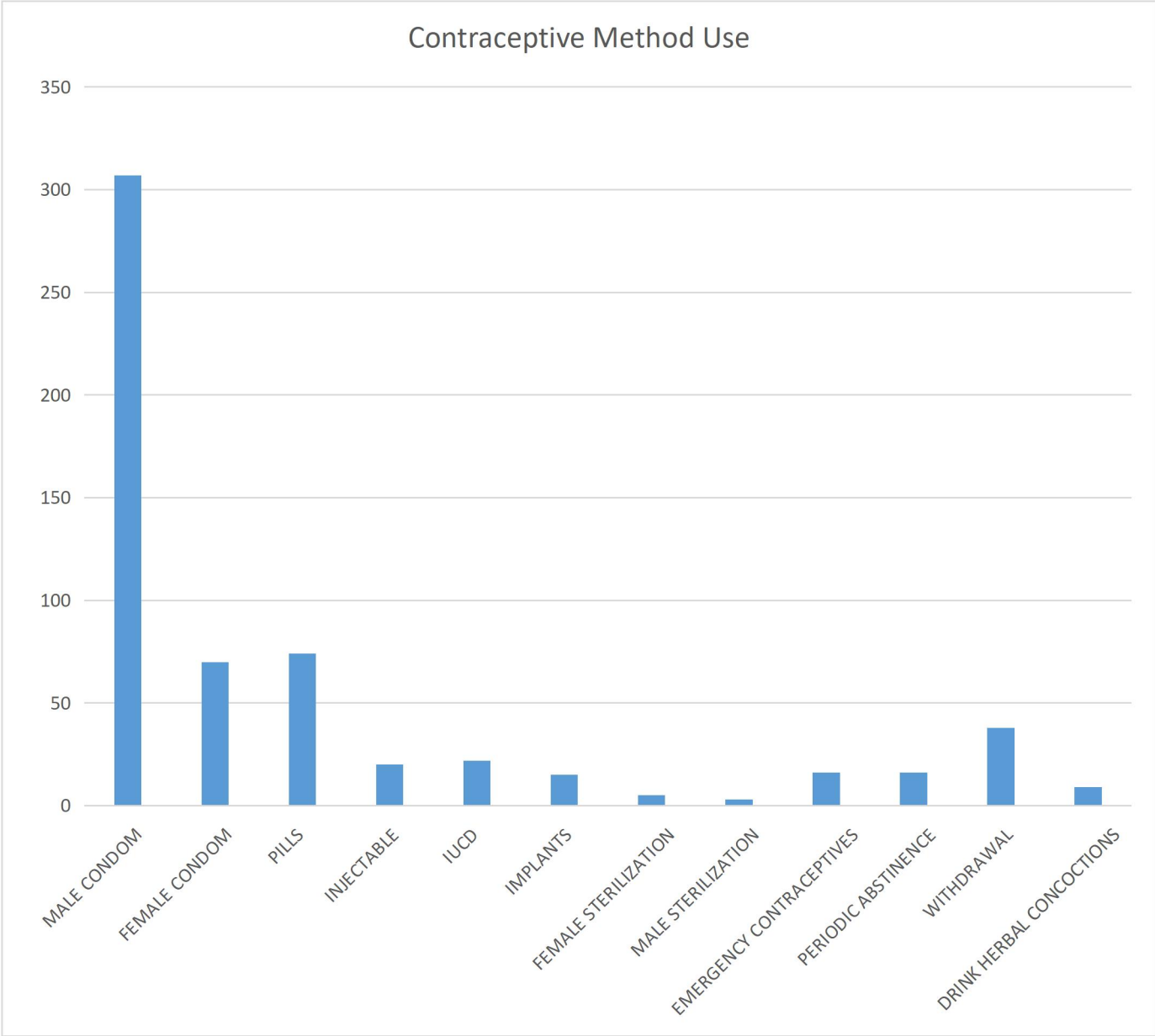


Figure 4.1: Contraceptive Methods Used among Women Living with HIV

Source: Field Survey, 2022

### 4.3 Discussions of Findings

On the level of knowledge of contraceptives among the participants. It was observed that the participant's level of knowledge of contraceptive methods among WLHIV was high. This finding is in agreement with a study carried out in Katutura, Namibia, which indicated that the level of knowledge of contraceptive methods among WLHIV of reproductive age is high (95%). The awareness of contraceptive among WLHIV will reduce the likelihood of mother-to – child transmission of HIV<sup>1</sup>. Also, a study submitted that awareness of contraceptive was high (93.7%) and WLHIV were exposed to reproductive health information as the rest of the general population which is a major step towards the use of contraceptive methods <sup>2</sup>.

On the level of the attitude towards contraceptive methods among WLHIV in Oyo state, the finding revealed that there was positive attitude towards contraceptive methods among the participants. This finding agrees with the submission of a study carried out in Katutura, Namibia which shows a positive attitude (80.1%) which is related to perceived low risk of pregnancy<sup>1</sup>. However, a study supports the finding, who affirmed that there was a positive attitude towards modern family planning methods and its use. The reason for the positive attitude towards contraceptive methods is because of easy accessibility to contraceptive and it removes the obstacles such as 'doctor's prescription'<sup>3</sup>.

On the level of contraceptive use among WLHIV, the finding revealed that there is high use of contraceptive among the participants. However, the finding found that a quarter of the participants had unmet contraceptive needs. This agrees to a study done in Ethiopia among sexually active WLHIV, 75% used contraceptive and a quarter of the participants in the study had unmet contraceptive needs, which requires further intervention<sup>4</sup>. Contraceptive usage,

gives insight into the role contraceptive plays in meeting family planning goals as well as in supporting PMTCT program. Also counselling and access to effective contraception given the rate of unmet needs for contraception and unintended pregnancies<sup>4</sup>. However, a study conducted in Cameroon, contradicts the finding its shows a low usage of contraceptives among WLHIV and high knowledge of contraceptives<sup>5</sup>. This implies that the level of knowledge does not commensurate the use of contraceptives methods. In addition, the most commonly used contraceptive in this study were male condoms 94.7%, pills 22.95% and female condoms (22.95%). This is slightly lower when compared to the result of the study conducted in Togo<sup>6</sup>. Lastly, despite dual contraceptive methods reduce wanted pregnancies and STI's, only 30.7% of the participants in this study use dual contraceptive methods while 42.4% use single contraceptive methods. This finding was slightly higher than that reported in a study in southern Ethiopia.

On the factors affecting contraceptives use among WLHIV, the study shows statistical significance between distance from the health facilities and contraceptive use. The near one is lives away from the health facilities, the more likely they use contraceptive. As seen in this study women who lived 2 to 3 kilometers away from the health facilities are more likely to use contraceptives compare to women who lived 4 to 5 kilometers to the health facilities. This agrees to a study in Kilimanjaro region in Tanzania, distance to health facility was found to be significant to contraceptive uptake<sup>8</sup>. Also, contraceptive uptake among participants who did not experience side effect while using contraceptive method had significant higher odds of using contraceptive methods. This indicates that no side effect while using contraception increase the uptake of contraceptive<sup>9</sup>. Meanwhile, payment for services had significant lower odds for uptake of contraceptives. Participants who do not pay

for services are less likely to use contraceptive compare to those pay for the services. This is in line with a study in Uganda, which shows that payment of services was a hindrance to contraceptive uptake<sup>10</sup>.

## **Endnotes**

- <sup>1</sup> Tewabe, Tilahun, Tilksew Ayalew, Abdulhakim Abdanur, Demoze Jenbere, Mastewal Ayehu, Girma Talema, & Eden Asmare. "Contraceptive Use And Associated Factors Among Sexually Active Reproductive Age HIV Positive Women Attending ART Clinic At Felege Hiwot Referral Hospital, Northwest Ethiopia: A Cross-Sectional Study." **Heliyon** 6, no. 12, 2020.
- <sup>2</sup> Adefala, Ngozi, Kolawole Sodeinde, Abiodun Osinaike, Fikayo Bamidele, & Adebola Omotosho. "Condom Use And Associated Factors Among HIV-Positive Patients Accessing Care At A Private Tertiary Health Institution In The Southwest, Nigeria." **Babcock University Medical Journal** 3, no. 1, 2020: 49-58.
- <sup>3</sup> Aradom, Habtom Semereab, Endalew Gemechu Sendo, Girum Sebsibe Teshome, Negalign Getahun Dinegde, and Takele Gezahegn Demie. "Factors Associated With Modern Family Planning Use Among Women Living With HIV Who Attended Care And Treatment Clinics In Jigjiga Town, Eastern Ethiopia." **Therapeutic Advances in Reproductive Health** 14, 2020: 2633494120976961.
- <sup>4</sup> Feyissa, Tesfaye, Melissa Harris, Peta Forder, & Deborah Loxton. "Contraceptive Use Among Sexually Active Women Living With HIV In Western Ethiopia." **Plos One** 15, no. 8, 2020: e0237212.
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- <sup>6</sup> Yaya, Issifou, Akouda Akessiwe Patassi, Dadja Essoya Landoh, Essodjèlouna Manani Bignandi, Kanfitine Kolani, Abdel-Daim Daou Namoro, Lihanimpo Djalogue, Didier Koumavi Ekouevi, & Bayaki Saka. "Modern Contraceptive Use Among HIV-Infected Women Attending HIV Care Centres In Togo: A Cross-Sectional Study." **BMJ Open** 8, no. 4, 2018: e019006.
- <sup>7</sup> Haile, Dereje, & Berhanu Lagebo. "Magnitude Of Dual Contraceptive Method Utilization And The Associated Factors Among Women On Antiretroviral Treatment In Wolaita Zone, Southern Ethiopia." **Heliyon** 8, no. 6, 2022.
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- <sup>9</sup> Tewabe, Tilahun, Abdulhakim Abdanur, Demoze Jenbere, Mastewal Ayehu, & Girma Talema. "Contraceptive Use Among Sexually Active Reproductive Age HIV Positive Women Attending ART Clinic At Felege Hiwot Referral Hospital, Northwest Ethiopia: A Cross-Sectional Study.", 2020.

## Chapter Five

## **Conclusion**

### **5.1. Summary of Findings**

The main purpose of this research is to investigate the use of contraceptive among Women living with HIV, in Oyo State, Nigeria. The state of the Research problem highlighted the gap observed that necessitate this study. The Study did a comprehensive review of past related literature, this was done with the view to link the present study with the past study so as to be able to show the gap that the present study will be filling. The study adopted a facility based cross sectional survey among Women living with HIV in Oyo State, Nigeria. The sample sizes were selected through systematic sampling technique to select a sample size of 469 participants for the study. For data collection, qualitative method was adopted which included Socio-Demography Data Questionnaire, Knowledge of Contraceptive Questionnaire, Attitude towards Contraceptive Use Questionnaire, Contraceptive use Questionnaire, Perceived factors that influence Contraceptive Use Questionnaire.

Results revealed that most of the participant in this study had high level of knowledge on contraceptive methods but had negative attitude towards contraceptive use. Findings also showed that the level of contraceptive use among WLHIV is high and majority of the participants used male condoms as a form of contraceptives. Findings in this study also indicated the factors that influence the use of contraceptives which are Distance to the health facilities, Payment for service, Previous side effect to contraceptive use, Partner not providing food and Attitude of participants towards contraceptive use.

### **5.2. Conclusion**

The study made a concerted effort in bringing about comprehensive understanding on contraceptive use among Women Living with HIV, Oyo State, Nigeria. This study showed that majority of the participants had high knowledge on contraceptive methods, positive attitude towards contraceptive methods. Also, the level of contraceptive use is high among the participants. The perceived factors that influence the use of contraceptive include: Type of partner, Distance to the health facility, payment of service, Partner not providing food and Side effect while using contraceptive.

### **5.3 Recommendations**

Based on the findings of this study; the following recommendations were made:

1. Health workers should sanitize and counsel Women Living with HIV to improve their knowledge on contraceptive methods and to improve their attitude towards contraceptive use
2. Women Living with HIV accessing services at the ART clinic must be offered family planning services
3. Women living with HIV Partners should be involved in family planning services
4. Concerted effort of Health Administrators, health care providers and consumer of health care services are strongly required as veritable tools towards sustaining continued contraceptive utilization among Women living with HIV.
5. The Inclusion of Men living with HIV as active participant in contraceptive utilization intervention is hereby proposed; this to a large extent influence decision making process than focusing on women as the forerunner of the programme.

### **5.4 Contribution to Knowledge**

1. Increasing awareness in the availability and Utilization of contraceptives especially for Women living with HIV
2. Contribution to existing body of knowledge in health education
3. Acquisition of proper knowledge of contraceptive use enables women living with HIV engage in healthy sexual relationships without fear
4. Use of contraceptives may promote healthy sexually behavior amongst People living with HIV

### **5.5 Suggestions for Further Research**

This study focused on Women Living with HIV in Oyo State; it is suggested that further studies in the field can be done:

1. Using other study areas
2. Using Men living with HIV.
3. Looking into contraceptive among young adults living with HIV.

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## Thesis

Juliastuti Dyah. *"The sexual and reproductive health of women living with HIV in Banten Province Indonesia: integrating qualitative and quantitative methods."* PhD Thesis, School of Public Health, The University of Queensland, 2021.

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Do Not Copy, Lead City University, Nigeria

**Questionnaire**

**Lead City University**

**Ibadan, Oyo State**

**Knowledge, Attitude and Practices of Contraceptives Use Among Women Living With HIV In Ibadan**

Dear Respondent,

This research is on knowledge, attitude and practices of contraceptives use among women living with HIV in Ibadan

The information provided will be strictly confidential and participation is voluntary.

Yours Sincerely

Ejoga Bulus Afiniki.

**Section A: Socio – Demographic Characteristics.**

**Kindly tick (✓) or fill in the space provided in the statements below;**

1. Age: \_\_\_\_\_
2. Religion: Christianity ( ) Islam ( ) Others (Specify) \_\_\_\_\_
3. Educational level: Primary level ( ) Secondary level ( ) Tertiary level ( ) None ( )
4. Marital status: Married ( ) Divorce ( ) Widowed ( ) Separated ( ) Single ( )
5. Type of partner: Spouse ( ) Steady ( ) Casual ( ) None ( )
6. Do you know your partners status: Yes ( ) No ( )
7. If yes: Positive ( ) Negative ( )
8. Employment status: Unemployed ( ) Employed ( )
9. Number of Children after learning about HIV Status \_\_\_\_\_

## Section B: Knowledge Of Family Planning Methods

Tick(✓) or mark the option that best represents your opinion in the statements provided;

	Statement	Yes	No
10.	Have you ever heard about family planning?		
11.	Do you ever receive any formal reproductive health education?		
12.	Are you aware of any contraceptive methods?		
14.	Have you ever been advised about contraceptives by ART provider?		
15.	Do you have any awareness of sexually transmitted infections?		
16.	Have you ever heard about Mother-to-child transmission of HIV		
17.	Have you ever heard about Condom?		
18.	Have you ever heard about male Sterilization?		
19.	Have you ever heard about female Sterilization?		
20.	Are you aware of Implant as a means of contraceptive methods?		

## Section C: Attitude Towards Contraceptive Methods

Kindly indicate your level of response

Key: SA- Strongly Agree, A- Agree, D- Disagree SD- Strongly Disagree

SN	Statement	SA	A	D	SD
21.	I feel safe when am having sex with condom				

22.	I feel so bad that my spouse does not like use of contraceptives.				
23	I prefer cohabitation relationship to hook up				
24.	I enjoy having sex without contraceptives				
25.	I feel great with contraceptives it enhance my sexual productivity.				
26.	I feel delighted with contraceptive usage it makes me feel radiant.				
27.	I dislike contraceptive usage it make me feel uncomfortable.				
28.	I dislike contraceptives usage, it reduce the level of mutual trust between couples				
29.	I am happy that my faith supports use of contraceptive.				

30.	I don't value contraceptives usage it enhances sexual promiscuity.				
31.	My spouse supports contraceptives usage, it enhances mutual understanding and family support				
32.	I dislike using contraceptives because it reduces my urge for sex				
33.	I feel good with contraceptive usage it gives me sense of control.				

#### Section D: Use Of Contraceptive Method

Tick appropriate choice of your contraceptive method

34. Are you using contraceptive now? (A) Yes ( ) (B) No ( ).
35. Do you desire to have a child or more children? (A) Yes ( ) (B) No ( )
36. If yes to question (30), which of the following contraceptive method do you use any time you want to have sexual intercourse with your partner? (You can tick more than one
- (A) Male condom ( )
- (B) Female condom ( )
- (C) Pills ( )

- (D) Injectable ( )
- (E) IUCD ( )
- (F) Implants ( )
- (G) Female sterilization ( )
- (H) Male sterilization ( )
- (I) Emergency contraceptives ( )
- (J) Periodic abstinence ( )
- (L) Withdrawal ( )
- (N) Drink herbal concoctions ( )
- (P) Others (specify) \_\_\_\_\_

37 Time on contraception ?

- a) 12 months or less
- b) >12 to 36 months
- c) >36 months

38. Do you get your contraception outside the ART center?

- a) Yes
- b) No

**Section D: The Factors Influencing The Use Of Family Planning Among HIV**

**Positive Women**

How do you relate with your sexual partner?

- a) He is caring
- b) He supports my baby with everything
- c) He does not provide food d) Does not stay with me

39. How far is the health facility from you home?

a) ½ to 1 kilometer

b) 2 to 3 kilometers

c) 4 to 5 kilometers

40. Do you pay for the services from the health facility

a) Yes

b) No

41. Are you giving standard ART service

a) Yes

b) No

*Do Not Copy, Lead City University, Nigeria*

**Informed Consent Form**

**LEAD CITY UNIVERSITY**

**IBADAN, OYO STATE**

**Knowledge, Attitude and Practices of Contraceptives Use Among Women Living With HIV In Ibadan**

Principal investigator

EJOGA BULUS AFINIKI

PUBLIC HEALTH DEPARTMENT, LEAD CITY UNIVERSITY

LEAD CITY UNIVERSITY, TOLL GATE, IBADAN

+2348024775845

**Purpose of The Study**

My name is Ejoga Bulus Afiniki, a postgraduate student of Lead City University, Ibadan. I am conducting a study on contraceptive use among women living with HIV in Oyo State, Nigeria.

I am interested in understanding the level of knowledge of modern contraceptive among HIV positive women, whether women living with HIV in the Oyo State use contraceptives. I equally want to know the factors that influence the use of contraceptives among women living with HIV. I will greatly appreciate your participation in my study. Your insight will assist me understand the reasons behind use of contraceptive among women living with HIV.

### **Research Procedure**

If you agree to be in this study, you will be asked to answer questions about yourself as well as questions about the factors that influence use of contraceptive. These questions will be asked using a structured questionnaire. To fill the questionnaire will take about 5 to 10 minutes of your time.

### **Risks And Benefits**

There are minimum or no risks if you take part in this study. There are also no incentives but the information you provide will help you improve on your health and that of your loved ones.

### **Compensation**

There is no monetary compensation or incentive for this study. Participation is voluntary.

### **Confidentiality**

Like it is stated above, your comments will not be anonymous. Every effort will be made by the researcher to preserve your confidentiality. Only the research team will have access to the answered questionnaires. Confidentiality and privacy will be maintained by keeping all materials under lock and key. Your name will not be recorded.

### **Contact Information**

If you have questions at any time about this study, or you experience adverse effects as the result of participating in this study, you may contact the researcher whose contact information is provided on the first page. If you have questions regarding your rights as a research participant, or if problems arise which you do not feel you can discuss with the Primary Investigator, please contact the Institutional Review Board at

### **Voluntary Participation**

Your participation in this study is voluntary. It is up to you to decide whether or not to take part in this study. If you decide to take part in this study, you will be asked to sign a consent form. After you sign the consent form, you are still free to withdraw at any time and without giving a reason. Withdrawing from this study will not affect the relationship you have, if any, with the researcher. If you withdraw from the study before data collection is completed, your data will be returned to you or destroyed.

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### **Consent**

I have read and I understand the provided information and have had the opportunity to ask questions. I understand that my participation is voluntary and that I am free to withdraw at any time, without giving a reason and without cost. I understand that I will be given a copy of this consent form. I voluntarily agree to take part in this study.

## Biodata

### A. Personal Data

Full name: Afiniki,BULUS- EJOGA

Address: No 20, Ifelodun Estate, Ajo, Sanyo Ibadan, Oyo State

E-mail Address: afinikigeoge@gmail.com

Phone no: +2348024775845

Date of birth: 1<sup>st</sup> October, 1983

Place of birth: Kaduna

Nationality: Nigeria

Marital Status: Married

Name of Next of Kin: Mr. Goeoge

Address of Next of Kin: No 20, Ifelodun Estate, Ajo, Sanyo Ibadan, Oyo State

Kin:

### B. Educational Background

Educational Institutions Attended with Dates and Qualification:

#### **West African Senior School Certificate**

Queen Amina College, Kaduna 1997-2001

#### **Diploma in Pharmacy Technician**

Kaduna State College of Health Science and Technology 2003-2006

#### **Bachelor Degree in Community Health**

Lead City University, Ibadan 2014-2017

#### **Certificate in Occupational Health**

Occupational Health Institute of occupational health, Oyo State 2021

**Certificate in Family Planning**

Oyo State School of family Health (Family Planning) 2021

**Diploma in Community Health (CHEW)**

Oyo State College of Health Science & Technology 2018-2021

**Masters of Public Health** 2021- current

*Lead City University, Ibadan, Oyo State.*

**C. Work Experience**

Employer: Lead City University  
Section: Hospital (Pharmacy Department)  
Position: Pharmacy Assistant  
Roles: Prescription of drug, Dispensing of Drugs and Counselling  
Period: 2014 – 2019  
Section: Community Health Department  
Position: Assistant Lecturer  
Roles: Teaching  
Period: 2019 till date

- National Youth Service (Lead City University, Ibadan)

Period: Jan 2018 – Dec 2018

Section: Community Health Department

- Employer: Kaduna State Ministry of Health.

Section: Pharmaceutical Services

Roles: After sales services, however, Prescription of drug, Dispensing of Drug

Position: Pharmacy assistance

Period: 2007 – 2014

- Employer: Gaba Pharmacy, Kaduna.

Section: Sales Representative Officer

Roles: After sales services, however, Prescription of drug, Dispensing of Drug  
Representative of company on social responsibilities

Position: Pharmacy assistance

Period: 2006 – 2007

**Referees:**

Mr. Francis Adeniyi Balogun  
HOD. Community Health Department,  
Lead City University, Ibadan  
Oyo State.  
Tel: 08039121286

**George Ejoga**  
British America Tobacco  
Oyo State.  
Tel: 08028362630

iversity, Nigeria

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Signature

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Date

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### **The University Compliance Certification**

This is to certify that this thesis by Afiniki, BULUS- EJOGA, with Matric No. LCU/PG/002293 in the Department of Public Health, Faculty of Basic and Health Sciences, Lead City University, Ibadan is in full compliance with the approved University format and style.

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Signature

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Date

*Do Not Copy, Lead City University, Nigeria*