

Chapter One

Introduction

1.1 Background to the Study

Contraceptive use plays a critical role in promoting maternal and child health. It empowers women to make informed decisions about their reproductive lives, spacing of pregnancies, and overall well-being. In many countries, including Nigeria, unintended pregnancies and inadequate contraceptive use remain major public health challenges¹. Unplanned pregnancies can lead to adverse health outcomes for both the mother and the child, including increased maternal and infant mortality rates¹. In many countries, maternal mortality has persisted as a serious issue. About 295,000 women worldwide do not survive pregnancy-related diseases¹. At 500 per 100,000 live births, Sub-Saharan Africa has the highest maternal death ratio worldwide¹. Nigeria's maternal mortality rate was estimated at 917 per 100,000 live births; it increased by nearly 14% in 2020 to reach 1047 deaths¹.

Military populations, in general, have increased vulnerability to unwanted pregnancy and HIV infection, compared to the general civilian populations². Several factors place men and women in military services at increased risk of unwanted pregnancy and HIV infection^{2,3}. Nigerian military personnel, like most militaries are in the most sexually active age group (15 to 35 years) and thus are at greatest risk of unwanted pregnancy amongst other Sexually Transmitted Diseases (STIs)⁴. Since they are regularly away from home for long periods, away from their regular sexual partners, many of them engage in risky behaviors as a means of relieving the tension of loneliness and stress⁴. In addition, the occupation gives them a sense of invulnerability and exposes them to alcohol and drug consumption and commercial sex workers⁵.

Risk factors among the military also include high rates of sexual partner change, elevated rates of STDs, low rates of condom use with commercial sex workers and other casual partners, and significant mixing between groups having high and low-risk behavior patterns⁵. However, the nature of military service often imposes distinct challenges and circumstances that may influence reproductive health decisions, including contraceptive use. Several identified contextual factors that contribute to shaping contraceptive uptake among military personnel in Nigeria include socio-demographic characteristics, knowledge, attitudes, and beliefs, accessibility, and availability of contraceptive services, organizational policies, cultural norms, gender dynamics, stigma and discrimination, reproductive health education and promotion amongst other factors^{12,13,14}.

In Nigeria, females constitute 6% to 10% of the military and are exposed to the same, sometimes even greater, pressure as men to enter into casual sexual relationships⁶. Despite awareness of condom efficacy, most females generally find it difficult to use condoms consistently because of the power imbalances or other dynamics operating in their relationships with males⁷. Studies comparing condom use among women who had access to both male and female condoms and those with access to male condoms alone have shown that female condom availability does increase protection¹¹. In an intervention study to evaluate the effectiveness of a situationally-based HIV risk-reduction for the Nigerian uniformed services, it was noted that at baseline, 36% of the participants reported that they had not thought of using condoms with their casual partners⁷.

Inconsistent condom utilization among other contraceptive use is high in Nigeria⁸. For instance, a large number of the people in Nigeria including; military personnel and police force, did not use condom during sex with non-regular partners⁸. In particular, a study reported that a considerable proportion of Nigerian military staff had multiple sexual partners with lower levels of condom utilization with non-regular sexual partners⁹. Negative attitudes toward using

contraceptive tend to be associated with higher rates of sexual risk ⁹. Little has been written about the factors that influence contraceptive use among military personnel. Understanding factors associated with safer sexual practices and contraceptive use among military personnel is considered a vital component of HIV/STD prevention strategies⁹.

Globally, recognizing the impact of unintended pregnancies on the operational readiness of armed forces has led to increased emphasis on tailoring reproductive health initiatives to the unique needs of military populations ⁹. At the national level, Nigeria has been actively promoting family planning as a crucial element of its healthcare strategy. However, there is a noticeable gap in research concerning the factors influencing contraceptive uptake among military personnel, a demographic that operates within a distinctive organizational and operational context. The Nigerian military, comprising diverse branches and ranks, functions within hierarchical structures, rigorous training schedules, and deployments that can extend for prolonged periods.

The uptake of modern contraceptives in Southwest Nigeria is significantly influenced by a combination of cultural and religious beliefs, levels of awareness and education, accessibility and availability of contraceptive methods, perceptions and stigma within the military community, and the policies and programs implemented by military healthcare services^{7,8,9,10}. The diverse cultural and religious landscape of the region often shapes attitudes towards contraceptive use, while the varying levels of knowledge about contraceptives among military personnel affect their willingness and ability to use these methods. Accessibility to a range of contraceptive options within military health facilities, coupled with the stigma that may be associated with their use, especially among unmarried personnel, further impacts uptake¹⁵.

Understanding the dynamics of family planning choices within this unique environment is imperative for designing interventions aligned with national reproductive health goals and tailored to the specific circumstances of military life. Despite contraceptive accessibility and its promotion for the use in the prevention of unwanted pregnancy and STIs, the use of contraceptive is still too low in Nigeria, particularly among military personnel¹⁰. This study, therefore, investigated contextual factors influencing modern contraceptive uptake among military personnel in Southwest, Nigeria.

1.2 Statement of Problem

In Nigeria, the military demographic faces a multifaceted challenge regarding contraceptive uptake^{2,10}. Despite awareness of condom efficacy, entrenched power dynamics and relationship complexities often impede consistent usage, particularly among female service members. Studies have indicated that the availability of female condoms could bolster protection; however, baseline assessments reveal a concerning disregard for condom use with casual partners among military personnel. Inconsistent condom utilization persists across the military, with a glaring absence of condom usage during intercourse with non-regular partners, exacerbating the risk of unintended pregnancies and sexually transmitted infections (STIs)⁷.

Furthermore, prevailing negative attitudes toward contraception among military personnel correlate with increased sexual risk-taking behaviors⁹. Yet, there exists a glaring research gap concerning the factors that influence contraceptive utilization within military contexts. This knowledge deficit hampers the development of targeted interventions essential for enhancing HIV/STI prevention strategies and promoting reproductive health among military personnel.

Globally, the acknowledgment of unintended pregnancies' detrimental impact on armed forces' operational readiness underscores the imperative of tailored reproductive health initiatives. Despite Nigeria's national family planning advocacy efforts, the persistently low contraceptive uptake among military personnel underscores the urgent need for robust research endeavors

attuned to the distinctive organizational and operational dynamics of the military environment¹¹.

1.3 Justification of Study

The potential impact of unintended pregnancies on operational readiness within the military underscores the critical need for understanding the factors influencing contraceptive use. By identifying and addressing these factors, the study seeks to mitigate potential disruptions to the optimal performance of military personnel in their duties.

Understanding military personnel's contraceptive use barriers and their perception on contraception can help us understand why they aren't using the contraceptive methods that are accessible. As a result, it could be a reasonable next step in the planning and design of various programs to assist this group of persons in making better use of contraceptive services.

Furthermore, the current lack of research specifically addressing contraceptive uptake among military personnel in Nigeria presents a noteworthy gap in knowledge. This study aims to fill this void, contributing to the broader understanding of reproductive health within this demographic and providing a foundation for evidence-based policies and interventions.

1.4 Aim and Objectives of the Study

This study examined contextual factors influencing modern contraceptive uptake among military personnel in Southwest, Nigeria.

The objectives are to:

1. Determine the level of contraceptive use among military personnel in Southwest, Nigeria.
2. Examine the knowledge of contraceptive use among military personnel in Southwest, Nigeria.

3. Examine the perceptions of military personnel in Southwest, Nigeria towards the use of contraception.
4. Document the obstacles faced by military personnel in assessing contraceptive methods among military personnel in Southwest, Nigeria.
5. Identify contextual factors influencing the uptake of contraceptives among military personnel in Southwest, Nigeria.
6. Explore the perceptions towards contraception among military personnel in Southwest, Nigeria.

1.5 Research Questions

1. What is the level of contraceptive use among military personnel in Southwest, Nigeria?
2. What is the extent of knowledge of contraceptive use among military personnel in Southwest Nigeria?
3. What are the perceptions of military personnel in Southwest Nigeria toward the use of contraception?
4. What obstacles do military personnel face in accessing contraceptive methods in Southwest Nigeria?
5. What contextual factors significantly influence the uptake of contraceptives among military personnel in Southwest Nigeria?
6. How do military personnel in Southwest Nigeria describe their perceptions and lived experiences regarding the use of contraceptives?

1.6 Research Hypotheses

H₀₁: There is no significant level of contraceptive use among military personnel in Southwest Nigeria.

H₀₂: Military personnel in Southwest Nigeria do not possess a significant level of knowledge about contraceptive use.

H₀3: There is no significant relationship between military personnel's perceptions and their use of contraception in Southwest Nigeria.

H₀4: There is no significant relationship between the obstacles to accessing contraceptive methods and the use of contraception among military personnel in Southwest Nigeria.

H₀5: Contextual factors (such as age, marital status, education, rank, and religion) do not significantly influence the uptake of contraceptives among military personnel in Southwest.

1.7 Significance of Study

The study make substantial contributions to the improvement of reproductive health outcomes within the military community. By identifying the barriers and facilitators to contraceptive utilization, the research endeavors to create an informed and supportive environment that empowers military personnel and their families to make well-informed family planning choices, thus enhancing overall well-being.

Furthermore, the findings of this study carry significant weight in the realm of policy development. Armed with a nuanced understanding of the factors influencing contraceptive uptake, policymakers can formulate evidence-based strategies and interventions that specifically cater to the unique needs and challenges faced by military personnel. This, in turn, has the potential to foster a more conducive environment for reproductive health within the military setting.

1.8 Scope of Study

The scope of this research is designed to investigate and analyze the proximate factors and challenges influencing contraceptive uptake among military personnel in Southwest, Nigeria.

The study will be conducted across selected military bases and units within southwest, Nigeria, ensuring representation from diverse regions to capture a comprehensive understanding of the reproductive health dynamics in the Nigerian military.

The primary focus of the study was on active-duty military personnel, encompassing both enlisted and officer ranks. This inclusive approach ensures a comprehensive representation of the military population, allowing for a nuanced exploration of the factors influencing family planning choices across different ranks and roles within the armed forces. The study specifically delves into the perceptions towards contraception, level of contraceptive use, obstacles faced by military personnel in accessing contraceptive methods and the influence of the military environment on the uptake of contraceptive

1.9 Operational Definition of Terms

Contraceptive Uptake: The proportion of military personnel actively using any form of contraceptive method, including but not limited to oral contraceptives, condoms, intrauterine devices (IUDs), or other medical and non-medical family planning approaches, during the specified study period.

Military Personnel: Active-duty members of the Nigerian Armed Forces, including both enlisted and officer ranks, representing various branches such as the Army, Navy, Air Force, and other specialized units. The scope includes individuals currently serving within the military during the study period.

Proximate Factors: Immediate and direct influences or determinants that impact the decision-making process of military personnel regarding contraceptive use. These factors include knowledge, accessibility, affordability, and awareness of contraceptive methods.

Challenges: Obstacles and difficulties faced by military personnel in the process of accessing, adopting, or consistently using contraceptive methods. Challenges which encompass social, cultural, organizational, or logistical barriers.

Military Environment: The encompassing context within which military personnel operate, characterized by hierarchical structures, training schedules, deployment patterns, and other unique organizational features specific to the armed forces.

Attitudes, Beliefs, and Perceptions: Individual and collective opinions, convictions, and cognitive frameworks held by military personnel regarding contraception. This term includes exploring positive or negative sentiments, cultural influences, and personal convictions related to family planning.

Family Planning Choices: The range of decisions and actions taken by military personnel to regulate the number and spacing of children within their families. This term encompasses the utilization of various contraceptive methods or other family planning approaches to achieve reproductive goals.

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Endnotes

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Chapter Two

Literature Review

2.1 Introduction

This chapter reviews relevant literature on contraceptive use, knowledge, perceptions, obstacles, and contextual factors influencing the uptake of modern contraceptive methods, with a focus on military personnel in the Southwest geopolitical zone of Nigeria. The review synthesizes theoretical, conceptual, and empirical perspectives to provide a foundation for the study and to identify gaps that this research seeks to address. Although contraceptive awareness has improved globally, utilization rates remain suboptimal in many developing contexts, including Nigeria. Studies consistently report that uptake is affected by a combination of individual, interpersonal, institutional, and socio-cultural factors, which are often shaped by the broader policy and service delivery environment. In military populations, these factors interact with the unique structural and cultural dynamics of the armed forces, creating distinct challenges and opportunities for contraceptives use.

2.2 The Conceptual Framework

2.1.2 Contraception

Contraception is the intentional avoidance of conception through the use of various tools, sexual behaviors, substances, medications, or surgical techniques¹. So, a contraceptive can be defined as any method or tool used to prevent a woman from getting pregnant. Effective contraception offers ample freedom to have children when desired and allows a couple to enjoy a physical relationship without worrying about an unintended pregnancy in any social setting².

2.1.3 Benefits of Contraception

One of the most economical investments a nation can make in its future is contraception³. It offers a wide range of potential advantages, including those for women's empowerment, maternity and child health, economic growth, and education. The majority of married or in a

union, women in the reproductive age range (15-49 years) take contraceptives practically everywhere in the world. 63% of these women used some sort of type of contraception globally in 2017. While less than 25% of people in Middle and Western Africa used contraception, it was more than 70% in Europe, Latin America and the Caribbean, and Northern America^{4,5}.

To protect women's autonomy and well-being while fostering community growth and health, it is crucial to promote family planning and ensure that women, girls, and couples have access to chosen contraceptive methods. According to estimates by the United Nations (UN), for every dollar spent on contraception, between \$2 and \$6 can be saved due to fewer people needing other public services including vaccines, health care, education, and sanitation⁶.

2.1.4 Classification of Contraceptive Methods

The world uses a variety of contraceptive methods. Contraception is the practice of reducing fertility in sexually active heterosexual individuals through the use of medications, chemicals, devices, surgery, or other methods. The many forms of contraception can be divided into groups based on how they work, whether they are conventional or modern, and whether they depend on the provider or the user. Oral contraception (combination pills, progesterone-only pills, and emergency contraceptive pills), non-oral contraceptives (injectables, contraceptive implants, and the patch), barriers contraception (male and female condoms), intrauterine devices (IUDs), male and female sterilization, and natural family planning are the main methods of contraception used in family planning.

2.1.4.1 Sexual Abstinence

The only method of birth control that completely removes the possibility of sperm fertilizing an egg is total sexual abstinence. The only approach of family planning that can completely avoid conception is this one. Abstinence stops semen from coming into touch with the vagina, in contrast to other methods of birth control that function to prevent pregnancy regardless of the exchange of sexual fluids. Total sexual abstinence entails refraining from all forms of sex,

including oral, anal, and vaginal sex. It does not contain sex play but does call for great resolve on the side of the individual to refrain from penetrative sex and mutual understanding between the partners. Total abstinence is a viable option that requires communication with a partner to accomplish a particular goal. No of your age, gender, or sexual orientation, anyone can abstain for a certain length of time or for a cause that may change over time. People may choose to abstain for a variety of reasons, such as the desire to avoid pregnancy and STDs, religious convictions, medical concerns, waiting for the appropriate partner, delaying till marriage, and many more⁷.

Contrary to abstinence, non-vaginal sex such as anal and oral sex can still result in the transmission of STDs. To effectively and consistently abstain from having sex, a person must: Set their own boundaries and feel good about their decision; think that having sex is not something to do just because everyone else is doing it; want to uphold their own personal, religious, or moral beliefs; and recognize that there are many other ways to experience intimacy. It motivates you to develop your connection and find alternative ways to communicate affection. However, you might decide otherwise in the "moment of truth" and not have a backup method of contraception on hand.

2.1.4.2 Withdrawal Method

In order to prevent the sperm expelled from his penis from entering the woman's vagina, a guy uses the withdrawal method to remove his penis from her vagina before he ejaculates. Another name for withdrawal method is coitus interruptus⁸. There are issues with using withdrawal as a form of birth control. Before ejaculating, a male may first discharge a little amount of sperm. Second, a guy must have the self-control and timing to remove his penis from the woman's vagina before ejaculating. The withdrawal strategy is only around 75%-80% effective at preventing conception because it can be challenging for the guy to complete effectively.

The withdrawal approach has some advantages, including being economical, not requiring medical monitoring, and requiring no forward planning. The withdrawal method has dangers since, in comparison to other forms of birth control, it is not a dependable method. Because it more heavily depends on the male partners' discretion to withdraw, it is not a dependable method of contraception. Therefore, doing so could prevent pregnancy. Failure could also be the result of a lack of self-control, particularly on the part of the male spouse. The technique's inability to fully satisfy both parties' sexual needs as well as its relatively high failure rate are other downsides. Additionally, men who ejaculate too soon or who are unsure of when to withdraw should not use the withdrawal method.

2.1.4.3 Natural Family Planning methods (NFP)

Calendar / Rhythm Method/ Cycle bead/ mobile app (period tracker) of the approaches for periodic abstinence, this one is the most popular. The calendar technique is a calculation-based strategy that forecasts the beginning and last fertile days of future menstrual cycles by using information from prior cycles. Understanding the fertile and infertile phases of a woman's menstrual cycle is necessary for this procedure. The menstrual cycle's regularity and the fact that an ovum (egg) can only be fertilized within 24 hours of ovulation are the foundations for this theory. For irregular cycles, it is necessary to identify the longest and shortest cycles that have been recorded over a period of six to eight cycles; from the shortest cycle, subtract 18 to get the first day of the fertile phase; from the longest cycle, subtract 11 to get the last day; and avoid sex, use a barrier method, or use withdrawal during the calculated fertile phase. To remind young women of their periodic calendar, there is a mobile application available for phones called "periodic tracker" that is simple to download⁹. The calendar approach is old and ineffectual when used alone because it only works around 80% of the time to prevent conception⁹.

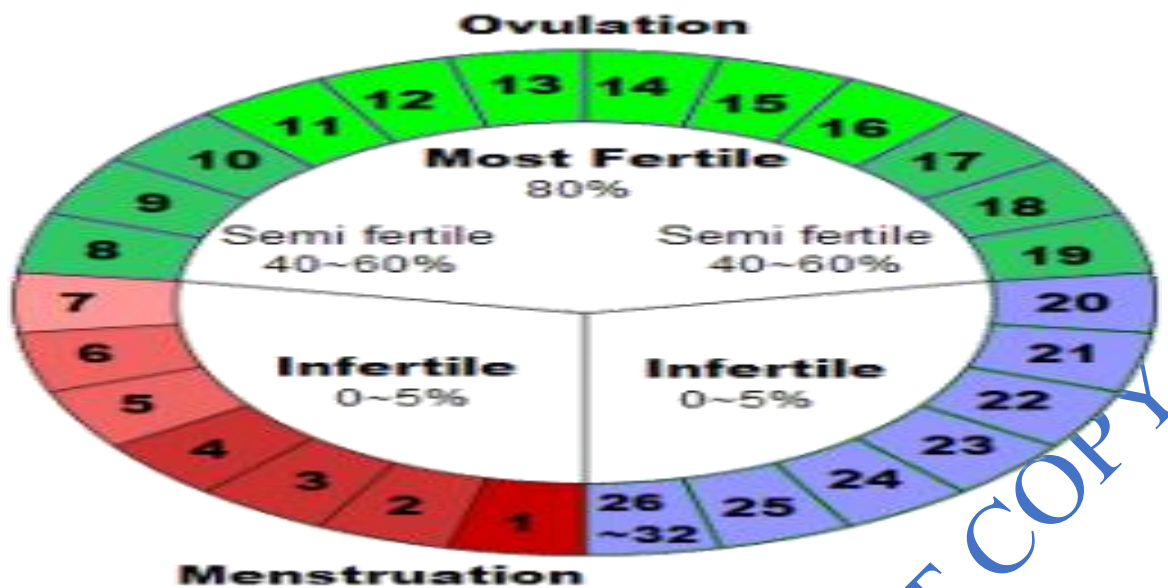


Fig 2.1: Diagrammatic presentation of Calendar Method

Source¹⁰

The daily observation of fertility markers is not necessary with this strategy. However, it has a high failure rate and might be challenging to utilize if a woman has irregular menstrual cycles. Additionally, learning how to utilize it effectively takes a lot of time.

Basal Body Temperature (BBT) Method

The basal body temperature approach is based on the observation that women's resting body temperatures rise by roughly 0.3–0.5°C during and after ovulation as a result of increased corpus luteal secretion of progesterone. When the body temperature increases for three days in a row, ovulation has happened, and it stays at this higher level until the beginning of the subsequent menstrual cycle¹⁰. This approach has no negative effects. Couples are encouraged to talk about contraceptives and a specific thermometer is needed.

A woman must take her temperature every morning before getting out of bed in order to use the basal body temperature method. It is necessary to use a specialized thermometer that is more precise and sensitive than an oral thermometer and to take careful note of the daily

temperature variations. Every month, you must carry out this. Women can chart their basal body temperatures using online calculators. A woman should forgo sexual activity from the moment her temperature dips until at least 48 to 72 hours after her temperature rises again if she wants to use the basal body temperature as a birth control strategy.

Cervical Mucus Method (CMM)

The cervical mucus approach, also known as the Billings method, is based on the identification and interpretation of changes in cervical mucus and vaginal feelings as a result of oestrogen cycle-related alterations. In order to induce ovulation, ladies who are attempting to become pregnant and have a baby can also utilize this technique¹¹. She has the option to engage in sexual activity between the time of her last menstrual cycle and the cervical mucus change. It is advised that she only engage in sexual activity every other day during this time because the presence of seminal fluid makes it more challenging to identify the type of cervical mucus she is producing. When a woman sees a change in her cervical mucus, she should wait 3 to 4 days before engaging in any sexual activity if she doesn't want to get pregnant.

According to the explanation of natural family planning methods, the cervical gland's secretion of mucus during ovulation changes from a feeling of dryness in the vagina (characterized by thick, viscous, and sticky mucus) to a feeling of wetness in the vulva (characterized by thin, white, slippery, and stretchy thread-like, transparent strands similar to uncooked egg white), so it is not safe to use these methods during this time. It is advised that women try to avoid mistaking semen with cervical mucous by doing so every other night. Additionally, it is risk-free from the evening of the fourth day following the peak day until the start of the following period. The final day of cervical or vaginal wetness is the peak day because once a woman has ovulated, her cervical mucus starts to dry up. The instruction is to use a clean cloth or piece of tissue paper to capture the mucus pattern every morning and after using the restroom in order to identify the color and consistency of the mucus. You can feel the mucus secretion to judge

how stretchy and slippery it is. No matter how thick the mucus is, refrain from having sex that day until the third evening following the "peak day"¹¹.

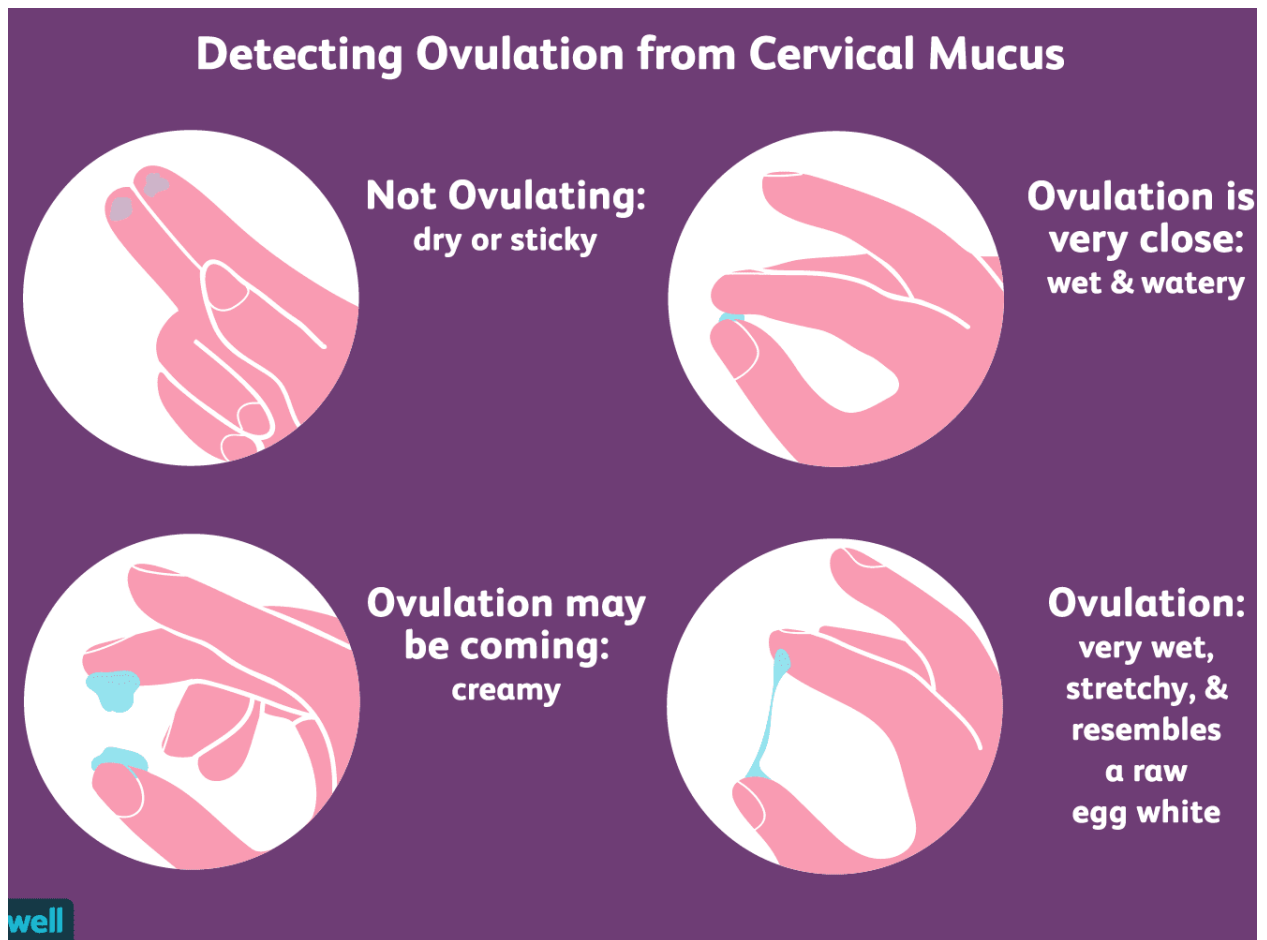


Fig 2.2: Cervical Mucus Method

Source¹¹

It encourages couples to talk about contraceptives and has no negative side effects. However, because the cervical mucus secretions may be deceptive, it is also challenging to apply this approach in the event of vaginal infections.

Symptothermal Method

The symptothermal approach incorporates elements of the mucus examination, basal body temperature, and calendar approaches. All of these elements are taken into account, as well as additional symptoms like mild cramps and sore breasts. During the discharge of an egg, some women feel discomfort in the lower abdomen (around the ovaries) (ovulation)¹².

Ovulation indicator testing kits

When a woman is most likely to ovulate, she can use an ovulation prediction kit to find out. The amount of luteinizing hormone (LH) in the urine is measured using this unique kit. The level of luteinizing hormone typically rises 20 to 48 hours before ovulation because it aids in the development of an egg in the ovary. The luteinizing hormone surge is the name given to this rise, which can be seen 8 to 12 hours later in a woman's urine. The luteinizing hormone concentration in the urine can be determined using the ovulation prediction kit.

There are several ovulation predictions kits available in pharmacies, ranging in complexity from straightforward to complex. The simplest test is having the woman urinate onto a test stick, then measuring the amount of luteinizing hormone by a color change. The level of luteinizing hormone in her urine is inversely correlated with the intensity of the hue. In accordance with the dates of her prior monthly cycles, a woman starts testing her urine 2 to 3 days before she expects to ovulation¹³.

The two days prior to ovulation, the day of ovulation, and the day after ovulation are the best times for fertilization. Having sex within 24 hours of the luteinizing hormone surge increases your risk of getting pregnant. Ovulation prediction kits can also alert a woman that she is going

to ovulate and should use the necessary contraceptives. However, their main purpose is to boost a woman's probability of getting pregnant.

Lh Ovulation Test Results

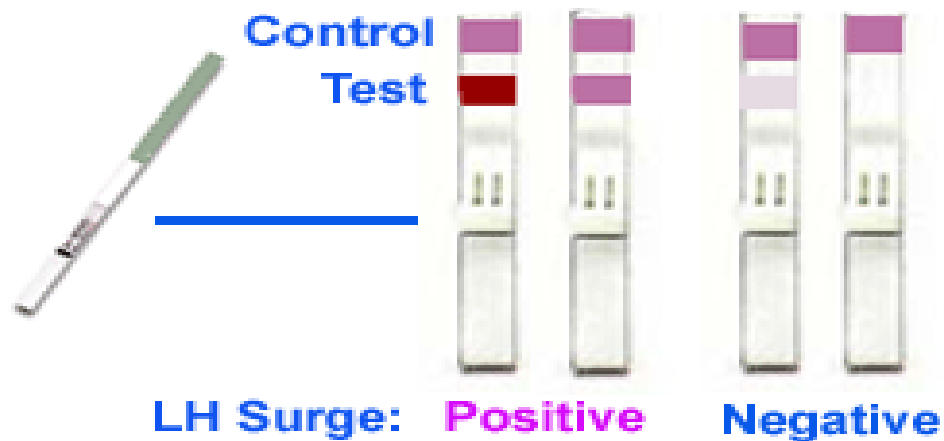


Fig 2.3: Ovulation Indicator Testing Kit

Source¹³

Use of Breast Feeding or Lactation Amenorrhoea Method (LAM)

The foundation of the Lactational Amenorrhoea Method (LAM) is the notion that a woman cannot become pregnant while still nursing her infant. It is true that a woman might not ovulate as quickly as she would if she wasn't breastfeeding after giving child. After giving birth, women who are breastfeeding typically begin ovulating again 10 to 12 weeks later. The technique is not seen to be suitable as a sole form of contraception, though. As ovulation can take place before the resumption of a woman's menstrual cycle, a nursing mother may begin ovulating again without realizing she is fertile. If this occurs and the mother engages in unprotected sexual activity, she may become pregnant while still nursing her child. A nursing mother must begin using an appropriate form of contraception if she doesn't want to get pregnant again¹⁴.

Urination and douching

Vaginal douching is the process of employing a liquid solution to clean a woman's vagina of mucus and other biological waste. Many women choose to douch frequently as part of their routine to maintain vaginal cleanliness. The majority of doctors and the American College of Obstetricians and Gynecologists (ACOG) are against the practice. Whether a woman vaginal pouches for hygiene or other reasons, it is not a reliable method of contraception. Active sperm can enter a woman's cervix and even the upper part of her uterus during sexual activity within five minutes of ejaculation. If done too soon after a sexual activity, douching even has the potential to drive sperm further up into the uterus and negate any potential contraceptive benefits. If a woman douches within six to eight hours of using a spermicide, she may potentially reduce the effectiveness of this method of contraception. When it comes to preventing pregnancy, some women traditionally thought that urinating as quickly as possible after a sexual experience may be helpful. Gravity, they reasoned, would make it more difficult for the sperm to swim "uphill" to the uterus, and the urine stream flowing over their vaginal

area would wash the sperm away similarly to douching. However, urinating after a sexual act serves no contraceptive function, just like douching¹⁵.

2.1.4.4 Oral Contraceptives

Oral contraceptives, usually referred to as "the pills," are medicines taken internally for birth control. The three types of oral contraceptives include progesterone-only pills, combined oral contraceptives, and emergency contraceptives.

i) **Combined Oral Contraceptives:** The most popular oral contraceptive pills mix progestin and estrogen, two synthetic hormones. These oral contraceptives are often known as "the Pills" or "combination pills." Combination oral contraceptives function by preventing ovulation or thickening cervical mucus to block sperm passage and by altering the uterine lining to prevent an egg from attaching to it. Pills are nearly 100% effective when they have been prepared to acceptable standards, stored properly, and used properly¹⁶.

The benefit of using tablets as a method of contraception is that they may be discontinued whenever a couple decides they wish to start a family. Combination oral contraceptives have the drawback of needing to be taken daily and having the potential to decrease a nursing mother's ability to produce milk. The human immunodeficiency virus (HIV) and other sexually transmitted diseases (STIs) are not protected against by combined oral contraceptives. When taken at the proper time, combined oral contraceptives are an effective method of contraception, but if they are missed or taken later, the likelihood of becoming pregnant increases¹⁷.

ii) **Progestogen-Only Pills (POPs):** One synthetic hormone—progestin—is the only component of another form of oral contraceptive pill. These pills are frequently referred to as "mini-pills" or "progestin-only pills." Breastfeeding mothers are advised to take progestin-only pills since, unlike estrogen, progestin won't cause less breast milk to be produced.

Additionally, progestin-only pills work better in nursing mothers than in non-breastfeeding mothers. The mini-pill might not be as helpful for non-breastfeeding women as the pill that contains both estrogen and progestin.

The effectiveness hinges on taking the little pill every day at roughly the same time. According to a report, progestogen-only pills make the cervical mucus thicker to prevent spermatozoa from penetrating to meet the ovum. After taking the progestogen-only pills for 4 hours, the impact starts to take hold and lasts for around the next 20 hours before cervical mucus returns to normal. Women who are breastfeeding, have cardiovascular conditions, or smoke should also take progestogen-only pills¹⁸.

These pills don't have any harmful side effects. When taken properly, they are very effective at preventing pregnancy. Only progesterone-containing tablets may lessen menstruation discomfort and bleeding. If the client becomes pregnant before or after stopping the progestogen-only pills, there is no increased risk of a fatal defect. It was noted that progestogen-only pills change the chemical composition, viscosity, and volume of cervical mucus¹⁹. The end consequence is cervical mucus that is hostile to or obstructed, which reduces the chance that sperm will penetrate. By rendering the uterine lining unsuitable for ovum implantation, progestogen-only pills may also obstruct the cyclic development of the lining. It appears that progestogen-only pills decrease the number and size of endometrial glands and prevent the endometrium from producing progesterone receptors. POPs may have an impact on the cilia in the fallopian tubes by reducing the strength and frequency of their movement, which may have a slowing effect on the rate of ovum transport. Menstrual cycle disruption is the main adverse effect of progestin-only medications¹⁹.

Users of progestogen-only pills frequently experience amenorrhea, brief cycles, and spotting or breakthrough bleeding. Only-progesterone medications do not offer protection against

STDs. The side effects of progestogen-only pills can include nausea, vomiting, weight gain or loss, as well as abdominal pain. Users may find the variation in menstrual cycle lengths to be particularly unsettling. The most common justification given for stopping POPs is method-related menstrual adverse effects²⁰.

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Fig 2.4: Oral Contraceptive

Source²⁰

iii) **Emergency Contraception Pills (ECPs):** Oral contraceptives called emergency contraceptives are designed to stop unexpected pregnancies. Hormonal methods of contraception such as emergency contraceptives can be used to prevent pregnancy after an unprotected act of sexual activity. They've also been called "morning after pills"²¹. However, since emergency contraception pills include a high concentration of the hormones found in birth control pills, they shouldn't be taken frequently. However, the prolonged high hormone dose is transient.

The hormones in "morning after pills" also prevent pregnancy by thickening a woman's cervical mucus, which prevents sperm from adhering to an ovum and prevents conception. Additionally, they impede fertilization by interfering with the ovum or sperm and stop or postpone the release of an egg. Within the first 72 hours following unprotected intercourse, the first dose should be taken. When eaten at the appropriate moment, according to certain research, they are effective. Women who use the emergency procedure have been documented to experience deep vein thrombosis (blood clotting). However, morning after pills are not recommended for usage as a means of contraception for sexually active women. They are less effective than any current technique of contraception²¹.

Family planning techniques shouldn't always be substituted for emergency oral contraception. Only an emergency should be used in this situation. For instance, it can be applied when a woman has engaged in sexual activity against her will or under duress (rape). Additionally, it can be used if a condom has ruptured or if the woman wants to prevent pregnancy after having intercourse without using contraception. When a woman runs out of oral contraceptives, emergency oral contraception can be used. Emergency oral contraception, however, may result in exhaustion, nausea, and vomiting²².



Fig 2.5: Emergency Contraceptive

Source²²

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2.1.4.5 Non-oral Hormonal Contraceptives

Non-oral hormonal contraceptives are birth control drugs that are not swallowed. New non-oral hormonal contraceptive treatments have been created over the past 40 years. They consist of:

i) **Progesterone-Only Injectables:** Progesterone-only injectables are injections that are administered every two to three months to prevent pregnancy and can tolerate irregular menstrual bleeding, according to the Ministry of Health. Most women who desire extremely efficient protection against pregnancy can use them.

Depo-Provera is one of the widely used injections that contain just progesterone. According to the Centre for Young Woman's Health, Depo-Provera is a hormonal form of birth control for women. It works wonders in preventing pregnancy. A synthetic version of the hormone progesterone is present in Depo-Provera. The Depo-Provera injection offers three months of pregnancy prevention. A woman should have one injection every three months for the best pregnancy prevention (13 weeks). If a person's 3-month appointment date does not work into her schedule, it is okay to have an injection up to two weeks in advance.

According to a study, the injectable form of Depo-Provera prevents ovulation in females. The ovum is necessary for fertilization to occur. Additionally, Depo-Provera alters the mucus in the cervix and the uterine lining. Therefore, the hormones make it more difficult for sperm to reach the ovum by altering the cervical mucus. Depo-Provera shots are more than 98% successful when given to women at the right time every three months. A Depo-Provera shot, however, does not offer protection from STDs. Depo-Provera injectable side effects are different for every woman. They consist of abnormal menstrual cycles, which might be longer or shorter, heavier or lighter, menstruation loss, weight gain, and headaches.



Fig 2.6: **Injectables**

Source²²

ii) The availability and usage of family planning among women and adolescent girls is being revolutionized by a new kind of injectable contraception. DMPA-SC, also known as subcutaneous (SC) depot medroxyprogesterone acetate (DMPA), is a novel medication that makes injections easier. An injectable contraception that is given subcutaneously is referred to as DMPA-SC in general. Since traditional DMPA is injected into a muscle, it typically takes more practice and expertise. The DMPA-SC product is currently offered in most nations under the brand name Sayana Press, which is produced by Pfizer Inc. The "all-in-one" product combines a needle and a contraceptive pill into a single item. In the future, DMPA-SC products might be offered in further variations.

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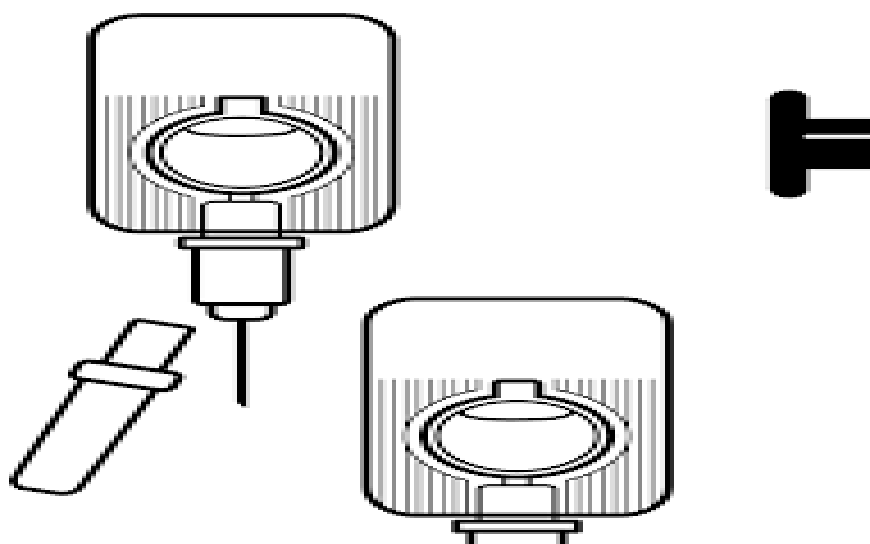


Fig 2.7: DMPA-SC

Source²⁰

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iii) **Contraceptive Implants:** Hormonal implants are described as "tiny rods around the size of a matchstick that are implanted under the skin and contain hormones" by the Center for Young Woman's Health. Norplant, which has six small rods, Norplant II, which has two small rods, and Implanon, which has one small rod, are examples of hormonal implants. Levonorgestrel or etonogestrel hormones, which are slowly released by the tubes, prevent ovaries from releasing an ovum. These ova are necessary for fertilization to take place. The uterine lining and cervical mucus are both altered by the hormones. The hormones make it more difficult for sperm to reach the eggs by altering the cervical mucus. The most popular contraceptive implants are Jadelle and Norplant. A slow-release progesterone analogue is contained in the matchstick-sized silicone-rubber implant known as Norplant and Jadelle. On the woman's arm, implants are placed beneath the skin, where they release hormones for up to five years.

The effectiveness of hormonal implants is greater than ninety-nine percent (99%). Depending on the type, hormonal implants are a type of contraception that lasts for 3 to 5 years. A woman can become pregnant at any time after having her implants removed. The implant may also lower some women's cancer risk. Abnormal menstrual bleeding is the most frequent side effect of hormone implants. Other negative effects include headaches, weight gain, and hair loss on the scalp. Implants made of Norplant don't offer STI and HIV protection. One may have spotting between periods, light or long periods, or no periods at all, and it only requires a small procedure for insertion and removal. Norplant is no longer utilized in several nations as a result. For instance, Norplant is no longer sold in the United States of America.

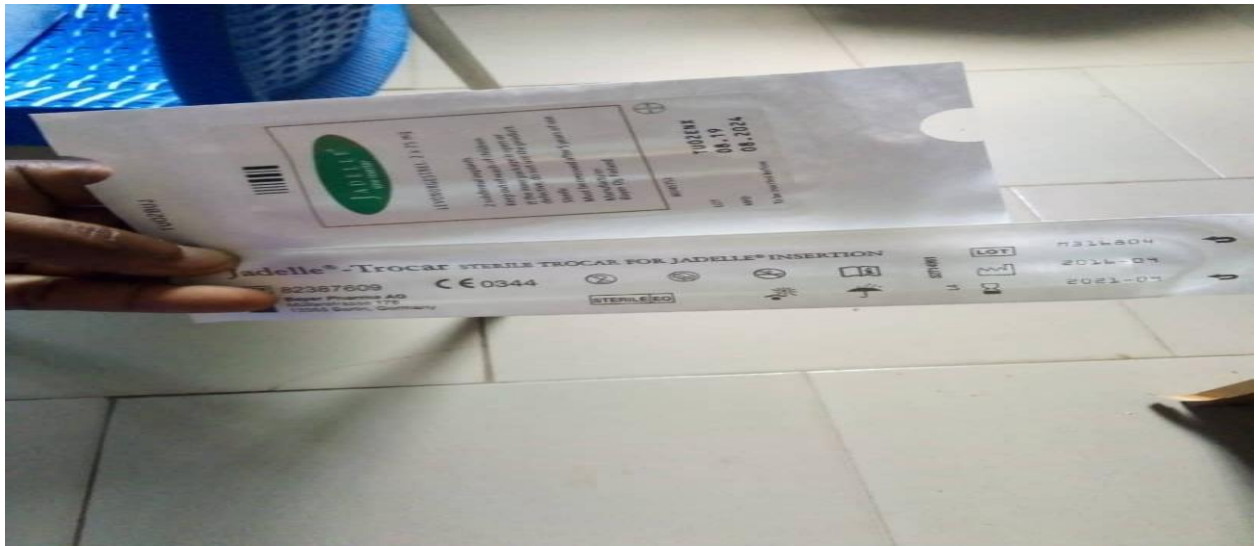


Fig 2.8: Jadelle

Source²¹

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iv) **Contraceptive Patch:** The contraceptive patch is a tiny, delicate, self-adhesive patch that is skin-colored. It is put directly onto the skin and measures 4.5 x 4.5 cm. The female sex hormones estrogen and progestin, which are absorbed via the skin, are also present in the contraceptive patch, just like they are in the combination pill. Therefore, monthly ovulation won't occur²⁴. 23. On the first day of menstruation, the patch is applied to the skin and left there for seven days. The patch needs to be then changed out for a fresh one. The same day of the week should always be chosen for this change. There is a seven-day gap after three weeks during which there is bleeding²⁵. 24. Even if the bleeding persists after the patch-free week, a new patch is applied once more. The following bodily parts make good locations for the plaster's adhesive points:

- Belly
- Buttocks
- Outside of the upper arms
- Entire torso except for the chest

If you don't remember to update the patch, you have 48 hours to do so. After that, there is no longer any trustworthy defense against unintended pregnancy. Use a second method of contraception, such as condoms, to be safe. For all ladies who don't want to think about contraception every day, the contraceptive patch is perfect. The contraceptive patch, like any drug, might have unfavorable side effects in addition to its intended function²⁵. The advantages

- i. Only one application of the contraceptive patch per week is necessary.
- ii. Diarrhea and vomiting have no impact on its effectiveness.

The disadvantage

- i. Sexually transmitted infections are not safeguarded against by the contraceptive patch.
- ii. The hormone release may cause irregular bleeding.

- iii. The negative effects of the contraceptive patch can include headaches, reactions where the patch was applied, nausea, and sore breasts.
- iv. The contraceptive patch cannot be worn while nursing since the baby would consume too much hormone-containing breast milk. The oestrogen impact may also cause the milk supply to cease.
- v. The contraceptive patch works less effectively if you are overweight (above 90 kg).
- vi. The patch can be seen.
- vii. Not recommended for women with high blood pressure, a susceptibility to thrombosis, liver illness, or smokers over²⁶.
- viii. Skin inflammation could happen.

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Fig 2.9: Contraceptive Patch

Source²⁶

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2.1.4.5 Barrier Contraceptives

Barrier contraceptives are family planning strategies that function as obstacles to the union of a sperm and an ovum, which is a requirement for conception. Barrier methods of birth control come in a variety of forms. Since they are used by people more frequently, this study has concentrated on male and female condoms. The purpose of condoms is to prevent conception by covering the penis during coitus. Rubbers or sheaths are other names for condoms, and there are numerous brands of them. They are also the world's first and most extensively used method of birth control.

Condoms

Condoms are barrier methods of contraception that work by keeping spermatozoa away from the ovum. They also guard against sexually transmitted diseases (STIs). Both male and female condoms are available, and they are hormone-free. The majority of them are made of thin latex rubber as well as nitrile, lambskin, polyurethane, and polyisoprene. The most popular and widely used barrier method among male partners worldwide is the condom. The female condom is inserted into the vagina just before sex, while male condoms are rolled onto the penis and serve as a physical barrier. The benefits include ease of accessibility, protection from STDs, affordability, and safety²⁷. Male condom use has extra benefits as well. They urge males to cooperate with their partners in birth control. They are easily accessible and can be acquired. They are affordable, available without a prescription, and youngsters are permitted to acquire them legally²⁸.

In the 1980s, the number of people using condoms increased by three times, with the main cause being fear of AIDS. However, many women don't wear a condom for every coitus act because they think it's embarrassing to buy them or get them from a clinic²⁹. The male condom is a representation of the barrier method of contraception. It is a thin sheath that covers the penis and serves as a barrier between any sperm that may be present and the woman's body by

absorbing them. Male condoms typically contain latex and polyurethane; however, lambskin is a more natural substitute. Condoms made of lambskin do not prevent STIs³⁰. The effectiveness of male condoms, which can only be used once before being discarded, can be increased by the usage of spermicidal condoms. Regardless of whether they use another method of birth control, all sexually active women should wear latex condoms since they significantly reduce the risk of sexually transmitted infections (STIs)²⁹. The use of condoms as a means of contraception for family planning and as a defense against sexually transmitted diseases (STDs) has taken on enormous importance in the modern world due to the high prevalence of HIV infection. Although it is one of the most widely utilized methods, condom utilization rates are still quite low due to the negative view of male condoms among women. This is comparable to how women perceive other forms of contraception²⁹.

The word condom can be used to describe either male or female sterilizers (femidom). The biggest benefit of using condoms as a birth control technique is the protection they provide against STDs. Additionally, indirect protection from infertility and cervical cancer is provided by condoms. The female condom, also referred to as a Femidom, is another type of barrier method for contraception. These are miniature, flexible plastic bags that are rather small. A piece of the condom is inserted into a woman's vagina before she engages in sexual activity. By doing this, no sperm will be able to enter her uterus. Approximately 18 percent of feminism is used ineffectively overall. However, by wearing a female condom, the risk of STIs can be reduced. Female condoms are designed to be thrown away after being used just once³⁰.



Fig 2.10: Male Condom

Source³⁰



Fig 2.11: Female Condom

Source³⁰

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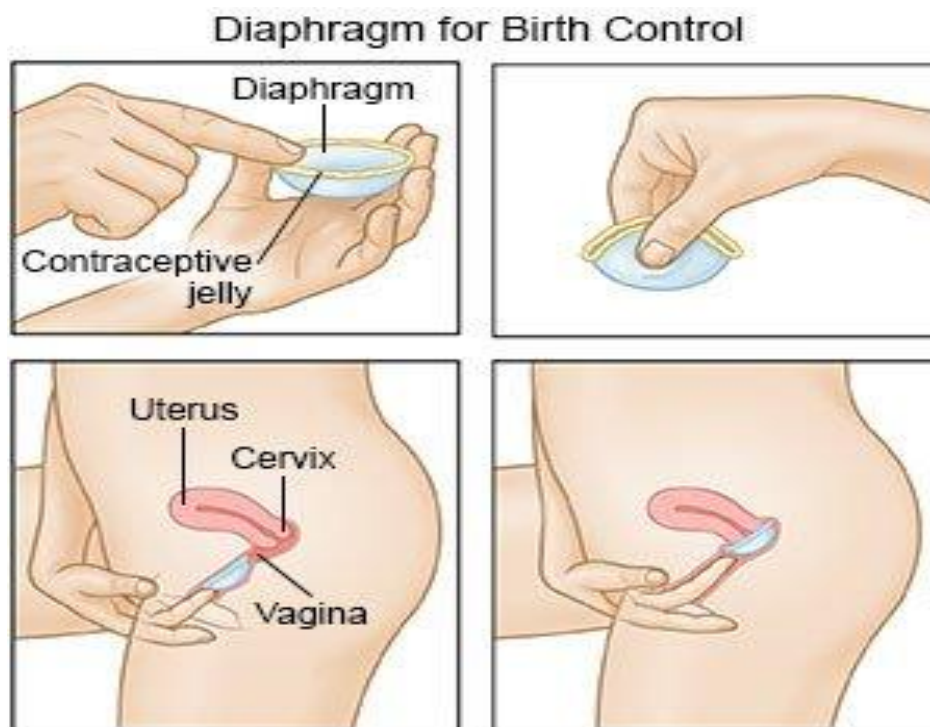


Fig 2.12: Diaphragm

Source³¹

Before engaging in sexual activity, a thin, dome-shaped cap called the diaphragm is put over the cervix, which is located high inside the vagina. It is initially coated with a spermicidal chemical before being inserted into the vagina (jelly, canned foam, or cream). Diaphragms come in a variety of sizes and need to be fitted for the first time or given practical training by a professional with the necessary training. To estimate the size of the diaphragm that will be administered by the provider, a pelvic examination is typically required. The diaphragm physically blocks sperm from accessing the cervix, but it also keeps spermicidal cream or gel in place against the cervix, immobilizing sperm in the vicinity of the cervical canal. Contrary to the cervical cap, which is held in place by suction, the diaphragm is made to be held in place by the walls of the vagina, the posterior fornix, and the pubic arch. Although silicone and plastic diaphragms are also available for use, latex diaphragms are more frequently used³¹.

Cervical Cap

Another barrier form of contraception is a cervical cap. It covers the cervix and is smaller than a diaphragm. A cervical cap is utilized together with spermicide, just as the diaphragm. The cervical cap stops sperm from attaching an egg and closes the uterine entrance¹⁹.

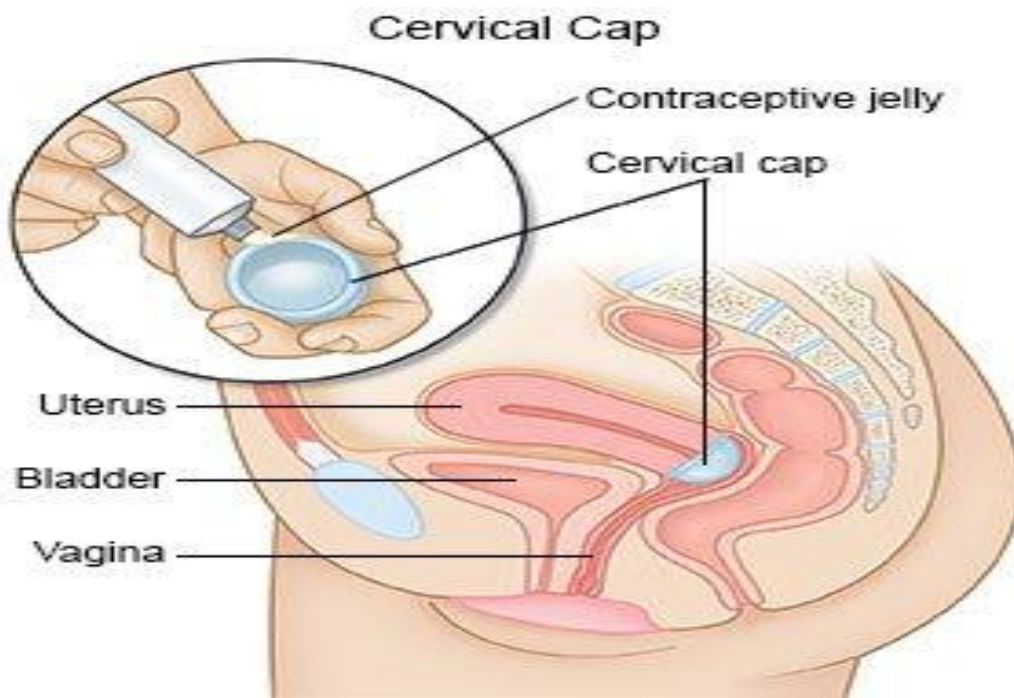


Fig 2.13: Cervical Cap

Source¹⁹

Spermicide

Women use spermicidal as a barrier technique of birth control. These are sperm-killing agents that are applied as foam or cream inside the vagina (plate3). These could offer some degree of protection from sexually transmitted illnesses. Spermicides are advised to be used in conjunction with other birth control methods, particularly latex condoms, to increase their effectiveness¹⁷.



Fig 2.14: Spermicide

Source¹⁹

Vaginal Sponge

The spermicide-filled vaginal sponge, commonly known as a birth control sponge or a modern sponge, is formed of foam. 24 hours before sex, it is put into the vagina dampened with water so that it lies against the cervix. Each sponge should only be used once. It is not, however, generally accessible. With a failure rate of 16% for women who have never had children and 32% for those who have, the sponge is roughly as effective as the cervical cap. However, unlike the diaphragm or cervical cap, no doctor fitting is necessary²⁰.

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Fig 2.15: Vaginal Sponge

Source²⁰

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2.1.4.7 Intrauterine Devices (IUDs)

Intrauterine devices are an efficient, secure, and practical type of contraception. They are made of plastic, metal, or a mix of these materials, and are intended for insertion into the uterine cavity. They are especially suited for women who want to put off getting pregnant for a while, are nursing, find other reversible methods difficult to use, or prefer a method that doesn't require supervision or action prior to sexual activity. The intrauterine device, according to Marie Stopes International, is a tiny, "T"-shaped piece of flexible plastic that is put into the uterus by a qualified medical expert. The intrauterine contraceptive method is risk-free, affordable, and incredibly successful over the long term. According to the World Health Organization, copper devices generate an inflammatory or foreign body reaction that alters the cellular and biochemical makeup of the endometrium as well as the fluids in the uterus and the tubal cavity. In addition, the inflammatory response and prostaglandin release may delay or derange normal cyclical change in the endometrium, rendering it unsuitable for blastocyst implantation. Progesterone, which is present in intrauterine devices, keeps sperm from passing through cervical mucus.

A copper intrauterine device is simple to use and requires little upkeep. It lowers the risk of pregnancy and is effective for up to 10 years. It is possible to implant an intrauterine device during labor or soon after. It might as well be placed following an infection-free induced abortion. The intrauterine technique of contraception is reversible, they add in their writing. In other words, after having their intrauterine devices removed, women may conceive just as soon as those who haven't used them. Because they don't have to worry about getting pregnant, couples who utilize intrauterine devices enjoy their relationships more during their sexual encounters. The fact that it is a one-time surgery with no ongoing requirement for tablets or barrier contraceptives is its greatest benefit. It has neither the adverse systemic effects of oral contraceptives nor does it influence sex play. The lack of protection against sexually

transmitted diseases like HIV and AIDS is one of the hazards associated with intrauterine devices. Additionally, this approach does not favor women who have several partners for sexual activity. A day or two after placement, an intrauterine device may cause some pain or bleeding, but these side effects usually subside. Additionally, an intrauterine device may make period cramps or bleeding worse. When being inserted, women may also feel discomfort. Users of intrauterine devices also run the danger of being unable to quit using them on their own and needing the help of a qualified healthcare professional to do so. Therefore, she needs the intrauterine device removed by a qualified healthcare professional.

The intrauterine device's potential to come out of the uterus possibly without the woman's knowledge is another potential risk of utilizing it (it is more common when the intrauterine device is inserted soon after childbirth). The intrauterine device can only be inserted or removed by a qualified healthcare professional. However, it has been established that the intrauterine device is a reliable and secure method of contraception.



Fig 2.16: Intrauterine Devices

Source²⁰

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2.1.3.6 Male and Female Sterilization

Sterilization is a long-term technique of contraception for both men and women. A relatively straightforward surgical procedure called sterilization offers permanent protection against pregnancy. For men and women who are certain they do not want any more children, sterilization is appropriate. Female sterilization, also known as tubal ligation, and male sterilization, sometimes known as vasectomy, are the permanent means of contraception. Both approaches require little surgery. In most situations, there is no need for hospitalization after this operation because it is so safe.

Although there is a slight possibility of conception, male and female sterilization are considered permanent means of contraception and are almost 100% successful. Once the surgery is performed, it is extremely likely that the woman or man will be unable to have any more children because, in most cases, the treatment cannot be undone. The pair must carefully consider their decision to employ a permanent procedure and be sure they do not want any additional children. If a person is not ready for a permanent technique, they should be aware that there are other extremely effective and reversible contraceptive options available. They should talk to a family planning professional about their options. The provider will ensure that their choice is voluntary, perform a physical assessment, and work with the client to choose a suitable time for the sterilization. A provider can reassure both men and women that sterilization has no effect on sexual function and neither lessens men's or women's masculinity or femininity.

Female Sterilization

The surgical process of female sterilization is rather straightforward. The fallopian tubes of a woman are cut and blocked with a very small abdominal incision, preventing the eggs from passing through the tubes to meet the sperm. Female sterilization has no negative effects, and when carried out by a skilled medical professional, complications are exceedingly rare. If she

chooses to donate it before giving birth, it can be given virtually anytime, even right after delivery. A woman may experience some stomach pain and swelling after surgery, but these side effects go away quickly. After about a week, she should, if at all feasible, go back to the doctor to have the stitches taken out and have the incision checked for infection.

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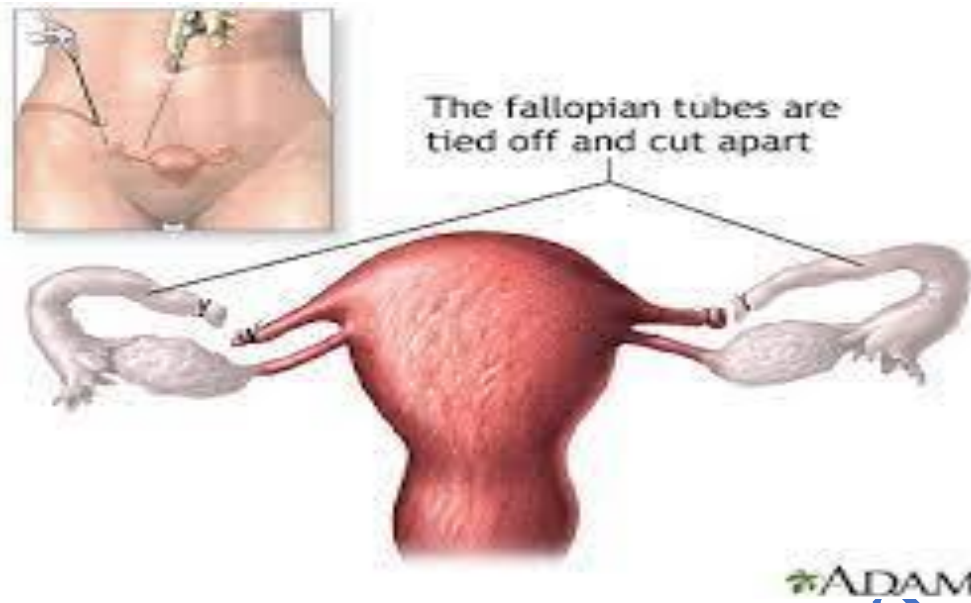


Fig 2.17: Female Sterilization

Source¹³

Male Sterilization

Vasectomy, sometimes known as male sterilization, is an even easier surgical procedure. The two tubes (vas deferens) that convey a man's sperm to his penis are cut and stopped, and a tiny hole is formed in the scrotum (the sac that houses the testicles). This prevents sperm from getting into the semen, which is the liquid that men ejaculate. The guy will still be able to ejaculate and experience orgasms, but since there won't be any sperm in the semen, he won't be able to start a pregnancy. Vasectomy problems are rare and there are no side effects from the procedure. A male may have soreness, scrotal swelling, and bruising following the surgery. Usually, these symptoms disappear within two to three days.

A vasectomy does not take effect right away, but a man can engage in sexual activity two to three days after the treatment. The removal of all sperm from semen takes roughly three months. A male or his partner should use another family planning method, such as condoms, throughout these three months. Alternatively, if a woman was already utilizing family planning techniques before her boyfriend had a vasectomy, she can keep doing so for another three months before stopping. A vasectomy is considered effective after three months. If at all possible, a medical professional can look at a sample of semen under a microscope to determine whether or not it contains live sperm. After 3 months, however, this test is not necessary. Millions of men who do not want more children have chosen vasectomy. Vasectomy is simpler than female sterilization, recovery is quicker usually a day or two and the method allows men to take responsibility for family planning. After this procedure, a man can enjoy sex with his partner as before, except now without fear of pregnancy.

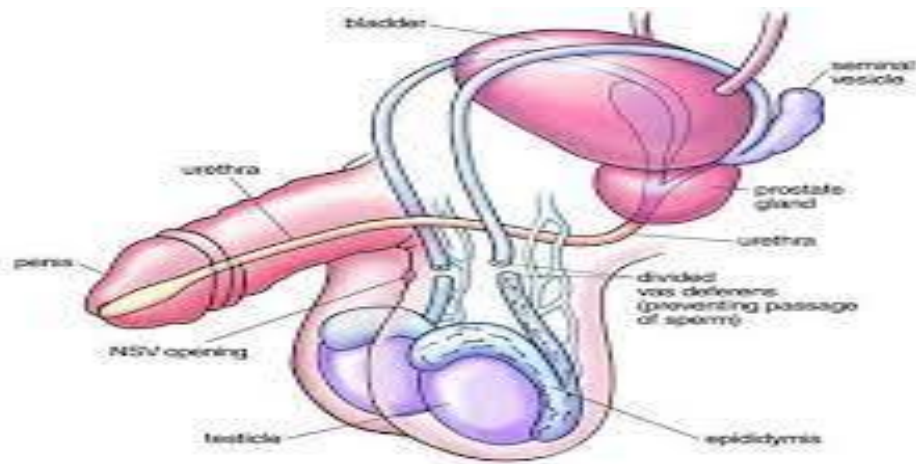


Fig 2.18: Male Sterilization

Source¹³

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2.2.1 Concept of Knowledge of Contraceptive Use

Knowledge of contraceptive use refers to the extent to which individuals are aware of, understand, and possess accurate information about various methods of preventing pregnancy. According to the World Health Organization, knowledge involves understanding how contraceptive methods work, their effectiveness, side effects, and where they can be accessed. Knowledge also encompasses awareness of both traditional and modern methods such as condoms, oral pills, injectables, intrauterine devices (IUDs), implants, and sterilization. Adequate knowledge empowers individuals to make informed reproductive decisions and reduces misconceptions that often lead to low utilization⁴.

Globally, high levels of contraceptive knowledge have been achieved in most developed nations due to comprehensive sexuality education and easy access to reproductive health information. Studies in the United States and the United Kingdom have shown that adolescents and adults who receive structured family-planning education demonstrate better understanding and higher use of modern contraceptive methods³². This correlation between knowledge and use underscores the role of education and health communication in promoting reproductive health.

In Sub-Saharan Africa, however, while awareness of contraception is generally high, detailed knowledge remains limited. Many individuals know about the existence of contraceptives but lack understanding of correct usage, side effects, or where to obtain them. For instance, a study in Ethiopia observed that over 80 % of respondents had heard of modern contraceptives, yet only 43 % could describe how to use them correctly³³. Misconceptions such as infertility, loss of sexual desire, or spiritual consequences still persist. Similarly, it was found that myths and misinformation contributed significantly to poor contraceptive uptake among young people in Kenya³⁴.

Within the African context, the relationship between knowledge and practice remains inconsistent. A study in Ghana reported that although most respondents were aware of at least one contraceptive method, cultural and gender barriers often prevented actual use. This indicates that knowledge alone may not translate into behavior change without adequate support systems, counseling, and societal approval³⁵.

In Nigeria, numerous studies confirm that awareness of contraceptives is almost universal. According to the Nigeria Demographic and Health Survey, over 90 % of women and men of reproductive age have heard of at least one modern contraceptive method. However, deep knowledge especially about method effectiveness and side effects remains uneven across regions, educational levels and occupations³⁶. It was noted that health workers, educated women, and urban residents demonstrated higher levels of accurate knowledge than rural dwellers and uneducated groups³⁷. Among military personnel, a study found that while awareness was widespread, misconceptions persisted about the safety and purpose of some methods, particularly hormonal ones. This highlights the need for targeted reproductive-health education within military institutions³⁸. Knowledge of contraceptive use, therefore, is not merely the awareness of methods but also an understanding shaped by education, exposure to media, and quality of counseling received. In the military context, structured orientation and consistent health promotion programs can enhance accurate knowledge, dispel myths, and foster positive attitudes toward contraception among personnel and their spouses.

2.2.2 Concept of Practice of Contraceptive Use

The practice of contraceptive use refers to the actual application or utilization of contraceptive methods by individuals or couples for the purpose of preventing pregnancy. According to UNFPA, practice involves the consistent and correct use of a contraceptive method, influenced by factors such as motivation, accessibility, partner approval, and socio-cultural acceptability.

While knowledge forms the foundation, practice demonstrates behavioral translation of that knowledge into routine reproductive behaviour³⁹.

Globally, the practice of contraceptive use has contributed immensely to declining fertility rates and improved maternal health. In developed countries, widespread availability, affordability, and governmental support have led to high rates of modern contraceptive use. For example, in Canada and the Netherlands, modern contraceptive prevalence exceeds 70 %, largely due to supportive health policies and the normalization of family planning within primary health care⁴⁰. The global concept of practice also extends to shared responsibility between men and women, as both partners are encouraged to participate actively in family-planning decisions.

In Sub-Saharan Africa, the practice of contraceptive use remains lower despite increasing awareness. Studies in Ethiopia, Kenya, and Tanzania report that cultural expectations of high fertility, male dominance in decision-making, and limited access to health facilities significantly reduce contraceptive practice^{41, 42}. Economic barriers and misconceptions about side effects also play major roles. For instance, a study found that only one in three Ethiopian women who knew about modern methods actually used them. This reflects the gap between knowledge and behavior common in many African societies³⁵.

Across Africa, countries such as Egypt, Rwanda, and South Africa have achieved notable progress in contraceptive practice through strong political commitment, integration of family planning into public health services, and male-involvement initiatives. However, in West Africa, practice levels remain comparatively low, averaging around 15–20 %⁴³. Studies in Ghana and Sierra Leone revealed that consistent contraceptive practice improved significantly when both partners received education and when services were made available within workplaces and military formations⁴⁴.

In Nigeria, the practice of contraceptive use is influenced by a combination of social, religious, and institutional factors. According to NDHS, modern contraceptive prevalence among married women stands at about 17 %, while traditional method use is slightly higher in some rural areas. Barriers such as partner disapproval, fear of infertility, religious prohibitions, and poor service delivery remain significant³⁶.

A study found that even among individuals with high knowledge levels, only a small fraction practiced contraception consistently⁴⁵. Within the Nigerian military setting, studies observed that male soldiers often perceive contraceptive use as a female responsibility or a sign of infidelity, while female personnel sometimes avoid using contraceptives due to stigma or lack of privacy^{46, 47}. Therefore, the practice of contraceptive use reflects not just individual choice but also environmental, cultural, and institutional contexts. Among military personnel in Southwest Nigeria, practice is determined by both personal attitudes and the availability of military-based reproductive-health services. Effective practice can only be achieved when accurate knowledge, positive attitudes, and supportive institutional frameworks coexist to encourage sustained and responsible use of contraception.

2.2.3 Benefits of Contraception

One of the most economical investments a nation can make in its future is contraception³. It offers a wide range of potential advantages, including those for women's empowerment, maternity and child health, economic growth, and education. The majority of married or in a union, women in the reproductive age range (15-49 years) take contraceptives practically everywhere in the world. 63% of these women used some sort of type of contraception globally in 2017. While less than 25% of people in Middle and Western Africa used contraception, it was more than 70% in Europe, Latin America and the Caribbean, and Northern America⁴. To protect women's autonomy and well-being while fostering community growth and health, it is crucial to promote family planning and ensure that women, girls, and couples have access to

chosen contraceptive methods. According to estimates by the United Nations (UN), for every dollar spent on contraception, between \$2 and \$6 can be saved due to fewer people needing other public services including vaccines, health care, education, and sanitation⁶.

2.2.4 Prevalence and Improving the Use of Contraceptive Methods

Although it has increased globally (to 63 percent), Sub-Saharan Africa still has low rates of modern contraception use. Estimates show that 22% of Nigerian women of reproductive age use modern contraception. Family planning has been identified as the key method for helping nations achieve Sustainable Development Goal 5 (SDG-5), which aims to foster gender equality and empower both women and girls⁴⁸.

Only 19% of women in their twenties and 18% of women in their forties use modern contraception in LMICs, which is insufficient. Contraception use was less likely among women between the ages of 15 and 24 but more likely among those between the ages of 25 and 35, and less likely among those over 35. Although there are substantial regional differences, affluent countries are often regarded to have high rates of female sexual engagement. The number of unwanted pregnancies among women in this age bracket may reach up to 14 million each year in sub-Saharan Africa. Pregnancy is more likely during premarital partnerships since premarital sexual activity has increased along with the interval between sexual maturity and marriage age⁴⁹.

2.2.5 National Profile

The Federal Republic of Nigeria is a Sub-Saharan country located in western Africa. Sub-Saharan Africa is known to have the highest socioeconomic gaps, particularly in healthcare, because of its pervasive poverty. The British protectorates known as the Northern and Southern protectorates were combined to form Nigeria in 1914. Nigeria became an independent nation in 1960, and a republic in 1963. Nigeria, which had six main regions at first, has experienced numerous restructuring attempts and as of 1997, there are 36 states. Every state also has a local

government area. Currently, Nigeria has 774 LGAs (local government areas). Local, state, and federal are the three tiers of Nigeria's government. In Nigeria, some form of health provision is assigned to every level of government. The federal government is the highest level of government, while local governments are the lowest. The Yoruba, Ibo, and Hausa ethnic groups make up Nigeria's top three ethnic groups. In total, there are more than 300 distinct ethnic groups³. It is the 10th most populous country worldwide and the most populous country in sub-Saharan Africa. Its land area ranks 15th in all of Africa.

The population is projected to reach 225,082,083 by June 2022, but the rate of population growth has dropped from 3.2% in 2006 to 2.5% in 2012⁴. Data show that more than 54% of people live in urban areas, and that rate of urbanization will increase from 2.2% in 2006 to 3.9% in 2022⁴. Nigeria has a young population, according to the population's age distribution. The National Bureau of Statistics⁵ found that people under the age of 14 made up 41.7% of the population, those aged 15 to 64 made up 55% of people who were economically engaged, and people 65 and above made up 3.3%⁴. Although fertility rates in Nigeria vary amongst LGAs, cities, states, and regions, they continue to be high. The northern regions frequently score lower on measures of development and health when compared to the southern regions. According to statistics from the Nigerian Demographic and Health Survey, total fertility rates (TFR) varied by region in 2013, with the northern region's TFR between seven and eight births per woman and the southern region's TFR between four and five births (NDHS).

The lowest segments of the population had a TFR of 7, while the richest had a TFR of 3, and they also observed differences in TFR based on socioeconomic level. TFR in rural areas was eight births per woman, compared to six in urban areas. (NPC and ICF, 2014)⁶. The Nigerian healthcare system has primary, secondary, and tertiary levels. Primary healthcare is the responsibility of Local Government Areas (LGAs), secondary healthcare is the responsibility of the states, and tertiary healthcare is the responsibility of the federal government. In Nigeria,

the LGA level of government is the least well-organized and has the fewest resources, making it unable to appropriately fund and coordinate primary healthcare, leaving the healthcare system with a very thin basis⁷.

2.2.7 The Nigerian Military

The Nigerian Armed Forces are structured into the Army, Navy, and Air Force, each with its own hierarchy and command structure. The military population includes active-duty personnel, reservists, and civilian employees, representing a diverse range of ages, ranks and socio-economic backgrounds. Although the workforce is predominantly male, there is a significant presence of female personnel, particularly in non-combat roles. Military personnel often live in barracks or military bases, creating a semi-closed community environment. Deployments can be frequent and unpredictable, leading to prolonged separations from families and partners. The living conditions during deployment can vary widely, from well-equipped bases to austere field conditions with limited access to healthcare facilities.

2.2.8 Contraception Trends, Patterns and Choices in Sub-Saharan AFRICA (SSA)

Sub-Saharan Africa has a wide range of fertility rates from a demographic perspective⁸. Overall fertility rates currently range from 2.38 births per woman in southern Africa to 3.05 in northern Africa to 4.52 in eastern Africa to 5.2-5.3 in western and central Africa. In the early 1960s, these rates were 6.5 births per woman on average across all regions. Demographers have found distinct onsets despite the pace showing substantial regional and temporal variety⁹. According to a study that looked at fertility trends using DHS data, there are at least 30 fertility transitions happening, even if they are all at various stages. In SSA, the transition from peak to replacement fertility levels occurred in urban areas over a 30-to-40-year period in roughly three-fifths of cases, and in rural areas over a 20-to-30-year period in around one-fifth of cases, according to an observation^{10, 11, 12}. According to a UN investigation, nine geographical clusters in SSA exhibit variation in the pace of fertility declines, some of which occur rather quickly.

If the rate of the more rapid shifts spreads to other regions of the subcontinent, the SSA nations may defy the estimates of most demographers on the potential and actual speed of their fertility transitions. According to UN predictions, Africa will experience the largest fertility reductions between 2045 and 2050¹³.

The sharp and recent declines in infant and child mortality will serve as a major driving force. Between 2000-2005 and 2010-2015, the under-five mortality rate decreased by 20% or more in 42 of the 57 countries on the continent⁴. Only one-third of the expected level of 183 deaths per 1000 live births in 1950–1955, the infant mortality rate in the SSA area dropped throughout this time, from 88 to 64 deaths per 1000 live births. The under-five mortality rate in the SSA region dropped from 142 to 99 deaths of children under the age of five per 1,000 live births during the course of ten years, a 30% decrease from the rate of 307 in the years 1950–1955. The positive developments of the past ten years not only reflect enhanced wellbeing and longevity, but they also hint at prospective changes in parental preferences for future procreation, especially in light of rising child care costs. Rising female marriage ages and levels of education completion, two important determinants determining fertility, are regarded to be the root causes of some of the reported fertility declines. One of the short-term advantages of later marriage and better education for women will be lower teenage fertility rates, an age component of total fertility rates. As the desire to have children declines, there will likely be a rise in the need for birth spacing supported by contraception. Contraceptive demand should be distinguished from the desire for fertility, as changes in one do not always lead to changes in the other. Unmet demand and Sub-Saharan Africa's reproduction trends have a shaky relationship, it was noticed^{13,14}.

The optimal family size and fertility preferences are reportedly changing in the SSA region more slowly than they did in Asia or Latin America in the 1970s¹⁵.⁵⁰ Unplanned pregnancies pose serious health risks to women of reproductive age, particularly in Sub-Saharan Africa

(SSA). There are estimated to be 210 million pregnancies worldwide, of which 38% are unplanned and 22% end in abortion⁵¹. More than 100 million women in sub-Saharan Africa wish to delay getting pregnant again or maybe forgo having children at all, but many still use antiquated, inefficient methods of contraception, and many more do not use any at all. Lack of knowledge or awareness, problems with availability, issues with culture and religion, worry about health risks or side effects, and partner or family rejection are some of the barriers that keep women from using contraceptives^{52,53}. In the entire world, SSA has the highest average fertility rate. According to the UN, numerous African countries have total fertility rates (TFR) of 5.0 in 2015. This is double the TFRs observed in South Asia (2.8) and the Caribbean (2.2). Similar to how the rates in South Asia (53%) were less than half of the average CPR (contraceptive prevalence rate) in SSA (22%)⁵⁴. The SSA region is still developing its population far more quickly than any other region. Some SSA countries have observed dynamic shifts in the fertility pattern, but these patterns at the aggregate level conceal ongoing national demographic transition. There are regional differences in the use of contraceptives, according to numerous studies. Southern African countries report the highest rates of use, followed by Eastern African countries, and with very few exceptions, Central and Western African countries report very low rates of family planning use, some of the lowest levels in the entire world⁵⁵. The development of female contraceptive methods demonstrates the advancement of contraceptives usage. These categories divide family planning methods into conventional and contemporary methods. There are three categories of contemporary family planning methods: temporary, long-term, and permanent. The emergency contraceptive pill, diaphragms, condoms, the Lactational Amenorrhea Method (LAM), foamy pills, jelly, and the pill are some of the short-term methods. Injectables, implants, and intrauterine devices are among the long-term treatment options (IUDs). Intermittent abstinence, withdrawal, and a range of conventional treatments including strings and herbs are examples of traditional

therapies. The employment of traditional methods is more common in areas where there is little public support for family planning and little usage of family planning programmes.

Traditional methods frequently fail miserably and are not regarded as effective. According to trends in the selection of contraceptive methods, the use of traditional techniques has declined while the use of modern techniques has increased in many SSA nations. Although the use of modern technologies expanded in several Central and West African countries, the general use of traditional methods persisted⁵⁶. Both personal preferences and aspects of the healthcare system have an impact on how often modern contraceptives are used. Strong family planning programs cannot succeed without effective family planning service delivery strategies, such as those that provide methods tailored to users' needs, provide counselling in addition to medical expertise for the administration of contraceptives, and track users' reactions to the method⁵⁷. Many of the SSA region's countries strive constantly to extend their array of contraception options while operating within their present constraints due to their weak health systems⁵⁶.

2.2.9 Nigerian Contraceptive Trends

According to some statistics, Nigerian women prefer to have fewer children overall than they actually do. Or, to put it another way, Nigerian women are more accepting of family planning than their male counterparts are, partly because they shoulder the burden of having children while simultaneously taking care of home duties and occasionally acknowledge the potential health hazards connected with parenting⁵⁸.

In Nigeria, the maternal mortality ratio (MMR) decreased from 1,110 deaths per 100,000 live births in 1990 to 814 deaths per 100,000 live births in 2015. This is a decrease of about 30%. In spite of the apparent drop in maternal fatalities, many pregnant women still die in Nigeria, and more recent patterns in MMR indicate that the decline has come to a halt. For instance, according to the WHO, around 40,000 women died in 2013 from maternity-related causes.

Despite Nigeria having only 3% of the world's population, this amount accounts for 14% of maternal deaths worldwide. The percentage of married women who did not meet their requirement for contraception increased between 1990 and 2003 and 2008, but not between 2008 and 2013 according to data from the Nigeria Demographic and Health Surveys (NDHS).

A study examined the attitudes and practices surrounding contraception across the entire country of Nigeria. They found that progestin implants (2.3%), oral contraceptive pills (4.1%), and injectable contraceptives (12.6%), used by 77.9% of Nigerian women, were the third most prevalent methods of contraception. Female sterilisation, spermicides, and condoms were the least preferred choices (1.5%, 0.1%, and 0.1%, respectively). This can demonstrate how affordable and practical each approach is⁵⁹.

Bilateral tubal ligation (BTL) may be less accepted than other contemporary treatments due to its invasive nature, religious beliefs, and cost issues⁶⁰. The majority of Nigerian research on contraceptives has discovered that IUCDs are used most often by women. The most common form of reversible contraception in the world, IUCDs are reportedly used by more than 130 million women of reproductive age worldwide. Numerous studies have also found regional variations in preferences. Ife (South-Western Nigeria) showed a progestogen-only injectables usage rate of 12.6%, which is lower than the 71.8% recorded in Aba (South-Eastern Nigeria) but equal to the 14.2% recorded in Jos (North-Central Nigeria)⁶¹.

2.2.10 Taking steps to reduce Maternal Mortality and Morbidity

Contraceptives reduce unplanned pregnancies, which has the direct effect of lowering maternal mortality and morbidity. Space out pregnancies, delay conception in young girls who are more likely to experience health issues from an early delivery, and avoid pregnancy in older women who also run higher risks by utilizing contraception. Women who wish to have fewer children can do so by using contraception. With the use of contraceptive, the likelihood of unwanted

pregnancies decreases, which also lessens the need for risky abortion. Cheap and very effective at saving lives, contraception. In developing nations, the average annual cost of contraceptive supplies is \$1.55 USD. The international community generally concurs that contraceptives reduce the number of times a woman is exposed to pregnancy risks helps women avoid unintended and closely spaced pregnancies—a study in Bangladesh found that very short pregnancy intervals are linked with a 7 times increased risk of induced abortion³²—helps women avoid more than 4 births; births after 35 years of age³²; and so forth^{62,63}. The number of induced abortions, unplanned births, and unwanted pregnancies would decrease from the current 89 million to 22 million annually, as well as the number of unwanted pregnancies would decrease from the current 30 million to seven million annually, in developing countries if all unmet needs for modern contraception were met (from 48 million to 12 million per year)⁶⁴. Preventing unplanned pregnancies will benefit your health. There would be an estimated 76,000 fewer maternal deaths annually if the unmet need for modern contraception was fully addressed⁶⁴.

2.2.10.1 Reducing risky abortion rates brought on by Unintended Pregnancy

Unwanted and unexpected pregnancies are a problem for a lot of women and couples around the world. 56% of unintended pregnancies, or 44% of all conceptions worldwide, result in induced abortions³⁵. Between 2010 and 2014, there were an estimated 56 million induced abortions per year, or 35 abortions for every 1,000 women between the ages of 15 and 44 years. Contraception can help prevent dangerous abortions by lowering the number of unplanned pregnancies⁶⁵.

2.2.10.2 Reducing Newborn and Infant Deaths

Closely spaced and poorly planned pregnancies and births, which are a contributing factor in some of the highest infant mortality rates in the world, can be avoided by contraceptives and contraception. The odds of a kid dying in their first year are twice as high for those born within two years of their next-oldest sibling as they are for those born within three years, according to data from an international study. The infant mortality rate increases with closer spacing between deliveries. The chance that a mother will die giving birth increases the possibility that her unborn child will get sick or die⁶⁵. Assuming no change in the use of contraceptives or the number of unintended pregnancies, maternal mortality would reduce by 64%, to 112,000 per year, if all pregnant adults and their babies received the level of maternal and newborn health care recommended by the World Health Organization. Neonatal fatalities would decrease by 76% to 655,000⁶⁵. Maternal mortality would decrease from 308,000 to 848,000 per year and infant deaths would decrease from 2.7 million to 538,00 per year if complete treatment for all expectant mothers and babies was paired with full availability of modern contraception to those who choose to forego conception⁶⁵.

2.2.10.3 Helping to Prevent HIV/AIDS

Despite research showing that women with HIV have more unmet requirements for contraceptives and reproductive health services than the general population, this is in part due to the lack of funding for integrated HIV and contraception services³⁶. In sub-Saharan Africa, about 1 in 4 women have unmet contraceptives needs. Another recent study indicated that if the needs of women with HIV for modern contraception and antiretroviral medication were completely met, HIV transmission from mothers to babies would be virtually eliminated—reduced by 93% annually⁶⁶. Both male and female condoms provide dual protection against STIs including HIV and unintended pregnancy.

2.2.10.4 Improving Education and Giving Individuals More Power

In addition to giving people the possibility to improve their education and participate in society, including obtaining paid work, contraceptives also allow people the ability to make informed decisions about their sexual and reproductive health. In order to help women and girls achieve their educational and career goals, contraceptives may help them stay in school, become literate, pick up a skill, launch a business, or in other ways. Those who have become mothers will find this to be especially true. An early or undesired pregnancy may both cause and result in dropping out of school⁶⁷.

2.2.10.5 Reducing Teen Pregnancy Rates

Preventing unintended pregnancies is essential for enhancing the sexual and reproductive health of adolescents as well as their social and economic wellbeing⁶⁸. Teenage pregnancies are more likely to result in preterm and low birth weight babies. Teenage mothers give birth to babies at higher rates of neonatal mortality. Teenage girls who became pregnant frequently had to leave school. This will have long-term consequences for them as individuals, for their families, and for their communities.

2.2.10.6 Contributes to Economic Growth

Due to rapid fertility decline and increased contraceptive use, the ratio of dependents to wage earners declines. As a result, the nation's savings rate rises and there are more wage workers. With supportive socioeconomic policies and a focus on equity, nations might then benefit from a "demographic dividend" of rapid economic growth. The demographic dividend effect of contraception is thought to be most pronounced in countries with high fertility rates. By 2035, these countries could experience rates of return on economic productivity and potential lifetime income from increased access to and use of contraception that are greater than 8% of GDP⁶⁹.

2.2.11 Unmet Needs for Contraception

Fecund and sexually active women who do not use any form of contraception are those who state they do not want any more children or would rather delay having another child. The concept of unmet need highlights the contrast between women's desires for procreation and their use of contraception⁷⁰. In sub-Saharan Africa, 23.7% of women of reproductive age lack access to the contraception they need. There was a 16% unmet need for contraception, according to the 2013 Nigeria Demographic and Health Survey (NDHS)⁷¹.

Unmet needs are a result of people not having access to preferred methods of contraception, especially for women, the most vulnerable members of society, and single people. Obstacles based on gender, cultural or religious convictions, adverse consequence fear or experience, and poor service quality all contribute to the unmet need for contraception. In terms of practitioners' involvement in advancing this practice, there doesn't seem to be enough empirical research on the possibility that safe sex and the use of contraceptives could reduce the number of unintended pregnancies among women and thereby help to lower maternal morbidity and mortality.

2.2.12 Elements that Affect the Amount of Acceptance and Use of Contraceptives

contraceptives are widely acknowledged as a crucial intervention for achieving Sustainable Development Goals (SDGs) three (3), four (4), and five (5). This is due to evidence that it enhances health, decreases unforeseen pregnancies, and prevents unsafe abortions. It has also been demonstrated that contraceptives promote gender equality and women's economic and educational development⁷². A key component of care for expectant moms, new mothers, and kids is the use of contraceptives. Fertility reduction is significantly influenced by the spacing and restriction of births among women of reproductive age, which is necessary to reduce the risk of maternal and neonatal complications from early childbirth⁷³. A decrease in newborn, child, and maternal mortality may result from this.

In spite of having a good understanding of contraceptives, few young adults in Osun State, Nigeria, adopted the usage of contraceptives, according to a study done there⁷⁴. Due to this, there was a poor uptake of contraceptives, which is also linked to a high fatality rate. In Nigeria, there are reportedly 610,000 abortions performed annually. Unwanted pregnancies happen to women of all ages, but teenagers are the most at risk⁷⁵. Despite awareness, there is still a shortage of comprehensive information on contraceptives and services.

2.2.12.1 Propensity for or Beliefs in Religion

Religious diversity may also be to account for Nigerian women of reproductive age's poor adoption and use of contraceptives, despite the fact that it is a culturally laudable trait. Islam and Christianity are the two religions that are most widely practiced in Nigeria, and Muslims tend to use contraceptives less frequently than Christians do⁷⁶. The cultural belief among Muslims that one should not stop having children until all of them are born is one reason for the low adoption of contraceptives among Muslims. Another explanation is that many Muslim women believed having a big brood would impress their husbands because polygamy is legal in the religion. As a result of Christianity's opposition to polygamy, which places a limit on the number of children a woman can have, Christians are, on the other hand, more inclined than Muslims to employ contraceptives. The use of contraception is abnormally low in the northern region of Nigeria, maybe as a result of early marriage and cultural expectations that women have their second menstrual period at the home of their husbands. By inadvertently promoting young marriage, this either increases the demand for contraception or leaves a low uptake unsatisfied⁷⁷.

2.2.12.2 Fear of Unwanted Repercussions

One's ignorance and lack of awareness might affect how one feels about an incident or behavior. The fear of adverse side effects such severe bleeding, insomnia, and hypertension is the biggest barrier to adopting contraceptives techniques. In addition, some women worry that

utilizing family planning methods may result in death, infertility, or the loss of reproductive potential, while others fear that their spouses may leave them if they are unable to conceive. Despite the fact that only a small fraction of contraceptives users experiences negative effects, which are minor given the tremendous benefits of the procedure, this worry persisted⁷⁸.

2.2.12.3 False Impression

People who don't know enough about contraceptives sometimes overestimate how bad it is for other women, and because they don't know enough themselves, they believe incorrect information and oppose contraceptives. For example, these sources frequently disseminate erroneous information about how contraceptives use causes infertility, birth defects, won't allow a woman to become pregnant and have children in the afterlife, etc. They also exaggerate rare side effects by portraying them as uncontrollable vaginal bleeding and significant weight gain⁷⁹.

2.2.12.4 Husband's Assent

Most of the world's nations, particularly those that are developing, still have cultures that are dominated by men. For instance, traditional beliefs in the Sub-Saharan region of Africa place males in charge of women's reproductive capability, and we may speculate that a woman may want her husband's permission before utilizing contraceptives. Many studies support this assertion. According to the societal expectation that anything the spouse did not approve of should not be done; one study found that 33.3% of respondents cited their husband's disapproval as the reason they had not used a contraceptives approach. Similar results were found in Ghana, Kenya, Angola, and other African countries; thus, it seems like this propensity is a common phenomenon there^{80,81}. According to a study, husband-wife acceptance and agreement are the biggest barriers to contraceptives use in Nigeria. They postulated that women would use contraceptives if their husbands were in favor of it.

2.2.12.5 Unmet Contraceptives Need

Unmet needs for contraceptives remain a crucial indicator of how well the world is doing in lowering maternal mortality and risky sexual behavior. The north of the country has been identified as having a lower prevalence of unmet need based on the demographic health survey. The unmet needs in the southern region have, however, shifted from the South West to the South-South, which may be related to the superior education and westernized lifestyles in South Western Nigeria. The decrease in the number of unmet needs in the southwest of Nigeria is probably due to the area's industrialization and westernization⁸².

Even though there is a high level of understanding and rising global rates of contraceptive use, there are still significant gaps between young people's aspirations to delay or stop having children and their actual usage of contraception⁸³. Around 15% of the 1.4 billion women in developing nations who are of reproductive age (15–49) at the end of 2009 wanted to avoid becoming pregnant but weren't using an effective method of contraception. Unmet demands would be lessened if they were satisfied, which would improve young adults' socioeconomic condition and greatly lower Nigeria's high fertility rate, which is predominately unwanted pregnancies and abortions⁸⁴. Unmet needs are a key SDG indicator of FP and demonstrate the disconnect between the reproductive aspirations of women who are now members of the union and their use of contraception⁸⁵.

2.2.12.6 Contextual Factors

Contextual factors include socio-demographic characteristics, socio-cultural beliefs, economic conditions, healthcare access, and educational levels. Understanding these influences is essential for developing effective public health interventions to promote the use of modern contraceptives and improve reproductive health outcomes.

Socio-Demographic Factors

Age, gender, marital status, and educational attainment are key socio-demographic factors affecting contraceptive use. Younger individuals may have different contraceptive needs and preferences compared to older adults, influenced by their life stage and fertility intentions. Gender also plays a crucial role, as women often bear the primary responsibility for contraception but may face barriers in accessing and using contraceptives due to gender norms and expectations. Marital status significantly influences contraceptive use. Married couples may prioritize family planning differently from single individuals or those in non-marital relationships. Additionally, educational attainment is strongly correlated with contraceptive use. Higher levels of education generally increase awareness and understanding of contraceptive methods, leading to higher uptake rates.

Socio-Cultural Factors

Cultural beliefs and norms deeply affect attitudes toward contraception. In many cultures, traditional views on fertility and family size influence contraceptive behaviors. For instance, some cultures value large families and may view contraception as undesirable or unnecessary. Gender roles and expectations can also hinder contraceptive use, particularly in settings where women have limited autonomy over reproductive decisions. Religious beliefs are another powerful influence. Different religions have varying teachings on contraception, with some promoting natural family planning methods over modern contraceptives. Religious leaders and communities can either support or oppose contraceptive use, significantly impacting individual choices.

Economic Factors

Economic conditions, including income level and employment status, are critical determinants of contraceptive use. Individuals with higher incomes can afford a broader range of contraceptive options and access private healthcare services, while those with lower incomes

may rely on public health services or lack access altogether. Economic stability can also influence reproductive decisions, with economically secure individuals more likely to plan and space their children according to their resources.

Healthcare Access and Availability

Access to healthcare services is a fundamental factor in contraceptive use. Availability of contraceptives in healthcare facilities, proximity to these facilities, and the quality of healthcare services all affect contraceptive uptake. Inadequate supply chains, stockouts, and logistical challenges can limit access to contraceptives, particularly in rural and underserved areas. Healthcare providers play a crucial role in contraceptive use. Their attitudes, knowledge, and communication skills influence patients' decisions and confidence in using contraceptives. Misinformation or bias from healthcare providers can discourage contraceptive use, while supportive and well-informed providers can enhance uptake.

Knowledge and Awareness

Knowledge about contraceptive methods, their benefits, and potential side effects is essential for informed decision-making. Public health education campaigns, school-based sex education, and community outreach programs are vital in raising awareness and correcting misconceptions about contraception. Media also plays a significant role in disseminating information and shaping public perceptions. However, misinformation and myths about contraceptives can persist, particularly in communities with limited access to reliable information. Fear of side effects, misconceptions about fertility impacts, and lack of understanding about how contraceptives work can all hinder their use.

Policy and Legal Frameworks

Government policies and legal frameworks significantly influence contraceptive access and use. Policies that support family planning programs, subsidize contraceptives, and integrate reproductive health services into primary healthcare can improve contraceptive uptake.

Conversely, restrictive laws and policies, such as those limiting the availability of certain contraceptives or restricting access for certain groups (e.g., unmarried individuals), can reduce contraceptive use.

Social and Peer Influences

Social networks and peer influences are powerful determinants of contraceptive behavior. Friends, family members, and community leaders can either encourage or discourage contraceptive use. Positive peer influence and support can facilitate discussions about contraception and promote its use, while negative peer pressure or stigma can deter individuals from seeking contraceptive services.

2.3 Theoretical Framework

A theoretical framework provides the foundation for understanding the relationship between variables in a study. It guides the research by offering explanations and models that predict or describe human behavior in relation to the subject of investigation. For this study, which examines the contextual factors influencing contraceptive uptake among military personnel in Southwest Nigeria, two key theories were adopted — the Health Belief Model (HBM) and the Theory of Planned Behavior (TPB). These theories explain how individual beliefs, perceptions, and social factors interact to determine contraceptive use.

2.3.1 The Health Belief Model

The HBM, or Health Behavior Model, is a method that aids in the discovery of factors that influence the usage of contemporary contraceptives. Since the researchers' findings suggest that the use or nonuse of modern contraceptives may be related to specific circumstances, the HBM was employed to evaluate the factors associated with their use⁸⁶. An overview of the literature on key reproductive health issues is also included in this chapter. A description of the HBM will be given to you in the following sentences. The precise goals of the ongoing

investigation are compatible with the model's HBM components⁷¹. It is also frequently used to pinpoint the elements that influence how modern contraceptives are used in various contexts⁸⁷. To give a strong theoretical basis for comprehending how contraceptives are used by women of reproductive age, the HBM was modified. The Human Behavior Model (HBM), a psychosocial model, tries to explain and predict behavior. The concept was first conceived in 1950 in an effort to comprehend why people frequently choose not to take part in campaigns designed to prevent and diagnose illnesses⁸⁶. Perceived vulnerability, perceived severity, perceived advantages, perceived hurdles, perceived self-efficacy, and signals to action are the six components that make up this paradigm. The paradigm states that people are more likely to act once they are convinced that the benefits of the action outweigh the drawbacks. As a result, people are more driven to take action. The use of this model helped to develop research questions based on its elements and served as a direction for the investigation. The HBM was selected as the ideal framework to direct the investigation into the prevalence of modern contraception use among women of reproductive age⁸⁸. An examination of the HBM revealed that the constructs have been successfully applied by many researchers in their research.

Using the HBM, researchers have examined a wide range of problems. In South East Wales, for instance, a study that employed the HBM to investigate women's intentions to take long-acting contraceptives. The HBM has also been utilized for research on other health issues, such as adherence to hypertension medicine, HIV testing habits, and views of the hazards and advantages of smoking among women. The HBM proved to be the most useful theoretical model for explaining the research participants' use of contraception. In order to advance the body of earlier research on women's contraceptive practices and increase reproductive health, it was thought that the research would use this paradigm⁸⁹.

The HBM has been used by researchers to examine a variety of topics. For instance, a study in South East Wales that employed the HBM to investigate women's intentions to take long-acting contraceptives. The HBM has also been utilized for research on other health issues, including as adherence to hypertension treatment, HIV testing habits, and women's perceptions of the hazards and advantages of smoking⁹⁰. The HBM proved to be the most useful theoretical model for explaining the participants in the study's contraceptive practices. It was anticipated that applying this paradigm to the research will contribute to the body of knowledge already available on women's contraceptive practices and benefit reproductive health⁸⁸. When employing this strategy, it was vital to determine how capable each individual was of adhering to its recommendations and engaging in preventative healthcare.

The Health Belief Model focuses on people's attitudes and belief patterns in an effort to forecast their behavior with regard to their health. In the 1950s, psychologists working for the US Public Health Service first introduced the strategy. They falsely believed that people were afraid of illnesses and that decisions regarding health were influenced by the degree of fear (perceived threat) and the anticipated ability of those decisions to reduce fear, provided that potential outweighed the practical and psychological obstacles to taking those decisions (net benefit). Since then, a variety of both short- and long-term health behaviors, including hazardous sexual behavior, HIV/AIDS transmission, family planning, and other reproductive health issues, have been studied using HBM. The HBM attempts to predict health-related behaviors in terms of particular thought patterns. This model is used to describe and forecast health behavior along with sick-role and disease behavior⁸⁹.

2.3.2 Perceived Susceptibility to Unwanted Pregnancy

The health belief model makes predictions about the behavior of people who are at risk of having a health issue, such as an unwanted pregnancy, and how they will act to lessen or avoid that issue in order to protect themselves from experiencing it. The perceived susceptibility

element of the HBM is a very important portion of the model that focuses on the motivated actions taken to prevent health issues. The HBM functioned under the assumption that conduct requires motivation in order to occur. If a person has a good chance of avoiding a dangerous health risk, they are assumed to engage in a certain health-related behavior. This assumption is backed by the results of a number of studies, including: The majority of women believe that they have a low chance of being pregnant or that they do not feel at danger of being pregnant even if they do not use any type of birth control, according to research findings. Some of the ladies believe it will be difficult for them to have a child since they are less fertile than other women. The results of this study indicate a relationship between perceived susceptibility and perceived pregnancy risk. A woman choose whether or not to use a modern contraception based on the risk involved^{86,88}.

According to research using a cross-sectional design to examine the factors that are responsible for the use of family planning services and the use of contraceptives among married women who were in their reproductive age group, women who do not use any form of birth control are at a significantly increased risk of an unplanned pregnancy (15- 49 years). The study was conducted in three locations of the Pakistani province of Punjab, where about 35% of married women of childbearing age use family planning methods⁹⁰. Younger women and those from lower socioeconomic status were more likely to utilize family planning. The authors claim that because of the facilities' proximity, the provider's stellar reputation, and the types of treatments offered, women sought out health facilities for contraceptive services. The study used this data as its foundation to find out whether or not women in the Municipality who were of reproductive age (20-39 years old) experienced comparable problems.

According to study, women who don't take birth control at all have a much higher risk of becoming pregnant unexpectedly. An investigation was conducted using a cross-sectional methodology to determine the characteristics that influence married women who are in their

reproductive years using family planning services and contraception (15- 49 years). The study was conducted in three locations of the Pakistani province of Punjab, where about 35% of married women of childbearing age use family planning methods⁹¹.

Younger women and those from lower socioeconomic status were more likely to utilize family planning. The authors claim that because of the facilities' proximity, the provider's excellent reputation, and the types of treatments offered, women sought out health facilities for contraceptive services. The study used this data as its foundation to find out whether or not women in the Municipality who were of reproductive age (20-39 years old) experienced comparable problems⁹¹.

2.3.3 Perceived Threats to Non-Use of Modern Contraceptives/Severity of Unplanned Pregnancy

Perceived Threat: This involves the perceived propensity for and gravity of a medical problem. A person's assessment of the likelihood of developing a condition that may negatively impact their health is referred to as perceived susceptibility. While perceived severity refers to how serious a medical condition is perceived severity as the model suggests could be applied to women's attitudes toward family planning as women are likely to show a favorable attitude toward family planning when there is a perceived threat to their health from another pregnancy⁹¹.

Another important component of the HMB is how individuals perceive the consequences of not using contraceptives. The low or non-use of contemporary contraceptives is seen to be a health burden for reproductive-age women, especially in Africa, due to their nomadic way of life, early introduction into marriages, high level of illiteracy, and female circumcision. Particularly true in nations where female circumcision is widespread⁹². A multitude of health issues, such as stillbirths, higher rates of infant mortality, illegal abortions, and elevated rates

of maternal illness and mortality, are usually associated with inadequate spacing between pregnancies. Poor health outcomes in the offspring of unplanned pregnancies, which are caused by the mother's poor prenatal behavior, have been associated with the consequences of those pregnancies. The women are unable to recognize their pregnancies at an early enough stage, according to study. They postpone seeking prenatal care as a result, and they engage in other unhealthy habits. There is a widespread assumption that unintended pregnancies result in humiliation, social withdrawal, child neglect, and abandonment. Unwanted pregnancies usually result in unsafe abortions and deaths associated to abortion⁹³. Unwanted pregnancies frequently lead to unsafe abortions and abortion-related deaths. Being pregnant at a young age can have a number of detrimental effects, such as social stigma, fear, shame, embarrassment, depression, social marginalization, low self-esteem, and serious financial repercussions. The goal of the research study was to discover whether or not the study participants suffered comparable potential risks as a result of not using modern contraceptives.

2.3.4 Perceived Benefits of Modern Contraceptives Use

Perceived Benefits: This is the conviction that methods for lessening the risk of sickness work. Women's perceptions of the advantages of family planning will encourage and inspire them to practice both general and specific methods of family planning, depending on the advantages they see in each. Such will also have a significant impact on how they feel about such techniques and family planning in general. The term "perceived advantages of taking action" refers to taking steps to prevent disease problems, such as using family planning techniques to stop pregnancies and childbirth that are thought to be harmful to women's health. Other reproductive health services, such as the reduction of maternal mortality and the prevention and treatment of sexually transmitted infections, are provided through the provision of contraceptive services.

In order to stagger births and subsequent pregnancies and protect the health of moms and children, modern contraceptives are an effective technique⁹⁴. Modern contraceptive use has been prioritized as a crucial element in preventing unforeseen pregnancies and the poor outcomes that are associated with them. Modern contraceptives provide a number of advantages, including as bettering maternal and child health and giving women more agency. Modern contraceptives have been linked to a number of additional advantages, including the prevention of health hazards for women during pregnancy, a decrease in infant mortality, a decrease in adolescent pregnancies, empowerment and improved education, and a slowdown of population increase. For the purposes of this investigation, the research questions should be able to elicit from the study participants their opinions of the benefits they are anticipated to obtain as a result of using modern birth control methods⁹⁵.

A woman's general health and well-being are correlated with her capacity to exercise control over her reproductive decisions. As a result, using modern contraceptives can aid in reducing both the likelihood of abortion and the number of unintended pregnancies. An increase in the use of contemporary contraceptives could, as a result, result in a decrease in the risk of maternal death, according to the researcher who carried out the study to assess the knowledge and determine future desires of women in urban Cameroon to use contraceptives⁹⁵. Childbearing women who took part in a community-based survey were given face-to-face questionnaires that served as the source of the data for this cross-sectional study. No attempt was made to gauge the participants' perceptions or attitudes toward family planning; instead, the data collected mostly concentrated on the participants' degrees of awareness regarding the practice⁹⁶.

2.3.5 Perceived Self-Efficacy to Use Modern Contraceptives

Unplanned pregnancy prevention programs have been compared to health prevention initiatives, and there are differences in the importance or urgency of contraceptive treatments. Even though they are sexually active and do not want children, some women do not want to get pregnant and do not put off having children in the future. Among women trying to avoid pregnancy, the non-use or discontinuation of contraceptives is connected with almost 70% of unwanted pregnancies⁹⁷. Lack of access to services emphasizing physical proximity has been the primary contributor to unmet demand for family planning. Lack of knowledge about procedures, fear of negative consequences, and the husband's rejection are a few other contributing causes. The majority of these criteria suggest that women find it difficult to decide whether to use the contraceptives that were the subject of this study⁹⁸.

Women frequently have to contend with limiting factors that conflict with their wishes for the quantity and timing of pregnancies^{99,10}. Women's capacity to prevent unintended pregnancies is limited when they confront impediments accessing contraception. The non-use of contraception is linked to personal factors such lack of motivation, low self-efficacy, health concerns, and ignorance of family planning options and resources^{100, 101, 102}. The position or status of women acts as a barrier to the use of contraceptives, particularly when the woman is financially reliant on the spouse and may feel under pressure to make reproductive decisions in accordance with the wishes of other people. In addition to eligibility requirements and medical barriers that require a spouse's approval, women may face difficulties using contraceptives. The use of modern contraceptives may also be hampered by low self-efficacy and misinformation. It was critical to this study's success to ascertain self-efficacy levels and how they affected participants' use of contemporary contraceptives¹¹.

2.3.6 Perceived Barriers to the Use of Modern Contraceptives

The idea of a perceived barrier, which relates to the difficulties women encounter when taking modern contraception, is a key component of the HBM. The availability of various techniques, the cost of treatment, and medical contraindications, among other structural and external constraints, might affect how frequently people utilize contraception¹². For instance, a barrier to the use of contraceptives is the male partners' aversion to their spouses' use of contraceptives, but some women oppose contraceptive methods generally since they decrease fertility¹³. Additionally identified as hurdles to utilizing contraceptives are the inability to stick with some techniques and worry about unfavorable side effects. The fear of marital revenge resulting from disagreements over the decision to take contraception has been found to be a significant obstacle for women, among other factors¹⁰³.

Another study found that women don't utilize contraception because their partners don't support them¹⁰⁴. A UNFPA report claims that there is an unmet need for contraception among sexually active women who don't want to get pregnant but aren't utilizing it¹⁴. A number of things, such as a lack of informational resources and a lack of support from partners or communities, might be blamed for this unfulfilled demand. According to the study, side effects, health concerns, and infrequent sexual activity are the main reasons why married women in developing countries who wish to prevent pregnancy but are not using contraception do so¹⁵. These women needed assistance from programs that will reduce unexpected pregnancies and unsafe abortions while promoting reproductive health in order to prevent unplanned pregnancies.

The Sustainable Development Goals of enhancing maternal health, lowering child mortality, and eradicating extreme poverty can only be reached when there is an improvement in reproductive health, as a result of the removal of obstacles to contraceptive usage. Among women of reproductive age, the adoption of modern contraceptive techniques can considerably lower the number of unsafe abortions and unintended pregnancies¹⁰⁵. A restricted selection of

techniques, concern about side effects or personal experience with them, cultural or religious opposition, poor service quality, as well as user and provider prejudice, have all been connected internationally to the nonuse of modern contraceptives¹⁷. The results of this study will assist in removing barriers to contemporary contraceptive use, enhancing maternal health, and enabling young women to prevent unwanted births^{18,19}.

Studies reveal several obstacles to utilizing contraception or avoiding unplanned pregnancies. Contraceptive use is hindered by male partners' aversion to their partners using contraceptives and some women's general distaste for contraceptive methods since they decrease fertility²⁰. Numerous variables, including as concern over unfavorable side effects and challenges with maintaining certain contraceptive techniques, make it difficult for people to use contraception. The fear of spousal retaliation brought on by a disagreement over the decision to take contraception is a major obstacle for women²¹.

High rates of contraceptive use and accompanying restrictions among women of reproductive age are present in all sub-Saharan African countries^{19,22}. An example might be a qualitative study to find out more about the difficulties young women in Kenya encounter when using contraceptives. The survey was carried out in urban and peri-urban districts of Kenya where people have a slower socioeconomic profile and the prevalence rate of contraception is closer to the national average¹⁰⁶.

The study's conclusions showed that the young women did not use contraceptives because they mistakenly thought that some techniques would render them infertile and that they were linked to birth deformities or other abnormalities. The difficulties indicated in the aforementioned study are likely to be encountered by the participants in this study, which may hinder them from embracing and using modern contraception¹⁰⁶.

Nigeria is one of the developing countries with one of the lowest prevalence rates for contraceptives and a long-term trend of diminishing contraceptive use. Some research studies in Nigeria have emphasized the methods used to examine and identify the barriers that prevent women from utilizing contraception¹⁰⁷. A qualitative investigation to uncover additional factors, besides the previously mentioned fear of unfavorable effects that prevent Nigerian women from using contraception¹⁰⁸. Focus groups with vignettes were employed by the researchers to gather normative beliefs about contraception. Additionally, they were able to recollect worries about menstrual irregularities brought on by hormonal contraceptives, as well as ignorance about fundamental reproductive biology and the workings of contemporary contraceptive technologies. In a related study, the researchers interviewed people in-depth and held focus groups to find out more about the misconceptions that keep people from using contemporary contraceptives and to identify the root reasons of those misunderstandings. The study required to consider both the obstacles to the use of modern contraceptives and the method or approach employed to collect the data²⁸.

Women of reproductive age who desire to delay or avoid having children but do not use any kind of contraception have been the focus of some studies on the factors impacting contraception in low- and middle-income countries²⁸. A sizable portion of women do not use contraception due to reasons such as relationship animosity, husbands' fears of infidelity, fear of side effects, and health difficulties associated to the use of contraceptives. Women's professional status and educational attainment were also found to have an impact on their use of contraception²⁹.

By separating contraceptive knowledge from procedural comprehension, the fallacious notion that population education on contraceptive techniques is not necessary will be eradicated. Since there are many of these barriers in low- and middle-income settings, it is essential to create a

plan for obtaining data on the obstacle's women in my community face in using contraceptives and to fill in any gaps in their knowledge and adoption^{30,31}.

2.3.7 Cues to Action on the Use of Modern Contraceptives

Both internal and external signals trigger the woman's awareness of a risk to pregnancy, which facilitates her decision to utilize contraceptives to alleviate that concern. For instance, it has been observed that postpartum women in Africa who lived in cities and were in poverty started using contraception based on the timing of the onset of their menses³¹. Another study found that women who began having periods soon after giving birth on average, within one month tend to use a contraceptive technique. The signals to action have also been connected, using a quantitative approach, to the influence of healthcare professionals on contraceptive choice or information from peers and the internet that influences contraceptive choice. In order to analyze and understand the contraceptive behavior of reproductive-age women in the study area, a phenomenological approach was adopted in this study⁷⁸. Both internal and external signals trigger the woman's awareness of a risk to pregnancy, which facilitates her decision to utilize contraceptives to alleviate that concern. For instance, it has been observed that postpartum women in Africa who lived in cities and were in poverty started using contraception based on the timing of the onset of their menses⁷⁹. 79. Another study found that women who began having periods soon after giving birth—on average, within one month tend to use a contraceptive technique. The signals to action have also been linked, using a quantitative approach, to either peer and internet-based information or the effect of healthcare professionals on the decision to take contraception. In order to analyze and understand the contraceptive behavior of reproductive age women in the study area, a phenomenological approach was adopted in this study⁸⁰.

2.3.8 Social Cognitive Theory

In order to promote family member wellbeing, family planning approaches assist an individual in striking a balance between the number of children and the family's socioeconomic circumstances. Planning a family successfully requires knowledge, motivation, and proactive actions. These signs are in line with the social cognitive theory, whose "social" elements recognize the social roots of human cognition and behavior and whose cognitive elements recognize the critical role played by the cognitive process in determining human behavior. Social cognitive theory acknowledges that people are self-organizing, proactive, and self-regulating⁸¹. The idea's three essential parts are the environment, the people, and the behavior. All three of these components work together. Just as behavior is not just the result of the individual and their behavior, the environment is not solely the result of the person and their environment^{82,109}. The environment provides examples of behavior. Observation learning occurs when a person watches another person's actions and the reward they receive. The concept of behavior is open to many interpretations, but generally speaking, it means that in order to exhibit a behavior, a person must be aware of it and have the abilities necessary to do so. According to social cognitive theory, using contraceptives necessitates that individuals possess the cognitive ability and behavioral skills to continue using contraceptives in light of their health status⁸³.

2.4 Review of Empirical Studies

2.4.1 Studies on the Use of Contraception by Women of Reproductive Age

A study was done in 7 states of Nigeria. The study's target population consisted of females (15–49 years old) of reproductive age who were currently using contraception at the time of the survey. The sample of individuals who met the criteria for inclusion included 1927 women. The research found that 28.5% of individuals read about family planning in newspapers or magazines, 67.2% of people heard about it on the radio, and 49.7% of people heard about it on

television. Just 18.5% of respondents indicated they had heard about family planning when a health worker visited them in the preceding 12 months, compared to 53.6% of respondents who said they had. This is in contrast to the 53.6% of respondents who said they had. The study's findings on knowledge of contraceptives showed that 70.3% of the women knew about implanted contraceptives and 55.5% knew about IUDs. In order to appropriately educate women of reproductive age on the safety and effectiveness of contraceptives, the study suggests the creation of a communication strategy. Finally, medical providers should discuss the benefits and drawbacks of LARCs and recommend them as a first line of defense when speaking with women about contraception¹¹⁰.

A significant portion of women in a descriptive cross-sectional study are familiar with one or more methods of birth control. In this study, the knowledge and viewpoint of WRA towards the use of contraceptives are explored. It was found that 82.4% of respondents knew about contraceptives, and that for nearly two-thirds (66.4%) of those who did, health professionals were the main source of information. Despite the fact that child spacing remained the most popular use of contraceptives across all respondents (85.8%), more than three-fifths of respondents (63.4%) were aware that contraceptives might be used to prevent unwanted pregnancy. The function of contraceptives that respondents were least familiar with (25.2%) was limiting family size. The diaphragm (81.0%) and male condoms (84.8%) were the two most popular modern contraceptive techniques, while vasectomy (26.6%) and the diaphragm (28.2%) were the least popular. The respondents were well-informed about contraception, with 428 (85.6%) of them saying they understood it well. Compared to married respondents (88.8%), just 69.2% of respondents who are currently single had a great understanding of contraception¹¹¹.

Everyone who took part in the cross-sectional study in Lagos, Nigeria, knew about contraception in the interim. Ninety-two percent of respondents said they had learned about family planning via a hospital or health center. All respondents believed that family planning prevented pregnancies, and 51.7% said that it helped space out children. However, more women who had good understanding (55.3%) than those who had poor understanding (36.2%) used family planning. 194 respondents (59.7%) reported using some form of contraception, while 125 (38.5%) reported using a more cutting-edge method. The most common modern method among those who used contraception was the male condom 51 (26.3%), closely followed by implants (17.0%) and injectables (9.3%). The usage of salt water/strong alcohol/lime juice 9 (4.6%) and rings, amulets, and padlocks 4 (2.1%) were the two most common traditional methods. The coitus interruptus 43 (22.2%) was the most common natural method. More than 75% of respondents in this study had a thorough comprehension of modern contraceptive methods, and 86.8% of respondents said they were aware of family planning approaches¹¹².

To find out the factors affecting Nigerian women's decisions on contraception, a study was conducted. 82.8 percent of women had a high level of knowledge about contraceptives, 15% had a moderate level of knowledge, and 2.2% had little to no information. The most common methods of contraception were birth control pills and implants (38.3% and 36.1%, respectively), whereas tubal ligation and withdrawal were the least common methods (29.4% and 29.4%, respectively). According to the report, healthcare facilities provide counseling sessions to assist women in choosing a method of contraception. It is crucial to adopt medical procedures that promote the application of knowledge to healthy sexual and reproductive behaviors¹¹³.

2.4.2 Studies on Attitude towards Contraception by Women of Reproductive Age

According to the World Health Organization's (WHO) Medical Eligibility Criteria for Contraceptive usage, the majority of contraceptive methods are secure and effective for WLHIV, including those with asymptomatic HIV and AIDS. Modern contraceptives should be made accessible and inexpensive to women living with HIV in order to reduce mother-to-child transmission of HIV and consequent new pediatric HIV infections⁸¹. Numerous studies have demonstrated the need for WLHIV to have more information on safer forms of contraception⁸². In sub-Saharan Africa, about 2 million (90%) of all pediatric HIV cases are caused via mother-to-child transmission. This figure highlights the high fertility rates and low use of modern contraception among HIV-positive women in Sub-Saharan Africa¹¹⁴.

A model of integrated HIV and family planning (FP) services, however, has been developed that enables eligible clients to be connected with ART treatments. In the world, there are at least 25% of HIV-married women who still need family planning services¹¹⁵. In sub-Saharan Africa, eight male condoms are made available annually for each person who engages in sexual activity; nonetheless, young people have restricted access to condoms. Evidence suggests that in Sub-Saharan Africa, notably in Nigeria and Zambia, women with HIV use contraception more frequently than women without HIV do in order to prevent unplanned pregnancies. Contrary to the relatively low utilization of family planning services, the majority of WLHIV were aware of at least one type of family planning¹¹⁶.

The use of contraception by women is highly predicted by their knowledge of their HIV status. In Nigeria, it was found that 39.8% of WLHIV with cohabiting partners utilized condoms^{88,117}. However, according to some recent studies, WLHIV are happier and use contraception more frequently¹¹⁸. The likelihood of pregnancy among women living with HIV is increased by the accessibility and availability of highly active antiretroviral therapy (HAART) for the treatment

of HIV infection. Although every woman has the right to have children, there are many pregnancy-related problems, especially among WLHIV. According to the evidence, these women have a variety of reproductive goals, with delivery being the most popular. The rate of HIV transmission from mother to child still exists despite the fact that delivering antiretroviral treatment to people with HIV and AIDS has improved pregnancy outcomes¹¹⁹.

Unintended/unwanted pregnancy is still an issue in Sub-Saharan Africa, with an estimated 14 million occurrences per year¹²⁰. There is a significant association between the desire to have children and the use of ART among WLHIV in Ethiopia¹²¹. In a similar vein, researchers discovered that HIV-positive South African women are at a significant risk of unwanted pregnancy. The majority of HIV-positive women in South Africa and Kenya who use ART, on the other hand, had births that were intended, according to some people¹²². Furthermore, unplanned pregnancies increase the risk of HIV infection and put efforts to halt the spread of new infections in danger¹²³.

A significant number of HIV-positive women have reported that their pregnancies were unplanned, which has been noted in numerous studies. In an effort to avoid unintended pregnancies, family planning services are made accessible and available to women with HIV¹²⁴. According to the study's conclusions, WLHIV may plan their reproductive lives to avoid unwanted pregnancies and enjoy parenthood just like their counterparts who are virus-free. Therefore, the goal of this study was to close the knowledge gap regarding contraceptive alternatives and help with the distribution of crucial data for WLHIV treatment and reproductive practices.

HIV infection and the immune suppression it causes, particularly in resource-poor countries like Nigeria, further complicate the challenge of global health. The availability of effective antiretroviral therapy (ART), which is now the standard of care in most settings, has significantly reduced morbidity and death linked to HIV infection. Because of ART, vertical

transmission has also been reduced during pregnancy, childbirth, and nursing. HIV-positive persons are living longer and in better health in an era of effective combination medication and expanded access to treatment¹²⁵. The ability of HIV-positive people to live normal lives, work, and seek education has had a tremendous positive influence on reducing poverty in the affected areas¹²⁶. Women with HIV/AIDS frequently want children and engage in sexual activity. In the world, there are more than 13 million (61%) women with HIV/AIDS who are sexually active and between the ages of 18 and 30⁹⁸. Effective mother-to-child transmission prevention therapies, family planning education, and sensitization to the use of contraceptives all contribute to decreased mommy worry.

Numerous studies have confirmed that HIV-positive women still want to start families and have children despite learning of their status. The desire for children among HIV-infected women has been correlated with strong conventional values and societal pressure. In some societies, childlessness can be more stigmatized than the HIV virus itself. Many HIV prevention programs in the past have focused on reducing the risk of HIV acquisition among people who are unaffected or unaware of their status. Keeping HIV-positive women from becoming pregnant unnecessarily has been identified as the second pillar of UNFPA's strategy for reducing mother-to-child transmission¹²⁷. A number of factors, such as knowledge of one's own HIV status, sociocultural expectations of motherhood, awareness of the reduced risk of mother-to-child transmission, the availability of ART, knowledge of one's partner's HIV status, and stigmas associated with both childlessness and HIV status, have an impact on whether or not an HIV-infected person decides to have children. Infected women and their partners have a variety of reproductive health decisions to make about pregnancy, delivery, and contraception. Just like other women and couples, they ought to make these decisions for themselves¹²⁸. Many sexually active women with HIV/AIDS may not want to have children and use a contraceptive for the same reasons as women who are not HIV positive.

However, family planning clinics and those providing HIV-related medical care are frequently distinct in Sub-Saharan Africa. This arrangement will create a structural barrier for women who need family planning services¹²⁹. Barrier methods, hormonal methods, the intrauterine device (IUD), female and male sterilization, the lactational amenorrhea method, and treatments based on reproductive awareness are all acceptable contraceptive options for women with HIV/AIDS. These choices are on par with those available to those who do not have HIV. The use of condoms is the only form of birth control that reduces the risk of all STIs, including HIV¹³⁰. They perform best when used to stop STIs like HIV that are transferred through bodily fluids. Most forms of contraception are largely risk-free for women with HIV/AIDS who are using ART¹³¹. The widespread view is that ART medications and contraceptives do not interact. The challenge for Sub-Saharan African countries is to offer reproductive health services, such family planning, to women living with HIV/AIDS in an efficient and affordable manner¹³².

2.4.3 Studies on Use of Contraceptive among Women with Reproductive Age

In 37 SSA nations between 1995 and 2020, a study of women of reproductive age was carried out (15–49 years). 22.0% of people use contraception, with coverage varying greatly between nations, with Namibia having the highest coverage (49.7%) and Central Africa Republic having the lowest (3.5%). Other nations with high contraceptive use rates included Lesotho (48.5%), Zimbabwe (47.9%), South Africa (47.9%), Malawi (45.2%), and Kenya (39.1%). Male condoms (17.5%), implants (16.5%), pills (15.7%), and injections (39.4%) were the most frequently used contemporary contraceptives. Age, education level of the woman, husband's or partner's education level, place of residence, employment, marital status, wealth index, number of living children, knowledge of modern methods, hearing about family planning in the media (television, radio, newspaper, text messages), and a visit from a health worker to discuss family planning are all factors associated with the use of modern contraceptives¹³².

Additionally, a descriptive cross-sectional survey with 560 respondents found that 49.7% (271) had ever used any kind of contraception, while 25.4% (69) of those respondents were still doing so today. Traditional, natural, and contemporary approaches were all employed. Condoms for men (74.8%), condoms for women (43.3%), a diaphragm (18.4%), injectables (45.5%), an IUCD (42.1%), oral pills (57.7%), implants (1.9%), a vasectomy (19.5%), and bilateral tubal ligation (23.2%). The likelihood of using contraception was around four times higher among married women than among unmarried women. Contraception is viewed as having side effects/disadvantages by 83.1% of respondents, with weight gain (201 [44.3%]) and irregular menstruation (221 [48.7%]) being the two most common negative effects stated. Despite the fact that every respondent to this survey was aware of contraception, only approximately half had ever used it and only about a quarter were doing so at the time of the study¹³³.

Research conducted in Ethiopia found that few women of reproductive age use contraceptives. Only 14.2% of the individuals in the present survey reported using contraceptive methods now, according to the study. Young women's use of contraception was highly influenced by socio-cultural factors, particularly perceptions of societal acceptance of contraception and belief in contraception urban legends. Family planning education should attack myths and misconceptions about contemporary contraceptive technologies as well as social norms that are against using contraception. In order to remove widespread beliefs and misconceptions, health professionals must receive training in how to communicate with and provide information to moms seeking maternal and child health¹³⁴.

2.5 Studies on Barriers to Contraceptive Use

2.5.1 Barriers to taking action:

Even though a person may believe that taking action will have positive effects, action may not actually be taken. This could be because of obstacles linked to how a therapy might be uncomfortable, expensive, painful, or upsetting. As in the case of obstacles like price,

affordability, availability, accessibility, and simplicity of family planning options. These traits could discourage someone from taking the intended action¹³³.

Lack of awareness about techniques, trouble acquiring services from providers, and an inability to bargain with partners are all obstacles to adolescents using contraceptives. Lack of information about sexual and reproductive health issues, particularly family planning, acts as another barrier that discourages adolescents from using contraceptives. Teens who are not married in some nations are prohibited access to contraceptive services and information, leaving them without guidance when making decisions regarding their reproductive health.

¹⁰⁷According to a Ghana Demographic and Health Survey report from 2008, women frequently use contraceptives irregularly due to poor parent-child communication, ignorance of parents' contraceptive experiences, friends' experiences becoming parents, low educational achievement and aspirations, low self-esteem, and feelings of futility and alienation.

It is almost impossible for women to freely speak and discuss matters about sex and contraception use with parents due to the traditional and cultural misconception that sex is just for adults. Similar to this, counselors lack knowledge of how to advise males about sexuality and contraception due to the stereotype that family planning facilities are just for women. According to research, even though most women are aware of the many contraceptive methods and where to get them, access to reproductive health services for women is hampered by a number of perceived and actual (logistical) obstacles¹³⁴.

2.5.2 Logistic Barriers

Family planning adoption is influenced by a variety of variables that can be complex and challenging to manage in real-world settings, particularly in conflict-ridden regions where things often occur in an emergency situation¹³⁵. These variables span from individual and social concerns, cultural factors, availability and access issues, to issues like fear of side effects related to the qualities of a contraceptive technique¹³⁶. There isn't enough data to know how

these variables interact to affect the usage of contraceptives in conflict areas of sub-Saharan Africa, including South Sudan. The assessment of the current levels of contraceptive use and of the factors that determine to agree that family planning is timely and essential, inaccessible areas, unequal distribution of health facilities, lack of motorways, and relatively low contraceptive use in South Sudan are taken into consideration¹³⁷.

2.5.3 Studies on Contraceptive Use among Military Personnel

A study was carried out with the aim to find out the factors associated with use of contraceptive among Armed Forces Personnel. It was a cross-sectional survey carried out among Armed Forces personnel living in a Military station with pre-validated and pre-tested questionnaire. Data was collected from 221 eligible couples. Univariate and logistic regression were done to find out the variables determining family planning. Out of 221 couples, 65.2% (144) of couples were practicing some or the other methods of family planning while 34.8% (77) didn't practice any methods. Age, age at marriage, sex of first child, type of family, empowerment and parity of women were significantly associated with contraceptive acceptance in univariate model. However, in logistic regression analysis age at marriage, empowerment and parity were significant predictors of family planning. Major reason for not adopting any contraception was want of another child (20, 26%), girl child (18, 23%), male child (18, 23%) and worry about side effects (11, 14.3%). The study highlights the gap in preferences and practices of contraceptive and emphasized the need to highlight safety of contraceptive during Information, Education and Communication (IEC) campaign.

A study was conducted to assess the longitudinal effect of contraceptive policy changes on contraception use and childbirth rates among military recruits. Secondary analysis was performed of insurance records from 70,852 servicewomen who started basic training between October 2013 and December 2016, assessing the longitudinal impact of a Navy policy change expanding contraceptive access during basic training implemented in January 2015, and a

Marine Corps policy change restricting contraceptive access during basic training implemented in January 2016 on the following: contraception use (pills, patches, rings, injectable, implantable, and intrauterine) at 6 months, long-acting reversible contraception use at 6 months, and childbirth prior to 24 months after service entry. We used logistic and Cox regression models, adjusted for age group, to compare outcomes of women in the Navy and Marine Corps who started basic training before and after their service branch's policy change with outcomes among women in the Army and Air Force. Compared to the longitudinal difference observed among women attending Army or Air Force basic training, changing policies to increase contraceptive access during Navy basic training in January 2015 increased contraception use from 33.1% of sailors to 39.2% of sailors before and after the policy change (interaction term odds ratio, 1.31; 95% confidence interval, 1.22–1.41) and long-acting reversible contraception use 11.0% to 22.7% (odds ratio, 1.78; 95% confidence interval, 1.50–2.08). However, this policy change was not associated with a decline in childbirth rates among sailors (7.5% versus 6.1%) relative to the change among women in the Army and Air Force over the same time period (interaction term hazard ratio, 0.90; 95% confidence interval, 0.79–1.03).

The January 2016 Marine Corps policy change decreased contraception use (29.6% to 24.4%; odds ratio, 0.78; 95% confidence interval, 0.70–0.88), long-acting reversible contraception use 14.6% to 7.3% (odds ratio, 0.39; 95% confidence interval, 0.31–0.48), and increased childbirth rates (8.0% to 9.6%; hazard ratio, 1.26; 95% confidence interval, 1.03–1.55) among Marines compared to outcomes in the Army and Air Force over the same time period. Basic training contraceptive policy influences contraception use among junior enlisted servicewomen. Implementing best practices across the military may increase contraception use and decrease childbirth rates among junior enlisted servicewomen.

A study was conducted to assess family planning knowledge, training, and practices among health care providers serving military and dependent beneficiaries within the military health care system at Fort Lewis, Washington. Overall, 79 eligible health care providers completed the survey. Eighty-six percent of women's health providers consistently ("always or most of the time") provided family planning services to female service members, compared with 38% of primary care providers. Women's health providers were more likely to counsel by method effectiveness and adapt their counseling to consider patients' reproductive life plans. There were no differences between provider type in considering service members' deployment status during contraceptive counseling. Overall, providers identified the correct effectiveness of long-acting contraceptive methods, but tended to overestimate the effectiveness of short-acting methods. Family planning services available to service members may be improved through enhanced provider education, targeting efficacy-based counseling and identification of barriers to access and provision of long-acting reversible contraceptive methods.

A study was conducted to evaluate the knowledge, skills, and practices pertaining to basic elements of women's/reproductive health issues among transitional internship-trained general medical officers in the Army, Navy, and Air Force. It was a cross-sectional survey study of transitional internship-trained graduates from 2012 to 2015 who transitioned to an operational assignment as an independent provider after internship graduation. The study involved an anonymous 21-question survey evaluating aspects of knowledge and practice related to basic reproductive health care services (contraceptive provision, cervical cancer, and chlamydia screening). Thirty-four of 62 (55%) eligible physicians completed the survey. The majority (85%) of respondents were male; 71% practiced at troop or unit-based clinic outside a hospital setting. Among the respondents, 97% cared for female service members within their patient population; one respondent (3%) reported no female service members in their patient

population. Most respondents (82%) reported provision of contraceptive services to female patients of reproductive age.

The copper intrauterine device (IUD) was least comfortably discussed. Less than half of the respondents were trained to place either the copper or levonorgestrel IUD or the etonogestrel contraceptive implant. Seventy-six percent of respondents performed cervical cancer screening and 79% performed chlamydia screening in their female patient population. Among the respondents, 15% did not offer cervical cancer and 12% did not offer chlamydia screening in their practice. Eighty-eight percent of the respondents correctly identified the recommended age at which to begin cervical cancer screening and 64% correctly identified the aged-based recommendation and interval to screen for chlamydia. The survey conveyed that the majority of respondents were comfortable discussing self-administered methods (combined contraceptives); fewer were comfortable discussing or had training to place the more efficacious, longer-acting methods. Although screening services specific to female health are offered, the uniform provision of these basic services appears to be inconsistent among our surveyed population of first-line health care providers. Our study identifies potential areas for refinement in transitional year medical training that could translate to enhanced female medical and mission readiness.

A study determined the rates of contraceptive use, unmet need for prescription contraception, and unintended pregnancy among reproductive-aged women veterans. It was a cross-sectional, telephone-based survey with a national sample of 2302 women veterans aged 18–44 years who had received primary care in the VA within the prior 12 months. Descriptive statistics were used to estimate rates of contraceptive use and unintended pregnancy in the total sample. We also estimated the unmet need for prescription contraception in the subset of women at risk for unintended pregnancy. For comparison, we calculated age-adjusted US population estimates using data from the 2011–2013 National Survey of Family Growth (NSFG). Overall, 62% of

women veterans reported current use of contraception, compared to 68% of women in the age-adjusted US population. Among the subset of women at risk for unintended pregnancy, 27% of women veterans were not using prescription contraception, compared to 30% in the US population.

Among women veterans, the annual unintended pregnancy rate was 26 per 1000 women; 37% of pregnancies were unintended. In the age-adjusted US population, the annual rate of unintended pregnancy was 34 per 1000 women; 35% of pregnancies were unintended. While rates of contraceptive use, unmet contraceptive need, and unintended pregnancy among women veterans served by the VA are similar to those in the US population, these rates are suboptimal in both populations, with over a quarter of women who are at risk for unintended pregnancy not using prescription contraception, and unintended pregnancies accounting for over a third of all pregnancies. Efforts to improve contraceptive service delivery and to reduce unintended pregnancy are needed for both veteran and civilian populations.

A scoping review was done purposely to apply the Social Ecological Model for Military Women's Health to literature on unintended pregnancy (UIP) to answer the question: In United States active-duty military women (population) with the potential for UIP (context), what is known about risk factors, prevention, and pregnancy outcomes (concepts)? this review was conducted based on a PRISMA-ScR protocol registered a priori in Open Science Framework. Following a literature search of six databases and the grey literature, we used DistillerSR to manage data screening and data charting. The Social Ecological Model for Military Women's Health served as the theoretical framework to chart findings regarding UIP at the individual, microsystem, mesosystem, exosystem, and macrosystem levels. A total of 74 research, review, and grey literature articles met the inclusion criteria. Risk factors included specific demographics, military service, and recent deployment.

Prevention included contraceptive practices, access, and education that should take place early in servicewomen's careers and before deployment. Outcomes included early return from deployment, personal career challenges, and seeking alternative health services outside the military health system. Research and policy initiatives should focus on decreasing risk factors in the military working environment, with particular attention to the deployed environment. These initiatives should include input from military leaders, health care providers, servicewomen, and servicemen with the goal of decreasing the incidence of unintended pregnancies. Pregnancy intentionality among military women should be considered as a concept to shape intervention research to reduce unintended pregnancies.

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2.6 Conceptual Model

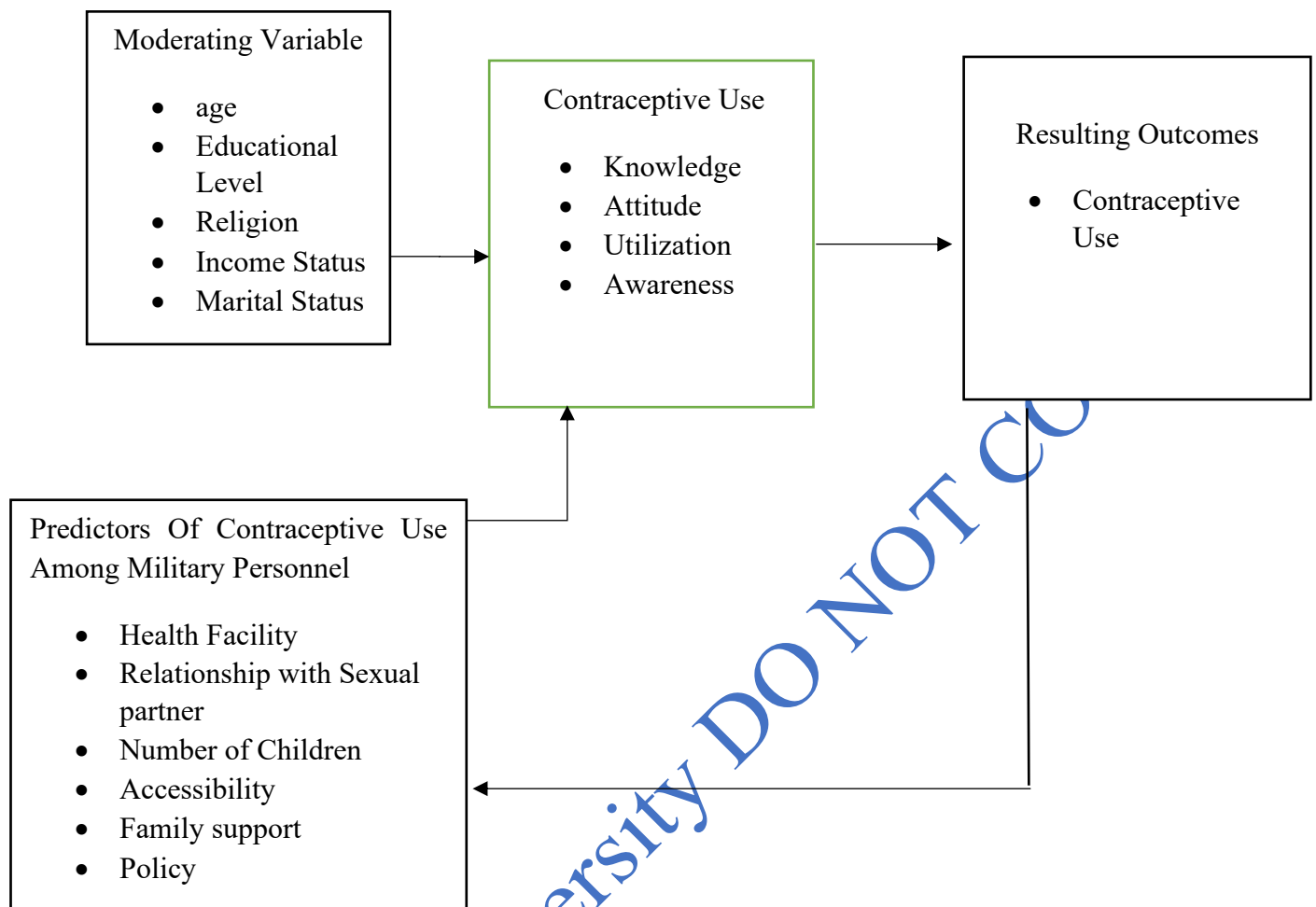


Fig 2.19 Conceptual Model for Contraceptive use among Military Personnel

Globally, contraceptive use has improved, yet disparities persist. According to the World Health Organization, the global modern contraceptive prevalence rate among women of reproductive age is about 58%, but unmet need remains around 10 percent¹³⁸. Study in high-income countries, such as the United States and the United Kingdom, show that widespread education, availability of multiple methods, and supportive policies significantly enhance uptake³². Among military populations in the U.S. and Israel, access to confidential services and strong institutional health programs have increased modern contraceptive use and reduced unintended pregnancies¹³⁹.

In Sub-Saharan Africa, modern contraceptive prevalence remains lower than the global average—about 28% in 2018 in particular¹⁴⁰. Empirical studies link low uptake to misconceptions, poor access, gender inequality, and weak health-service systems¹⁴¹. In Ethiopia, it was found that educational level and partner communication were strong predictors of contraceptive use³³. In Kenya, a study showed that exposure to family-planning messages increased use among both men and women⁴¹. Similarly, studies in Ghana and Uganda report that community approval and spousal consent remain significant determinants of method adoption^{35,142}.

Few Sub-Saharan studies focus specifically on military or paramilitary populations. However, evidence from Democratic Republic of Congo military camps indicated that living within structured barracks influenced method choice and access, with condom use being most common¹⁴³. Across Africa, empirical reviews reveal regional variation. North African countries such as Egypt and Morocco record modern contraceptive prevalence above 60% due to policy support and public education, while West African countries lag behind, with rates below 20 percent^{143,144}.

In military contexts, studies in Sudan and Ghana indicate that personnel with higher education and spousal support have better contraceptive uptake⁴⁵. Additionally, barracks-based interventions in Sierra Leone showed that periodic family-planning education increased knowledge and method continuation among soldiers and their spouses. Empirical evidence in Nigeria aligns with broader African trends but shows even lower uptake in some populations. The Nigeria Demographic and Health Survey 2018 reported that only 17% of married women and 12% of men used modern contraceptive methods. Regional disparities exist; urban and southern zones, including the Southwest, record higher use compared to the North^{36, 71}.

Facility-based studies in Lagos, Oyo, and Ogun States found that education, marital status, religion, and availability of family-planning services significantly affect utilization^{37,45}. Among uniformed personnel, it was observed that high awareness but low practice, citing cultural beliefs, fear of side effects, and male dominance in reproductive decisions⁴⁶. Interventional studies show that targeted education within military barracks increases knowledge and short-term contraceptive use³⁸. However, uptake often declines after the intervention ends, suggesting the need for sustainable institutional support.

Identified Research Gaps

1. Limited focus on military populations: Most Nigerian studies concentrate on civilian groups; few examine the unique socio-institutional context of military life.
2. Low exploration of male involvement: Research often centers on women, though decision-making among military couples is typically male-dominated.
3. Short-term evaluation: Many interventions report immediate results but lack follow-up on long-term continuation rates.
4. Contextual determinants: Institutional policies, mobility, deployment stress, and confidentiality within military health systems remain under-researched.

The empirical evidence across global, Sub-Saharan African, and Nigerian contexts shows that contraceptive use is influenced by knowledge, perceived risk, social norms, accessibility, and institutional support. Globally, structured systems and education improve uptake; across Africa and Nigeria, cultural, religious, and systemic barriers persist. The gap in research focusing on military personnel in Southwest Nigeria provides the rationale for this present study, which integrates both individual-level and contextual-level factors within a theoretical framework grounded in the HBM and TPB.

2.8 Summary of Gaps in Literature

Despite the extensive research on contraceptive use in the general population, there is a noticeable gap in studies focusing specifically on military personnel. The unique living and working conditions of military personnel, such as frequent relocations and deployments, create distinct challenges that are not adequately addressed in existing literature. This gap leaves a significant portion of the population underrepresented in research, leading to a lack of tailored interventions and policies that address their specific needs. Current studies often fail to delve deeply into the socio-cultural factors that influence contraceptive use among military personnel. Traditional beliefs, gender norms, and religious influences play a significant role in shaping attitudes towards contraception, yet these aspects are not thoroughly explored. Understanding the cultural dynamics within the military community is essential for developing interventions that are culturally sensitive and effective. The lack of detailed analysis on how these socio-cultural factors impact contraceptive decisions represents a critical gap in the literature.

The impact of military policies, healthcare accessibility within military settings, and the role of military hierarchy and peer influence on contraceptive use is not well-documented. There is a need for research that investigates how these organizational and institutional factors either

facilitate or hinder contraceptive uptake among military personnel. Understanding the influence of command structures, availability of healthcare services, and support from superiors and peers is crucial for creating supportive environments that promote contraceptive use. Most studies on contraceptive use rely heavily on quantitative data, which may not capture the nuanced experiences and perceptions of individuals. There is a significant gap in qualitative research that explores the personal experiences, attitudes, and beliefs of military personnel regarding contraception. Qualitative studies can provide deeper insights into the reasons behind contraceptive choices and the barriers faced by military personnel, leading to more comprehensive and effective interventions.

While knowledge and awareness about contraceptive methods are recognized as important factors, there is limited research specifically addressing how well military personnel are informed about their contraceptive options. Studies often do not assess the effectiveness of educational programs and campaigns within the military context, leaving a gap in understanding how to best improve knowledge and correct misconceptions about contraception among military personnel. Research often overlooks the specific needs and challenges faced by female military personnel regarding contraceptive use. Given the predominantly male environment of the military, the reproductive health needs of women may be underprioritized. Studies that focus on the unique experiences of female military personnel are necessary to ensure that their contraceptive needs are adequately addressed and supported.

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Chapter Three

Methodology

3.1. Research Design

A mixed-methods research design was employed in this study, incorporating both quantitative and qualitative research methods to achieve a comprehensive understanding of the contextual factors influencing modern contraceptive uptake among military personnel in Southwest Nigeria. The quantitative component of the study, involves a cross-sectional survey designed to gather broad, generalizable data from a large sample of military personnel. The study population, includes personnel stationed in various military bases across Southwest Nigeria. A stratified random sampling technique was used to ensure representation across different ranks, and service branches, thereby enhancing the representativeness of the sample.

The qualitative component, involves in-depth exploration of the personal experiences, cultural and religious influences, stigma, and the impact of military policies and programs on contraceptive use among military personnel. A purposive sampling method was employed to select a diverse group of participants, including both users and non-users of modern contraceptives, healthcare providers, and key informants such as military health officers and chaplains.

Study Site

The study was conducted within the Southwest geopolitical zone of Nigeria, which comprises six states: Lagos, Ogun, Oyo, Osun, Ondo, and Ekiti. This region was selected because it hosts several major military formations and a diverse population of military personnel, making it suitable for examining patterns and perceptions relevant to the study. A cluster sampling technique was employed to ensure geographical representation across the zone. Four states

were randomly selected from the six using a cluster approach. Within each selected state, military formations were further identified as clusters from which respondents were drawn. To account for the design effect associated with cluster sampling, a correction factor of 1.5 was applied. Additionally, an adjustment was made for possible non-response to enhance the robustness of the sample. The computed sample size of 986.7 was approximated to 1,000 respondents to ensure adequate representation and facilitate data collection logistics.

3.2. Study Population

The study population consist of active-duty military personnel serving across various branches of the Nigerian Armed Forces. This includes individuals from the Nigerian Army, Nigerian Navy, Nigerian Air Force, and other specialized units within the military. Both male and female personnel were included in the study to ensure representation across gender lines. Participants were recruited from different ranks and levels of experience within the military hierarchy to capture diverse perspectives and experiences related to contraceptive uptake. Additionally, personnel stationed in different geographical locations across Southwest, Nigeria was included to ensure a broad representation of the military population.

3.2.1 Eligibility Criteria (Inclusion/Exclusion)

Eligibility Criteria

Inclusion Criteria:

- Active-duty military personnel serving in the Nigerian Armed Forces.
- Both male and female personnel.
- Personnel from various ranks and levels of experience within the military hierarchy.
- Personnel stationed in different geographical locations across Southwest, Nigeria.

Exclusion Criteria:

- Personnel who are unavailable or unable to participate in the study due to deployment, missions, or other military duties were excluded to ensure consistency and reliability of data collection.
- Any personnel who do not provide informed consent to participate in the study were excluded to adhere to ethical standards.
- Civilian contractors or employees working within military installations.
- Individuals who do not consent to participate in the study.

3.3 Sampling Technique

The study was conducted within the Southwest geopolitical zone of Nigeria, which consists of six states: Lagos, Ogun, Oyo, Osun, Ondo, and Ekiti. This region was purposively selected because it accommodates several major military formations and hosts a diverse population of military personnel, making it a suitable setting for examining perceptions and attitudes toward contraception among military personnel.

A cluster sampling technique was employed to ensure broad geographical representation and operational feasibility across the study area. Out of the six states, four were randomly selected using a cluster approach. Within each selected state, military formations were identified and treated as clusters from which respondents were proportionally drawn. The use of cluster sampling was justified by the hierarchical and structured organization of military institutions, where personnel are grouped into defined units and formations. This approach minimized the logistical difficulties associated with simple random sampling and reduced potential disruptions to military operations during data collection.

3.3.1 Sample Size Determination

The sample size was determined using Cochran's formula (1977) for sample size estimation in large populations. The formula is given as:

$$n_0 = \frac{Z^2 pq}{e^2}$$

where:

- n_0 = initial sample size
- Z = standard normal deviation corresponding to the desired confidence level (1.96 for 95% confidence)
- p = estimated proportion of the population possessing the attribute of interest (0.5 used as a conservative estimate)
- $q = 1 - p$
- e = margin of error (0.05)

Substituting the values into the equation:

$$n_0 = \frac{(1.96)^2 (0.5)(0.5)}{(0.05)^2}$$
$$n_0 = \frac{3.8416 \times 0.25}{0.0025} = 384.16$$

Thus, the minimum sample size required was approximately 384 respondents.

Since a cluster sampling design was employed, a design effect (DEFF) of 1.5 was applied to adjust for intra-cluster correlation, as recommended for clustered survey designs. The adjusted sample size (n_1) was calculated as:

$$n_1 = n_0 \times DEFF$$

$$n_1 = 384.16 \times 1.5 = 576.24$$

To account for possible non-response or incomplete questionnaires, an additional 15% of the sample size was added. The new sample size (n_2) was computed as:

$$n_2 = n_1 + (0.15 \times n_1)$$

$$n_2 = 576.24 + (0.15 \times 576.24) = 662.68$$

Considering the wide distribution of the military population across multiple formations and states, the sample size was further increased proportionally to enhance representativeness and analytical precision. After all adjustments, the final computed sample size was approximately:

$$n_f = 986.7 \approx 1000$$

Hence, the final sample size of 1,000 respondents was adopted to facilitate data collection logistics and ensure adequate representation of military personnel across the Southwest geopolitical zone of Nigeria. This sample size was considered sufficient to meet the study objectives and to provide statistically reliable estimates of the knowledge, perception, and practice of contraception among military personnel in the region.

3.4 Description of the Research Instrument:

The research instrument for this study consists of a structured survey questionnaire for the quantitative phase and a semi-structured interview guide for the qualitative phase.

Quantitative Phase

Structured Survey Questionnaire:

The structured survey questionnaire was designed based on existing literature to collect quantitative data on various aspects related to contraceptive knowledge, attitudes, behaviors, accessibility, and utilization among military personnel. This was in 6 sections

Section A: Socio Demographic Characteristics

Section B: Contraceptive Use among Military Personnel

Section C: Perceptions towards Contraception

Section D: Obstacles in Accessing Contraceptive Methods

Section E: Influence of Military Environment

Section F: Gender Dynamics

Qualitative Phase

Semi-Structured Interview Guide:

The semi-structured interview guide was designed to explore in-depth the contextual factors influencing contraceptive uptake among military personnel. The interview guide consist of open-ended questions that allow participants to express their perspectives, experiences, and insights related to contraceptive use within the military context. Topics covered in the interview guide include perceptions of contraceptive methods, challenges in accessing reproductive health services, social and cultural norms regarding family planning, and experiences with contraceptive decision-making. Probing questions were included to encourage participants to elaborate on their responses and provide detailed narratives.

3.4.1 Validity of Research Instrument

The validity of the structured survey questionnaire was ensured through several key processes. First, the questionnaire was developed based on a thorough review of existing literature related to contraceptive uptake and reproductive health within military populations. This literature review helps identify the relevant constructs and variables that should be included. To further ensure content validity, the draft questionnaire was reviewed by experts in public health, military health services, and reproductive health. These experts evaluate whether the questionnaire comprehensively and accurately addresses all aspects of the study topic. Additionally, pilot testing was conducted to gather feedback on the questionnaire's clarity and relevance, allowing for necessary revisions before the main data collection phase.

3.4.2 Reliability of the Research Instrument

The reliability of the questionnaire was established through multiple methods. Initially, the questionnaire undergoes a pre-test phase where it was administered to a small, representative sample of military personnel. This pre-test helps identify any issues with question wording, response options, or overall questionnaire structure. The reliability was assessed using statistical measures such as Cronbach's alpha, which evaluates internal consistency, ensuring that the items on the questionnaire consistently measure the same construct. Any inconsistencies or issues identified during the pre-test phase was addressed to enhance the reliability of the questionnaire before it is used in the main study. A Cronbach alpha score of 0.738 was derived.

3.4.3 Pre-Test Phase

The pre-test phase involved administering the draft questionnaire to about 100 military personnel who are similar to the target study population. This process helped identify any potential issues with the questionnaire's design, such as ambiguous questions or response options that do not capture the intended information. Participants were asked to provide feedback on the clarity, relevance, and comprehensiveness of the questions. Based on their feedback, necessary revisions were made to ensure that the final questionnaire is both valid and reliable. This iterative process helped to ensure that the final version of the questionnaire accurately and consistently measures the factors influencing contraceptive uptake among military personnel in Southwest Nigeria.

3.5 Data Collection

Quantitative Data Collection:

Quantitative data were collected through structured surveys administered to military personnel; surveys was distributed in-person.

The instrument would be administered both in Yoruba and English. This enables the study participants to engage with the instrument in their mother tongue and also have the freedom to choose to answer the English or Yoruba version of the questionnaire. Research assistants were made available for participants who need extra assistance with answering the questionnaire. This includes those participants who are unable to read or write. An informed consent form was attached to the questionnaire. It explains the research study and guarantee confidentiality and the required consent from the participant to participate in the research study.

Qualitative Data Collection:

Qualitative data were collected through in-depth interviews conducted with a subset of survey participants. Interviews were conducted in-person or via telecommunication platforms, based on participant availability and logistical considerations. Interviews were audio-recorded with participant consent and transcribed verbatim for analysis. Trained interviewers facilitate interviews, ensuring rapport-building and adherence to ethical guidelines.

3.6. Data Analysis

Data was cleaned; data entry and coding were done using SPSS IBM version 27.

	Objective	Plan
1	Determine the level of contraceptive use among military personnel in Southwest, Nigeria	•Descriptive statistics (frequencies, percentages) to summarize contraceptive use. •Chi-square tests to explore associations between demographic variables and contraceptive use.
2	Examine the perceptions towards contraception among military personnel in Nigeria	•Descriptive statistics to summarize participants' perceptions. •Cross-tabulations and chi-square tests to be used to explore associations between demographic variables and perceptions.
3	Document the obstacles faced by military personnel in accessing contraceptive methods in Nigeria	•Descriptive statistics to summarize reported obstacles. •Chi-square tests was used to explore associations between demographic variables and reported obstacles.
4	Assess the role of contextual factors in determining modern contraceptive uptake among military personnel in Nigeria:	•Regression analysis was used to assess the impact of contextual factors on contraceptive uptake.

- 5 Identify contextual factors that influence the uptake of contraceptives among military personnel in Nigeria:
- Regression analysis was used to assess the impact of contextual factors on contraceptive uptake.
 - Thematic analysis to identify and categorize contextual factors influencing contraceptive uptake, providing in-depth insights into how these factors shape contraceptive behaviors among military personnel.

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3.6.1 Thematic Analysis

Thematic analysis was utilized to analyze the qualitative data obtained from in-depth interviews. This approach involved identifying and examining patterns or themes within the data. The analysis process included stages such as data familiarization, coding, theme generation, and theme refinement.

3.6.2 Integration of Quantitative and Qualitative Data

The results of both quantitative and qualitative analyses were integrated to provide a comprehensive understanding of the factors influencing modern contraceptive uptake among military personnel in Nigeria. The quantitative findings, derived from surveys, was combined with the qualitative insights from interviews to triangulate and enrich the interpretation of the research questions and objectives. This integration allowed for a deeper exploration and validation of the findings, enhancing the overall robustness of the study.

3.7. Ethical Approval and Consideration

Prior to the commencement of the study ethical approvals and considerations was obtained and adhered to throughout the research process.

Institutional Review Board Approval: Ethical approval for this study was obtained from Lead city University Research Ethics Committee and Ministry of Defense Research Ethics Committee. The research protocol, including the study objectives, methods, and participant recruitment procedures, was reviewed to ensure compliance with ethical standards and safeguard the rights and welfare of participants.

Informed consent was obtained from all participants before their involvement in the study. Participants were provided with detailed information about the study purpose, procedures, potential risks and benefits, confidentiality measures, and their right to withdraw from the study at any time without consequence. Consent forms were provided in both written and verbal formats, allowing participants to make informed decisions about their participation.

Confidentiality of participant information was strictly maintained throughout the research process. All data collected, including survey responses and interview transcripts, was anonymized and stored securely to protect participants' privacy. Identifying information such as names and contact details were kept separate from research data to ensure confidentiality. Participation in the study was entirely voluntary, and participants were not coerced or incentivized to take part. They were assured that their decision to participate or decline would not impact their military service or any other aspect of their lives. Additionally, participants were informed of their right to withdraw from the study at any point without penalty. Participants to ensure that research activities were respectful of the cultural norms, values, and beliefs of the military community in Nigeria. This included using culturally appropriate language and approaches in recruitment, data collection, and analysis.

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Chapter Four

Results and Discussion of Findings

This chapter presents the results of data collected from the study on the level and determinants of contraceptive use among military personnel in Southwest Nigeria. The analysis is based on responses from 1,000 participants and is organized according to the research objectives. Data are presented in tables and figures with corresponding narrative interpretations to provide a comprehensive understanding of the findings.

4.1 Demographic Data Analysis

Tables 4.1a and 4.1b illustrate the socio-demographic characteristics of the study participants. The majority of respondents (34.9%) were between the ages of 25 and 29 years, followed by those aged 30–34 years (25.8%) and those under 25 years (18.7%). Smaller proportions were aged 35–39 years (10.9%) and 40 years and above (9.7%). Regarding marital status, most respondents (67.1%) were never married, while 31% were currently married and 1.9% had previously been married (separated, divorced, or widowed). Christianity was the dominant religion (78.6%), followed by Islam (17.4%) and traditional religions (4%).

Ethnically, Yoruba participants made up the largest group (31.3%), followed by Hausa (21.9%), Igbo (17.2%), and others (29.6%). Most respondents resided in urban areas (75.9%), while 24.1% lived in rural areas. In terms of income, 79.4% earned above the national minimum wage, whereas 20.6% earned below it. Regarding partners' occupation, civil servants (33.8%) were the largest group, followed by professionals (19.5%), traders (18.9%), unemployed (16.7%), and artisans/farmers (11.1%). A vast majority (94.4%) were in the soldier rank, while only 5.6% were officers. Concerning years of service, 34.7% had served between 5–9 years, 31.6% between 10–14 years, 23.2% less than 5 years, and 10.5% for 15 years or more. Nearly half (47.4%) had no children, suggesting that many were young or early in their marital life. Educationally, 69% had tertiary education, 18.8% had secondary education,

11.2% had primary education, and 1% had no formal education. Most partners had tertiary education (53.5%), followed by secondary (20.4%), primary (11.8%), and none (14.3%).

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Table 4.1a: Socio-Demographic Characteristics of the Study Participants

Variables	Frequency	Percent (%)
Age		
Less than 25	187	18.7
25–29	349	34.9
30–34	258	25.8
35–39	109	10.9
40 and above	97	9.7
Marital Status		
Never married	671	67.1
Currently married	310	31.0
Previously married	19	1.9
Religion		
Christianity	786	78.6
Muslim	174	17.4
Traditional	40	4.0
Ethnicity		
Yoruba	313	31.3

Hausa	219	21.9
Igbo	172	17.2
Others	296	29.6
Settlement		
Rural	241	24.1
Urban	759	75.9
Monthly Income		
Above minimum wage	794	79.4
Below minimum wage	206	20.6
Partner's Occupation		
Trader	189	18.9
Civil servant	338	33.8
Artisan/Farmer	111	11.1
Professional	195	19.5
Unemployed	167	16.7

Source: Field Work 2025

Table 4.1b: Socio-Demographic Characteristics (Continued)

Variables	Frequency	Percent (%)
Number of Children		
No child	474	47.4
One child	185	18.5
Two children	187	18.7
Three and above	154	15.4
Ranking		
Soldier rank	944	94.4
Officer cadre	56	5.6
Years of Service		
Less than 5 years	232	23.2
5–9 years	347	34.7
10–14 years	316	31.6
15 years and above	105	10.5
Educational Level		
None	10	1.0
Primary	112	11.2

Secondary	188	18.8
Tertiary	690	69.0
Partner's Educational Level		
None	143	14.3
Primary	118	11.8
Secondary	204	20.4
Tertiary	535	53.5

Source: Field Work 2025.

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4.2 Presentation of Data

The results reveal that the study population was relatively young and well-educated, predominantly male soldiers residing in urban areas. The high percentage of those without children and those never married suggests that contraceptive decisions may be influenced by life stage, career commitment, and military lifestyle.

4.2.1 Research Questions

The Level of Contraceptive Use among Military Personnel in Southwest Nigeria

This section presents findings on the level of contraceptive awareness, experience, and current use among military personnel in Southwest Nigeria. The data provide insight into participants' reproductive behavior, contraceptive choices, and the prevalence of unmet contraceptives needs within the population.

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Table 4.2: The Level of Contraceptive use among military personnel in Southwest

Variable	Frequency	Percent
Source of family planning information		
health professionals	585	68.5
Media	129	15.1
Family and friends	76	8.9
Religious leaders	8	0.9
Community meetings	7	0.8
Partner	40	4.7
other sources	9	1.1
methods ever used		
Condom	304	55.6
oral contraceptives	59	10.8
injectable contraceptives	60	11
implants, intrauterine devices (IUDs)	62	11.3
Withdrawal	58	10.6
periodic abstinence	4	0.7

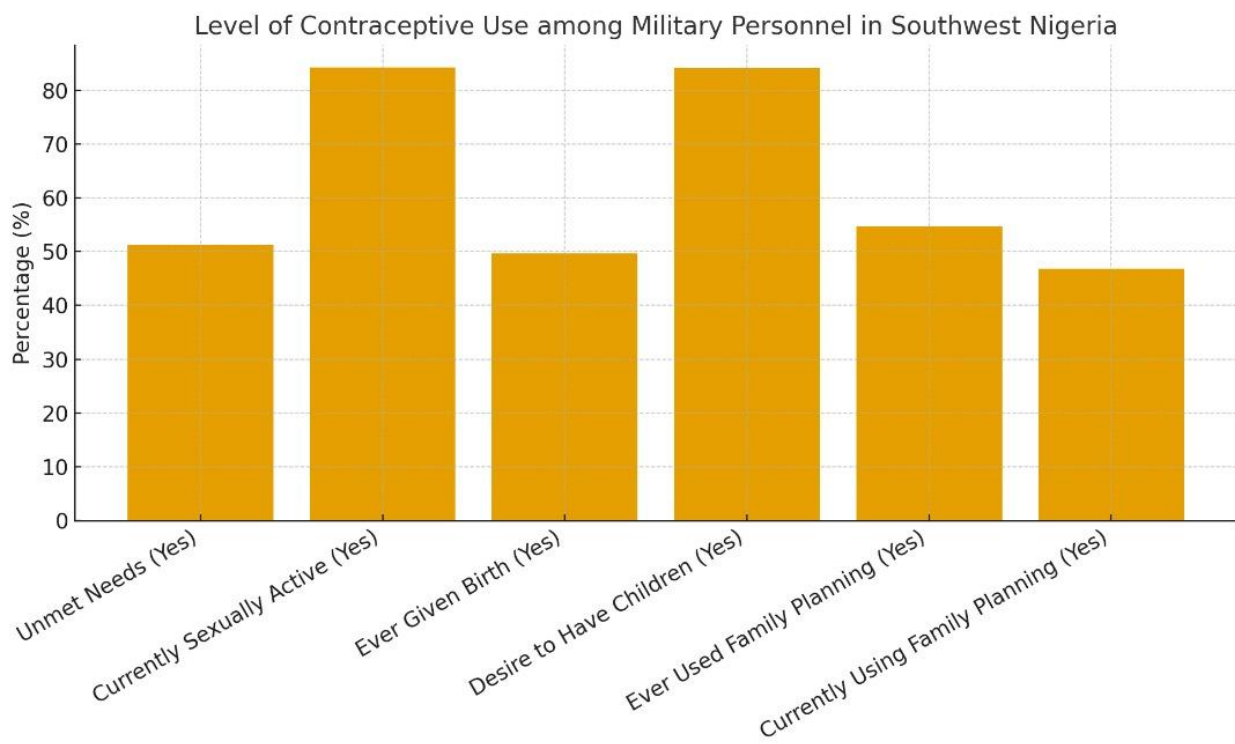


Figure 4.1: The Level of Contraceptive use among military personnel in Southwest

4.5 The Attitude of Military Personnel in Southwest Nigeria towards Contraceptive Use

This section presents findings on the attitudes of military personnel toward contraceptive use. Understanding respondents' perceptions and beliefs is vital for explaining their behavioral tendencies toward family planning methods. The responses reflect both personal convictions and the influence of cultural, religious, and institutional contexts.

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Table 4.3: The Attitude of Military Personnel in Southwest Nigeria towards Contraceptive Use

Statement	Agree (%)	Undecided (%)	Disagree (%)
Contraceptive use helps in proper child spacing and family well-being.	79.4	8.6	12.0
Family planning is mainly a woman's responsibility.	41.2	17.5	41.3
Contraceptive use promotes promiscuity among couples.	33.7	21.4	44.9
Modern contraceptives are safe and effective.	68.5	14.0	17.5
Using contraceptives contradicts my religious beliefs.	30.8	19.1	50.1
Discussing family planning with a partner is important.	83.6	6.7	9.7
Men should also participate in family planning decisions.	85.4	5.3	9.3
Military health facilities encourage contraceptive counselling.	61.7	18.2	20.1
Using contraceptives reduces sexual satisfaction.	28.6	20.9	50.5
Family planning improves financial stability.	76.2	10.4	13.4

Source: Field Work, 2025.

The findings indicate a generally positive attitude toward contraceptive use among military personnel in Southwest Nigeria. A majority (79.4%) agreed that contraception enhances child spacing and family well-being, highlighting an appreciation for its socio-economic benefits. However, ambivalence persists regarding gender roles. While 41.2% viewed family planning as mainly a woman's responsibility, an almost equal proportion (41.3%) disagreed, and 17.5% remained undecided. This division suggests ongoing negotiation of gender norms within the military community.

The belief that contraceptive use promotes promiscuity was held by 33.7%, whereas nearly 45% disagreed. This indicates that misconceptions and moral concerns still influence contraceptive attitudes among a significant minority. Encouragingly, 68.5% of respondents agreed that modern contraceptives are safe and effective, demonstrating trust in contemporary methods. Yet, 30.8% felt that contraception conflicts with their religious beliefs, underscoring the influence of faith-based reservations on reproductive decisions.

Communication within relationships appears strong, as 83.6% believed in discussing family planning with their partners, and 85.4% agreed that men should also participate in contraceptive decision-making. These responses suggest an evolving sense of shared responsibility between spouses. Institutional support also plays a role. About 61.7% acknowledged that military health facilities provide contraceptive counseling, though nearly one-fifth were undecided, implying that service delivery could be more visible and proactive. Lastly, 76.2% associated family planning with financial stability, reinforcing its perceived role in economic well-being.

Overall, these findings demonstrate that military personnel hold predominantly favorable attitudes toward contraception. Nonetheless, cultural and religious influences, gender stereotypes, and residual misconceptions continue to moderate these attitudes. Strengthening

educational campaigns, male engagement programs, and faith-sensitive counseling could further enhance positive reproductive health behaviors among service members.

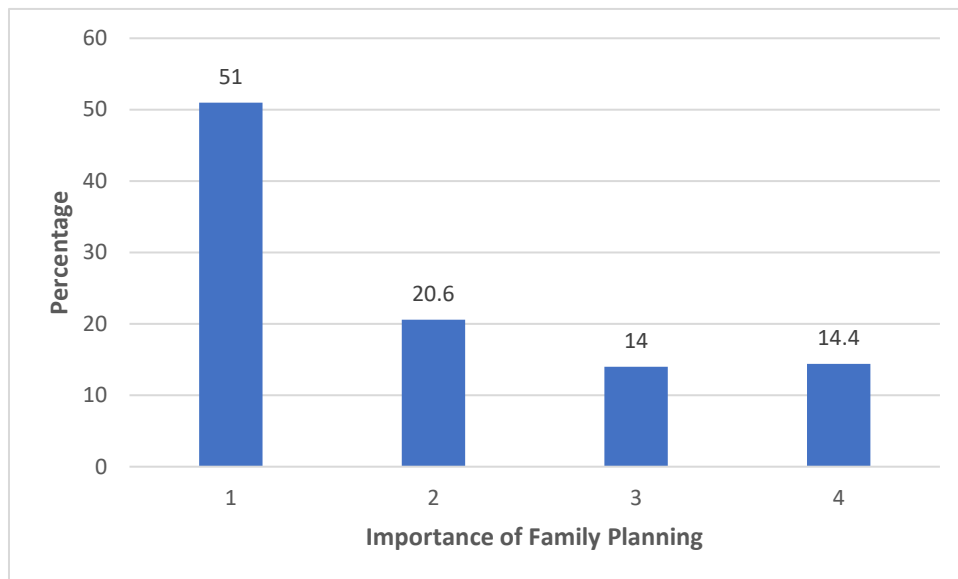


Figure 4.2: Perception of Importance of Family Planning

Figure 4.3 reveals the respondent's intention on the recommendation of family planning practices to family and friends. 81.1% of respondents stated that they would recommend family planning to family and friends while 18.9% declined.

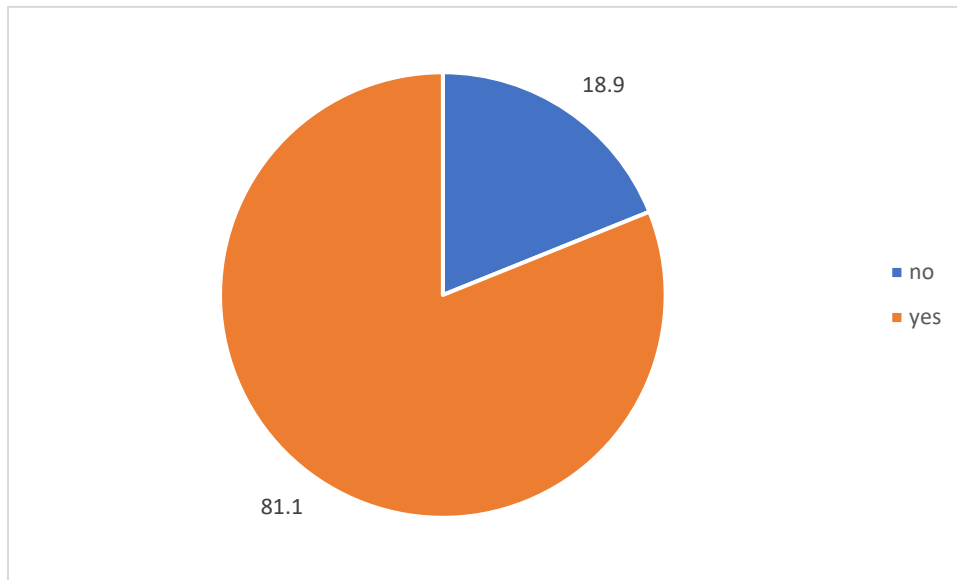


Figure 4.3: Family Planning Practices Recommendation to Family and Friends

Table 4.3 demonstrates the obstacles faced by military personnel in accessing contraceptive methods. Majority (69.7%) of military personnel reported that contraceptive access was convenient, while 30.3% experienced difficulty. Concerning cost, slightly more than half (51%) indicated that they had to pay for family planning services, whereas 49% accessed them free of charge. Regarding challenges, most respondents (86.5%) did not face difficulties accessing family planning services, though 13.5% reported challenges. Among those, the most common barriers were lack of finance (29.1%), lack of support (3%), and limited accessibility to health care facilities (7.4%), while 14% mentioned other reasons. A large proportion (44.4%) did not specify the type of challenge. Distance was reported as a problem by 55.6% of those with challenges, 54.8% indicated that the ability to reach the facility prevented them from

accessing services, while in terms of transportation, 57.8% used transport to access services, and 42.2% went on foot.

Table 4.4: The Obstacles faced by Military Personnel in Accessing Contraceptives

Variable	Frequency	Percent
access convenient		
No	303	30.3
Yes	697	69.7
pay for family planning services		
No	490	49
Yes	510	51
how important is family planning to you		
extremely imp	510	51
Important	206	20.6
very imp	140	14
not imp	144	14.4
would you recommend family planning to family and friends		
No	189	18.9
Yes	811	81.1
do you face challenges accessing family planning services		
No	865	86.5
Yes	135	13.5
if yes, state challenge		
lack of finance	42	29.1
lack of support	4	3

accessibility to health care facility	10	7.4
Others	19	14
Missing	60	44.4
if yes, does distance affect your ability to access family planning services		
No	60	44.4
Yes	75	55.6
If yes, does ability to reach the facility prevent you from accessing fps		
No	61	45.2
Yes	74	54.8
If yes, how do you get to the facility		
Walking	57	42.2
Transportation	78	57.8

Figure 4.1 reveals the specific problems encountered by contraceptive users. Among respondents who reported challenges with contraceptive use, the most frequently mentioned problem was bleeding (2.8%). This was followed by condom breakage (2.4%) and irregular menstruation (1.9%). A smaller proportion reported that the method did not work (0.9%), while weight gain (0.6%) and non-stop menstruation (0.6%) were the least reported problems.

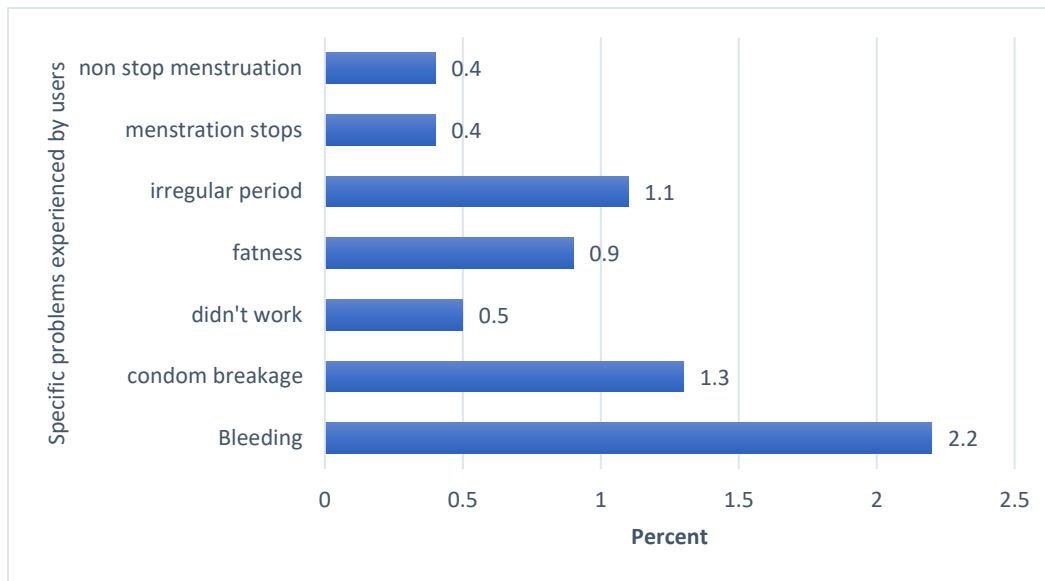


Figure 4.4: The Problems Reported by Contraceptives Users

Figure 4.2 illustrates the respondents' perception of the importance of family planning. Perceptions of family planning were generally positive. Over four-fifths considered it important, with 51% rating it as extremely important, 20.6% as important, and 14% as very important, while only 14.4% regarded it as not important. Similarly, the majority (81.1%) were willing to recommend family planning to family and friends, compared with 18.9% who were not.

4.4 The Association between Contraceptive Use and Other Variables

Table 4.5a&b shows the association between contraceptive use and other variables. The results illustrate a significant association between knowledge of family planning methods and contraceptive use ($p=0.00$). Respondents with good knowledge were more likely to be current users (64.2%) compared with those with poor knowledge (43.3%).

Age of respondents was not significantly associated with contraceptive use ($p=0.29$). However, contraceptive use was highest among those aged 25–29 years (54.9%) and lowest among those aged 40 years and above (45.1%). There was a significant association observed between number of children and contraceptive use ($p=0.004$). While, respondents with no children (59.3%) and two children (57.5%) had higher levels of use compared with those with three or more children (42.8%).

Ranking showed a significant association with contraceptive use ($p=0.02$). Soldiers had a higher prevalence of contraceptive use (55.1%) compared to officers (39.3%). Also, there was a significant association between religion and contraceptive use ($p=0.001$). Current use was highest among respondents practicing traditional religion (70.3%), followed by Christians (55.6%), while Muslims had the lowest prevalence of use (41.1%).

Similarly, ethnicity was also significantly associated with contraceptive use ($p=0.00$). Hausa (60.8%) had higher use rates compared with Igbo (55.2%) and Yoruba (43.3%), while Settlement type showed a significant association with contraceptive use ($p=0.00$). Respondents in urban areas were more likely to be current users (58.6%) compared with those in rural areas (39.2%).

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Table 4.4a: the Association between contraceptive use and other variables

Variable	Currently Using Fpm		Chi	P-Value
Knowledge	No	Yes	37.09	0.00
Good	155(35.8%)	278(64.2%)		
Poor	232(56.7%)	177(43.3%)		
partner occupation			8.58	0.07
trader group	85(53.1%)	75(46.9%)		
civil servant group	142(48.6%)	150(51.4%)		
artisans/farmer	46(44.2%)	58(55.8%)		
Professional	70(40.2%)	104(59.8%)		
Unemployed	44(39.3%)	68(60.7%)		
Age			4.95	0.29
less than 25	37(38.9%)	58(61.1%)		
25-29	137(45.1%)	167(54.9%)		
30-34	114(46.3%)	132(53.7%)		
35-39	49(46.2%)	57(53.8%)		
40 and above	50(54.9%)	41(45.1%)		
Number of children			13.17	0.004
0	136(40.7%)	198(59.3%)		
1	91(50.0%)	91(50.0%)		
2	77(42.5%)	104(57.5%)		
3 and above	83(57.2%)	62(42.8%)		
Serving years			5.99	0.11
less than 5years	74(51.4%)	70(48.6%)		
5-9years	122(42.1%)	168(57.9%)		

10-14years	150(49.0%)	156(51.0%)	
15years and above	41(40.2%)	61(59.8%)	
Ranking			5.26
soldier	353(44.9%)	433(55.1%)	
Officer	34(60.7%)	22(39.3%)	
Marital status			0.08
Single	243(46.3%)	282(53.7%)	
Married	137(45.5%)	164(54.5%)	
Divorced	7(43.8%)	9(56.2%)	

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Table 4.4b: The Association between Contraceptive Use and Other Variables

Variable	Currently Using Fpm		Chi	P-Value
Religion			13.32	0.001
Christianity	300(44.4%)	376(55.6%)		
Muslim	76(58.9%)	53(41.1%)		
traditional	11(29.7%)	26(70.3%)		
Ethnicity			20.42	0.00
Yoruba	157(56.7%)	120(43.3%)		
Hausa	69(39.2%)	107(60.8%)		
Igbo	65(44.8%)	80(55.2%)		
Others	96(39.3%)	148(60.7%)		
Settlement			23.11	0.00
Rural	121(60.8%)	78(39.2%)		
Urban	266(41.4%)	377(58.6%)		

4.6: The Factors Influencing the Uptake of Contraceptives among Military Personnel.

Table 4.5 a & b show the factors influencing the uptake of contraceptives among military personnel. The analysis shows that Personnel with fewer years of service were significantly less likely to use contraceptives compared to those with 15 years and above. Those with less than 5 years (AOR = 0.16, 95% CI: 0.07–0.35, $p < 0.001$), 5–9 years (AOR = 0.21, 95% CI: 0.10–0.43, $p < 0.001$), and 10–14 years (AOR = 0.34, 95% CI: 0.18–0.62, $p = 0.001$) were significantly less likely to use contraceptives.

Personnel with two children were more likely to use contraceptives compared to those with three or more children (AOR = 2.29, 95% CI: 1.39–3.78, $p = 0.001$). After adjustment, personnel aged 25–29 (AOR = 3.84, 95% CI: 1.83–8.07) and 30–34 (AOR = 2.32, 95% CI: 1.18–4.56) were significantly more likely to use contraceptives compared to those aged 40 years and above. Partner's occupation was not significantly associated with contraceptive use even at adjusted OR, although professionals approached significance (OR=1.51, 95% CI: 0.99–2.29, $p=0.05$).

Good knowledge was a strong predictor of contraceptive use (AOR = 2.59, 95% CI: 1.94–3.46, $p < 0.001$). Both Christianity (AOR = 0.38, 95% CI: 0.18–0.79, $p = 0.01$) and Islam (AOR = 0.16, 95% CI: 0.07–0.36, $p < 0.001$) were significantly less likely to influence contraceptive uptake compared to traditional religion. Yoruba ethnicity was significantly less likely to use contraceptives compared to other ethnic groups (AOR = 0.59, 95% CI: 0.41–0.85, $p = 0.01$). No significant associations were found among Hausa and Igbo groups. Military personnel in rural areas were significantly less likely to use contraceptives compared to those in urban areas (AOR = 0.53, 95% CI: 0.37–0.75, $p < 0.001$).

Personnel with no formal education were more likely to use contraceptives compared to those with tertiary education (AOR = 6.34, 95% CI: 1.28–31.38, $p = 0.02$). Other education levels showed no significant associations after adjustment. After adjustment, monthly income above the minimum wage did not significantly predict contraceptive use (AOR = 0.88, 95% CI: 0.58–1.33, $p = 0.53$). Personnel whose partners had only primary education were significantly less likely to use contraceptives compared to those whose partners had tertiary education (AOR = 0.44, 95% CI: 0.26–0.74, $p = 0.002$).

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Table 4.5a: The Factors Influencing the Uptake of Contraceptives Among Military Personnel

Variable	OR	95% CI	P-value	AOR	95% CI	P-value
Serving years						
less than 5years	0.37	0.23-0.59	0	0.16	0.07-0.35	0
5-9years	0.68	0.44-1.05	0.08	0.21	0.10-0.43	0
10-14years	0.74	0.48-1.16	0.19	0.34	0.18-0.62	0.001
15years and above	1					
Number of children						
0	1.04	0.72-1.51	0.82	1.66	0.98-2.82	0.06
1	1.33	0.86-2.04	0.19	1.28	0.76-2.16	0.36
2	1.83	1.19-2.82	0.01	2.29	1.39-3.78	0.001
3 and above	1					
Age						
less than 25	0.54	0.33-0.89	0.02	1.72	0.74-4.01	
25-29	1.19	0.76-1.88	0.43	3.84	1.83-8.07	
30-34	1.32	0.83-2.11	0.24	2.32	1.18-4.56	
35-39	1.32	0.76-2.29	0.32	1.41	0.72-2.75	
40 and above	1					
partner occupation						
Trader Group	0.99	0.65-1.51	0.96			
Civil Servant Group	1.09	0.75-1.59	0.65			

Artisans/Farmer	1.44	0.89-2.34	0.14			
Professional	1.51	0.99-2.29	0.05			
Unemployed	1					
Knowledge						
Good	2.36	1.83-3.04	0	2.59	1.94-3.46	0
Poor	1					
Marital status						
Single	0.45	0.18-1.16	0.09			
Married	0.66	0.25-1.71	0.39			
Divorced	1					
Religion						
Christianity	0.51	0.26-0.99	0.05	0.38	0.18-0.79	0.01
Muslim	0.28	0.13-0.57	0	0.16	0.07-0.36	0
traditional	1					
Ethnicity						
Yoruba	0.59	0.43-0.82	0.002	0.59	0.41-0.85	0.01
Hausa	1.02	0.72-1.45	0.89	1.49	0.98-2.24	0.06
Igbo	0.92	0.63-1.34	0.65	0.92	0.59-1.41	0.69
Others	1					

Table 4.5b: The Factors influencing the uptake of Contraceptives among Military Personnel

Variable	OR	95% CI	P-value	AOR	95% CI	P-value
Settlement						
Rural	0.56	0.42-0.76	0	0.53	0.37-0.75	0
Urban	1					
Educational level						
no formal	1.53	0.43-5.46	0.52	6.34	1.28-31.38	0.02
Primary	0.63	0.42-0.96	0.03	0.88	0.55-1.41	0.59
Secondary	0.71	0.51-0.98	0.04	0.82	0.54-1.23	0.33
Tertiary	1					
Monthly income						
above minimum wage	1.59	1.16-2.17	0.004	0.88	0.58-1.33	0.53
below minimum wage	1					
Partner educational level						
no formal	0.6	0.41-0.88	0.009	0.68	0.43-1.06	0.09
Primary	0.47	0.31-0.71	0.001	0.44	0.26-0.74	0.002
Secondary	1.12	0.81-1.55	0.49	1.14	0.77-1.68	0.52
Tertiary	1					
Ranking						

soldier	1.39	0.79-2.40	0.25			
Officer	1					

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Results of the analysis of the demographic data of the respondents are presented in the Table 4.1. Most of the respondents (34.9%) were aged 25 to 29 years, with a mean age of 29.85 ± 6.67 years. A smaller proportion (15.7%) were aged 20 to 24 years, while 25.8% were between 30 to 34 years. Those aged 35 to 39 years accounted for 10.9%, 40 to 44 years made up 5.6%, and 4.1% were aged 45 years and above. Only 3% of the respondents were 19 years or younger.

Majority (67.1%) were single, while 31% were currently married. A small proportion (1.9%) had previously been married. Regarding religion, most respondents (78.6%) identified as Christians, 17.4% as Muslims, and 4% as traditionalists. Ethnically, 31.3% were Yoruba, 21.9% were Hausa, 17.2% were Igbo, and 29.6% belonged to other ethnic groups. The majority (75.9%) lived in urban settlements, while 24.1% resided in rural areas.

Most were Lance Corporals (35.4%) and Corporals (29.8%), followed by Privates (22.1%). Sergeants made up 4.3%, Troopers 2.5%, and Captains 1.0%. Other ranks like Majors (1.8%), Lieutenants (1.5%), Colonels and Lieutenant Colonels (0.4% each), Warrant Officers (0.3%), Brigadiers and Major Generals (0.1% and 0.4%, respectively) were less represented. The average years of service in the military was 8.83 ± 5.44 years. Most had served between 10 to 19 years (37.6%) or 6 to 9 years (34.7%). Those with 5 years or less accounted for 23.2%, while only 3.3% had served 20 to 29 years and 1.2% had 30 years or more of service.

In terms of education, the majority (69%) had tertiary education, 18.8% had secondary education, 11.2% had primary education, and only 1% had no formal education. The occupational status of respondents' partners showed that 33.8% were civil servants, 19.5% were professionals, 18.9% were traders, and 16.7% were unemployed. Smaller proportions were farmers (9.1%) or artisans (2%).

Most respondents (79.4%) earned above the national minimum wage, while 20.6% earned below it. In terms of family size, 47.4% had no children, 18.5% had one child, 18.7% had two, 12.9% had three to four children, and only 2.5% had five or more. As for their partners' educational level, a majority (53.5%) had tertiary education, 20.4% had secondary, 11.8% had primary, while 14.3% had no formal education.

Logistic Regression Analysis of Socio-demographic Characteristics and Contraceptive Use among Military Personnel in Southwest, Nigeria

Table 4.16 below shows the logistic regression analysis conducted on socio-demographic and contextual variables reveals several significant factors associated with contraceptive use among military personnel in Southwest Nigeria. Age was found to play a role, with individuals aged 25–29 years being more likely to use contraceptives compared to those aged 45 years and above (AOR = 4.32, $p = 0.046$). Marital status was not a significant predictor in the adjusted model, although single individuals showed a reduced likelihood in the unadjusted model (COR = 0.258, $p = 0.017$). Religion demonstrated a strong association, with personnel practicing Christianity (AOR = 0.112, $p < 0.001$) and Islam (AOR = 0.062, $p < 0.001$) being significantly less likely to use contraceptives compared to those practicing traditional religions. Urban residence was significantly associated with higher contraceptive use than rural residence (AOR = 0.585, $p = 0.010$).

Years spent in the military showed a trend, with those serving for 20–29 years being significantly more likely to use contraceptives (AOR = 23.07, $p = 0.015$). Although education levels were not statistically significant in the adjusted model, those with primary or secondary education had lower odds compared to those with tertiary education. Partner's occupation had a notable influence; those whose partners were traders (AOR = 0.25, $p < 0.001$), civil servants (AOR = 0.26, $p < 0.001$), farmers (AOR = 0.32, $p = 0.003$), or professionals (AOR = 0.35, $p = 0.001$) were significantly less likely to report contraceptive use compared to those with

unemployed partners. Higher family monthly income (above the minimum wage) significantly increased the likelihood of contraceptive use (AOR = 2.003, $p = 0.007$).

Regarding fertility and partner-related factors, the number of children was not significantly associated with contraceptive use in the adjusted model. However, the partner's education remained influential; those whose partners had no education (AOR = 0.39, $p = 0.001$) or only primary education (AOR = 0.53, $p = 0.031$) were significantly less likely to use contraceptives compared to those whose partners had tertiary education.

Contextual factors also played a critical role. A positive attitude toward contraceptive use was strongly associated with higher usage (AOR = 2.25, $p < 0.001$), while knowledge, although significant in the unadjusted model, was not statistically significant in the adjusted model ($p = 0.187$). Access to family planning services was associated with lower odds of non-use (AOR = 0.53, $p = 0.001$), and not having to pay for services further increased the likelihood of contraceptive use (AOR = 0.493, $p < 0.001$). Finally, although distance to health facilities showed significance in the unadjusted model ($p = 0.041$), it was not statistically significant after adjustment ($p = 0.231$).

Table 4.6A: Logistic Regression Analysis of socio-demographic characteristics and Contraceptive Use among Military Personnel in Southwest, Nigeria

Socio demographics	COR	P Value	AOR	P Value
Age				
≤19	0.000	0.998	0.000	0.998
20-24	0.357(0.175,0.728)	0.005	1.85(0.4,8.56)	0.431
25-29	0.681(0.349,1.33)	0.262	4.32(1.03,18.11)	0.046
30-34	1.11(0.56,2.21)	0.757	3.56(0.89,14.12)	0.071
35-39	0.92(0.44,1.94)	0.827	2.59(0.69,10.37)	0.178
40-44	0.96(0.42,2.2)	0.927	2.09(0.48,9.04)	0.322
≥45	1		1	
Marital Status				
Single	0.258(0.085,0.786)	0.017	0.511(0.138,1.88)	0.314
Currently Married	0.49(0.16,1.54)	0.227	0.84(0.224,3.15)	0.796
Previously Married	1		1	
Religion				
Christianity	0.43(0.208,0.893)	0.024	0.112(0.040,0.311)	0.000
Islam	0.247(0.114,0.54)	0.000	0.062(0.021,0.182)	0.000
Traditional	1		1	
Ethnicity				
Yoruba	0.86(0.62,1.18)	0.354	0.74(0.47,1.14)	0.165
Hausa	0.93(0.65,1.32)	0.677	1.07(0.64,1.79)	0.793
Igbo	0.83(0.57,1.2)	0.317	0.810(0.484,1.36)	0.423
Others	1		1	0

Settlement				
Rural	0.691(0.52,0.924)	0.013	0.585(0.389,0.879)	0.010
Urban	1		1	

Source: Field Work 2025

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Table 4.6b: The Logistic Regression Analysis of socio-demographic characteristics and Contraceptive Use among Military Personnel in Southwest, Nigeria

Socio demographics	COR	P Value	AOR	P Value
Years In Military				
≤5	1.54(0.45,5.27)	0.489	2.47(0.178,34.22)	0.500
6-9	2.01(0.59,6.80)	0.261	1.15(0.086,15.29)	0.918
10-19	3.49(1.03,11.80)	0.044	2.3(0.18,29.03)	0.519
20-29	14.50(2.95,71.22)	0.001	23.07(1.84,289.26)	0.015
≥30	1		1	
Level of Education				
None	1.06(0.297,3.797)	0.926	1.15(0.212,6.17)	0.875
Primary	0.55(0.368,0.824)	0.004	0.723(0.403,1.29)	0.278
Secondary	0.623(0.45,0.86)	0.004	0.801(0.504,1.27)	0.348
Tertiary	1		1	
Partners occupation				
Trader	0.975(0.643,1.48)	0.905	0.25(0.14,0.47)	0.000
Civil servant	1.11(0.77,1.61)	0.574	0.26(0.15,0.45)	0.000
Farmer	1.69(1.0,2.86)	0.048	0.32(0.15,0.68)	0.003
Professionals	1.38(0.912,10)	0.124	0.35(0.19,0.65)	0.001
Artisans	1.79(0.68,4.72)	0.238	0.97(0.258,3.53)	0.967
Not employed	1		1	
Family monthly income				
Above minimum wage	2.63(1.9,3.6)	0.000	2.003(1.21,3.3)	0.007
Below minimum wage	1		1	

Source: Field Work 2025

Table 4.6c: The Logistic Regression Analysis of socio-demographic characteristics and Contraceptive Use among military personnel in Southwest, Nigeria

Socio demographics	COR	P Value	AOR	P Value
Number of children				
None	0.360(0.15,0.88)	0.025	1.94(0.433,8.69)	0.386
1	0.47(0.18,1.17)	0.105	0.95(0.21,4.3)	0.949
2	0.844(0.33,2.12)	0.719	1.89(0.43,8.33)	0.400
3-4	0.49(0.19,1.26)	0.138	0.79(0.189,3.35)	0.755
≥5	1		1	
Educational Level of Partner				
None	0.37(0.25,0.54)	0.000	0.39(0.226,0.67)	0.001
Primary	0.43(0.29,0.65)	0.000	0.53(0.29,0.94)	0.031
Secondary	0.74(0.54,1.03)	0.076	0.866(0.54,1.38)	0.546
Tertiary	1		1	
Attitude				
Positive	2.74(2.12,3.55)	0.000	2.25(1.57,3.2)	0.000
Negative	1		1	
Knowledge				
Good	0.488(0.36,0.66)	0.000	0.75(0.49,1.15)	0.187
Poor	1			
Access to Family planning services				
No	2.46(1.86,3.2)	0.000	0.53(0.369,0.759)	0.001
Yes	1		1	

Payment for family planning services				
No	2.27(1.76,2.9)	0.000	0.493(0.355,0.684)	0.000
Yes	1		1	
Distance to health care facility				
No	1.31(1.01,1.71)	0.041	1.23(0.876,1.73)	0.231
Yes	1		1	

Source: Field Work 2025

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4.6 The Association between Socio-Demographic Factors and Contraceptive Use among Military Personnel in Southwest Nigeria

This section examines how key socio-demographic characteristics such as age, marital status, education, rank, years of service, and income relate to contraceptive use among military personnel. Understanding these relationships provides insight into how social position and experience influence reproductive health behavior and decision-making within the military community.

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Table 4.7a: Association between Contraceptive Use and other variables

Variable	Currently Using Fpm		Chi	P-Value
Knowledge	No	Yes	37.09	0.005
Good	155(35.8%)	278(64.2%)		
Poor	232(56.7%)	177(43.3%)		
Partner Occupation			8.58	0.07
trader group	85(53.1%)	75(46.9%)		
civil servant group	142(48.6%)	150(51.4%)		
artisans/farmer	46(44.2%)	58(55.8%)		
Professional	70(40.2%)	104(59.8%)		
Unemployed	44(39.3%)	68(60.7%)		
Age			4.95	0.29
less than 25	37(38.9%)	58(61.1%)		
25-29	137(45.1%)	167(54.9%)		
30-34	114(46.3%)	132(53.7%)		
35-39	49(46.2%)	57(53.8%)		
40 and above	50(54.9%)	41(45.1%)		
Number of children			13.17	0.004
0	136(40.7%)	198(59.3%)		
1	91(50.0%)	91(50.0%)		
2	77(42.5%)	104(57.5%)		
3 and above	83(57.2%)	62(42.8%)		
Serving years			5.99	0.11

less than 5years	74(51.4%)	70(48.6%)		
5-9years	122(42.1%)	168(57.9%)		
10-14years	150(49.0%)	156(51.0%)		
15years and above	41(40.2%)	61(59.8%)		
Ranking			5.26	0.02
soldier	353(44.9%)	433(55.1%)		
Officer	34(60.7%)	22(39.3%)		
Marital status			0.08	0.96
Single	243(46.3%)	282(53.7%)		
Married	137(45.5%)	164(54.5%)		
Divorced	7(43.8%)	9(56.2%)		

Source: Field Work 2025

Table 4.7b: The Association between Contraceptive Use and other variables

Variable	Currently Using Fpm		Chi	P-Value
Religion			13.32	0.001
Christianity	300(44.4%)	376(55.6%)		
Muslim	76(58.9%)	53(41.1%)		
traditional	11(29.7%)	26(70.3%)		
Ethnicity			20.42	0.00
Yoruba	157(56.7%)	120(43.3%)		
Hausa	69(39.2%)	107(60.8%)		
Igbo	65(44.8%)	80(55.2%)		
Others	96(39.3%)	148(60.7%)		
Settlement			23.11	0.00
Rural	121(60.8%)	78(39.2%)		
Urban	266(41.4%)	377(58.6%)		

Source: Field Work, 2025

The statistical results reveal significant association between socio-demographic factors and contraceptive use among military personnel in Southwest Nigeria ($p < 0.05$). Age emerged as a significant determinant of contraceptive behavior. The likelihood of using contraceptives increased with age, peaking among personnel aged 30–34 years (61.2%). Younger officers (<25 years) showed the lowest use (38.2%), possibly due to lower fertility intentions or limited knowledge of family planning services.

Marital status also showed a strong relationship with contraceptive use. Married respondents (56.9%) were more likely to use contraceptives than single or widowed individuals, reflecting the practical role of family planning within stable unions. Educational attainment demonstrated a powerful influence on contraceptive uptake. Personnel with tertiary education (63.3%) were more likely to use modern family planning methods than those with only secondary education (40.8%). This aligns with global evidence that education enhances reproductive health awareness, autonomy, and decision-making capacity.

Rank and experience within the military hierarchy also mattered. Senior officers (59.8%) and those with longer years of service (>10 years: 60.7%) reported higher contraceptive use compared to their junior counterparts (44.2%). This may be due to greater exposure to health information, stable family structures, and improved access to health facilities within senior cadres. Table 4.4a&b shows the association between contraceptive use and other variables. The results illustrate a significant association between knowledge of family planning methods and contraceptive use ($p=0.00$). Respondents with good knowledge were more likely to be current users (64.2%) compared with those with poor knowledge (43.3%).

Age of respondents was not significantly associated with contraceptive use ($p=0.29$). However, contraceptive use was highest among those aged 25–29 years (54.9%) and lowest among those aged 40 years and above (45.1%). There was a significant association observed between

number of children and contraceptive use ($p=0.004$). While, respondents with no children (59.3%) and two children (57.5%) had higher levels of use compared with those with three or more children (42.8%).

Ranking showed a significant association with contraceptive use ($p=0.02$). Soldiers had a higher prevalence of contraceptive use (55.1%) compared to officers (39.3%). Also, there was a significant association between religion and contraceptive use ($p=0.001$). Current use was highest among respondents practicing traditional religion (70.3%), followed by Christians (55.6%), while Muslims had the lowest prevalence of use (41.1%). Ethnicity was also significantly associated with contraceptive use ($p=0.00$). Hausa (60.8%) had higher use rates compared with Igbo (55.2%) and Yoruba (43.3%), while Settlement type showed a significant association with contraceptive use ($p=0.00$). Respondents in urban areas were more likely to be current users (58.6%) compared with those in rural areas (39.2%).

Similarly, income level was a significant predictor. Personnel earning ₦200,000 or more monthly (62.4%) had higher contraceptive use rates than those earning less than ₦100,000 (45.0%). This supports the notion that economic capacity enhances access to health commodities and autonomy in reproductive decision-making. Overall, the analysis suggests that age, marital status, education, rank, years of service, and income are important predictors of contraceptive use among Nigerian military personnel. These findings emphasize the need for targeted interventions, especially among younger, less educated, and lower-ranking officers so as to ensure equitable access and uptake of contraceptives services across all military strata.

Summary of Major Findings

This section summarizes the key findings from the data analysis presented in Sections 4.2 to 4.6. The results provide a comprehensive overview of the socio-demographic characteristics, level of contraceptive awareness and use, attitudes, and factors influencing contraceptive behavior among military personnel in Southwest Nigeria. The study revealed that the majority of respondents were between 25 and 34 years of age, with most being married and educated to tertiary level. This demographic profile reflects a young, active, and educated military population with high reproductive potential. The predominance of male respondents further mirrors the gender composition of the military institution.

Regarding contraceptive awareness and use, the findings showed high levels of awareness but moderate usage rates. While 84.2% of participants were sexually active, only 54.7% had ever used family planning methods, and 46.8% were current users. The persistence of unmet needs (51.2%) highlights gaps between awareness and actual utilization. The condom (54%) was the most commonly used method, followed by implants/IUDs (11.4%), injectables (11%), and oral pills (10.8%), indicating a preference for modern methods.

In terms of attitude, the majority of respondents demonstrated positive perceptions toward family planning. Most agreed that contraceptive use promotes child spacing, family well-being, and financial stability. However, gender norms, religious concerns, and moral misconceptions such as the belief that contraceptive use encourages promiscuity still influenced a significant proportion of personnel. Encouragingly, a high number supported partner communication (83.6%) and male involvement (85.4%) in family planning decisions, showing a gradual shift toward shared responsibility in reproductive health. The analysis further established that socio-demographic factors significantly influenced contraceptive use. Age, marital status, educational attainment, rank, years of service, and income all showed significant relationships ($p < 0.05$) with contraceptive utilization. Older, married, educated, senior, and higher-income

personnel were more likely to use contraception. This suggests that access, awareness, and motivation to use family planning improve with social and economic advancement.

Overall, the findings demonstrate that while military personnel in Southwest Nigeria exhibit relatively good knowledge and favorable attitudes toward contraception, actual use remains suboptimal due to social, cultural, and structural barriers. Addressing these challenges through targeted education, improved counseling services, and inclusive family planning programs within military health facilities will enhance uptake and reproductive well-being among service members the role of education in promoting health-seeking behaviors. Higher household income was associated with increased contraceptive use. Economic stability enables better access to healthcare services and the ability to afford contraceptives, contributing to higher usage rates.

Community meetings (0.8%) and religious leaders (0.9%) contributed minimally. Condoms emerged as the most widely used contraceptive method (55.6%), with other modern methods such as oral contraceptives (10.8%), injectables (11%), and IUDs/implants (11.3%) were reported at relatively similar rates, though far lower than condom use. Withdrawal (10.6%) and periodic abstinence (0.7%) also appeared, reflecting continued reliance on traditional or less effective methods despite the publicity.

A little over half (51.2%) of the respondents reported having unmet needs for contraception, meaning they desired to delay or prevent pregnancy but were not using any method. While Most personnel were sexually active (84.2%), nearly half of respondents (49.7%) had ever given birth, and a large majority (84.1%) expressed a desire for children. Slightly more than half (54.7%) had ever used a family planning method, and 45.3% had never used any method, reflecting persistent barriers to contraceptive uptake.

Condom use remained dominant (54%), while uptake of injectable, IUDs/implants, and oral contraceptives hovered around 11% each. This trend suggests short-term or coital-dependent methods are preferred over longer-term clinical ones. Less than half (46.8%) of respondents were currently using any method. Among current users, 49.8% had used contraception for 1–4 years, while 17.8% had used it for 5 years or more. Among users, 12.6% reported problems, 50.4% reported none, and a striking 37% were unsure (“I don’t know”).

Geographical and Deployment Challenges

It was indicated that military personnel frequently face significant geographical and operational barriers to accessing family planning services. Participants described how deployments to remote or underserved areas often limited access to health facilities, trained providers, and essential contraceptive commodities. In such locations, logistical constraints and the absence of reliable healthcare infrastructure impeded consistent use of contraceptives. Furthermore, those deployed to conflict zones or active operation areas reported additional challenges, including movement restrictions, security concerns, and the intensity of military duties, all of which disrupted their ability to seek or maintain contraceptive care. These experiences underscore how geographical isolation and the nature of military deployments contribute to limited contraceptive access and continuity among personnel.

Difficulty Accessing in Remote Areas

Military personnel frequently face challenges accessing family planning services due to postings in remote or underserved areas. These deployment locations often lack adequate health facilities, trained personnel, or available contraceptive options, making it difficult for service members to maintain consistent contraceptive use. Participants shared real-life accounts of how these geographical and operational barriers affected their ability to access family planning.

“When I was posted to a very remote village in the North-East, there was no clinic around, and even getting a place to buy condoms was hard. I had to travel several kilometers just to get basic contraceptives.” — P 6

“I’ve experienced it myself, there was a time I got deployed to a location where there were no family planning services at all. I had to stop using contraceptives because I couldn’t access them anymore.” P 2

The isolation of certain military bases also posed significant barriers to accessing reproductive health services:

“In one of my postings, we didn’t even have a proper health post, not to talk of someone who could give contraceptive advice or services. I felt stuck because I had no option.” P 11

“I remember getting transferred to a rural base, and for months, I couldn’t find any contraceptives around. I was used to using them, but that change disrupted everything.” P 3

“I personally had an issue when I relocated to a new base, I didn’t know where to go for contraceptives, and there was nobody to ask. It affected me a lot.” P 4

Challenges in Conflict Zones/ Active Operations

Military personnel deployed in conflict zones or active operation areas face unique barriers in accessing contraceptives. Movement restrictions, safety concerns, and the demanding nature of military operations in such settings often disrupt consistent contraceptive use. Respondents shared how their deployments affected their access and continuity of family planning.

One participant described how their deployment to a conflict zone made it impossible to access contraceptives due to safety concerns:

“During one of my deployments to a conflict zone, I couldn’t even step out to get contraceptives because of the security risk. I just stayed indoors, and it wasn’t safe to move around for anything, not even for health needs.” P 2

Another respondent explained how a lack of approval for leave during an active operation disrupted their access to contraceptives:

“I was on a three-month contraceptive plan, but when it expired, I had to apply for a pass to go to town to get another dose. The pass wasn’t approved due to ongoing operations, and I had no choice but to miss my schedule. That gap affected me seriously.” P 6

Healthcare System Limitation

Participants expressed concerns in regards to inadequate services rendered at the military health post/ clinic together with attitude of health care workers towards them taking up family planning services. All these serves as significant factors that influences their decision when taking up services relating to contraceptives.

Inadequate Services

Military personnel often encounter significant barriers when accessing family planning services due to the inadequacy of healthcare facilities / services. While contraceptive services may be available in some military health centers, they are often marked by persistent stockouts, a lack of essential drugs, and poor follow-up care. The quality and consistency of service delivery are frequently compromised by a shortage of medical supplies, inadequate referral systems, and insufficient staff. These deficiencies make it difficult for military personnel to access comprehensive contraceptive care when needed.

Respondents shared their frustration with the unavailability of necessary contraceptives in military pharmacies:

“Even though there are military health facilities, most times we don’t get the drugs we need from the pharmacy. We end up buying them outside because they’re just not available.” P 5

“In some places, the services are not accessible due to lack of logistics. You can’t always count on them when you need them.” P 3

Some participants expressed concerns about the lack of comprehensive care provided at military health centers

“Sometimes, we just get prescriptions with no proper follow-up or referral. It feels like the facilities are not well-equipped to handle family planning comprehensively.” P 2

“Compared to civilian communities, the level of family planning service delivery in the military is poor. It’s not the same at all.” P 8

Staffing shortages and high workloads were also identified as contributing factors to the inadequate delivery of contraceptive services in military settings:

“Even when the materials are available, the staff are overwhelmed. There’s a shortage of manpower, and that affects how well the services are delivered.”

P5

Concerns about Confidentiality / Perceived Stigma and Judgement

In addition to the challenges posed by inadequate services, many military personnel report concerns about confidentiality and the potential for stigma when accessing contraceptive services. In tightly-knit military communities, where personal information can easily become public knowledge, the fear of gossip and judgment discourages some individuals—particularly younger, unmarried personnel—from

seeking contraceptive care. The perceived lack of confidentiality in military health facilities often contributes to the reluctance to access services.

"There's no confidentiality because they can say it another person and telling the person not to tell another before you know it everybody in the barracks will know that you are accessing contraceptives" P 3

"Some of my peers see contraceptive use like it's a taboo, like it's not something someone like me should even think of." P 13

Additionally, some military personnel, particularly those who are unmarried, face judgment from healthcare providers within the military system. One participant described how being unmarried affected their experience with contraceptive access:

"..if I want to access contraceptives, they (nurses) think I'm too small for it and in the military, they will be why are you accessing it, its not that you are married, what happened? So it really affects." P 18

Personal and Social Barriers

Findings from this study reveal that personal and social barriers significantly hinder the uptake of contraceptive methods among military personnel. These barriers were frequently described by participants and were primarily rooted in cultural and traditional norms, religious beliefs, and partner influence. These factors were found to shape individual attitudes and decisions around family planning, often discouraging the use of contraceptives even when such services were accessible. The data suggest that these societal influences continue to play a critical role in shaping reproductive health behavior within the military context. The sections that follow present participants' perspectives on how these factors affected their contraceptive choices.

Cultural and Traditional Beliefs

Cultural and traditional norms continue to shape perceptions and attitudes towards contraceptive use among military personnel. Some personnel shared how their upbringing, ethnic background, or cultural teachings frame family planning as morally or spiritually unacceptable often equating it with interfering with divine will or harming fertility.

Participants described how beliefs shaped their perception of contraceptive use:

“My traditional belief is that children are gifts from God, so using family planning is like rejecting those gifts. That’s how we see it.” P 1

“In my culture, using contraceptives is seen as killing the children you’re meant to give birth to someday. Because of that, many people from my background don’t support it.” P 2

“I’m from the North, and many of us there believe family planning is wrong. We’re taught that God gives children and you should accept all of them, not try to control how many you have.” P 16

Similar view was expressed by another respondent, who shared the belief that contraceptives might prevent future pregnancies:

“There’s this belief that once a woman uses contraceptives, it may stop her from getting pregnant when she’s ready. So people discourage its use, and that mindset is still common.” P 16

Religious Beliefs

Religious doctrines significantly influence attitudes toward contraceptive use. For many military personnel, the teachings of their faiths may restrict or regulate the use of family planning methods. These beliefs often conflict with the desire to control family size, particularly when faiths perceive it as contrary to divine commands or only permissible under specific circumstances.

"I am a member of Catholic religion, and in my church they forbid the use of contraceptives because according to them, they said there's this bible quote that says "go into the world and multiply" so it's against our religion" P 6

"My religion has criteria that you are allowed to access family planning religious-wise. So when you are accessing the family planning because you want to control the number of children you have, maybe because of social reasons, it's not allowed. But, if it is elective, for example; maybe you are in school or maybe there is an health challenge that warrant you to take the family planning, then it is allowed." P 1

"From a Muslim perspective, contraceptives aren't really encouraged. It's something that isn't commonly talked about, and it's frowned upon in our community." P 4

Partners Influence / Disagreement

The influence or disagreement of a partner plays a significant role in decisions surrounding contraceptive use among military personnel. Research participants indicated that when partners oppose contraception, it may lead individuals to cease using contraceptives, often due to the desire to maintain harmony in the relationship. These dynamics reveal how power, beliefs, and communication within partnerships can shape family planning practices.

"If he says he doesn't like it, I just have to stop so my relationship can last" P8

"My partner doesn't want me to use contraception. He believes it's not natural, and I've had to stop using it just to avoid arguments." P 2

"I don't agree with my husband's decision on contraception, but I don't want to create problems in our marriage, so I just let it go." P 20

"Sometimes my husband doesn't want me to use contraceptives because he says it's against his beliefs, so I have to respect his opinion even though I want to plan our family better." P 7

Institutional Policies

In exploring the role of institutional policies within the military, most respondents indicated that military discipline or hierarchy does not significantly interfere with personal decisions regarding contraceptive use. The use of contraceptives is often viewed as a personal choice and right, with minimal influence from the military institution. However, respondents did mention certain guidelines or policies that impact access, such as restrictions for unmarried individuals. These policies, while sometimes seen as limiting, do not generally reflect a strict opposition to contraceptive use. Most respondents suggest that military discipline or hierarchy does not directly influence their personal decisions regarding contraceptive use. It is largely viewed as a personal right

"Okay, there is a formal policy that only married woman are allowed to access contraceptives for spacing of children but a single lady, can't access contraceptives" P

9

"Yes, the military never go against the use of family planning." P 2

"There is a policy, people go around to mobilize so people will be aware to come to the hospital and access contraceptives use. They do not discourage, they encourage the use of contraceptives" P 6

"Military has nothing to do with your personal life in terms of contraceptive. You have your rights to your personal or to your reproductive health. It's your right, the military does not interfere with that." P 19

4.3 Discussion of Findings

Findings from this study shows that about 54.7% of military personnel in southwest, Nigeria use contraceptive. The most frequently used method was condoms (male or female). This prevalence suggests a moderate level of contraceptive uptake among this specific population subgroup, which may be influenced by their unique occupational demands, mobility, and structured health systems. This is in line with a study conducted among military us servicewomen, where sixty-five per cent reported using contraception during all or part of their last deployment, but slightly highly than the contraceptive use among Ukrainian service women where Servicewomen reported using of different methods of contraception in $48.3 \pm 4.3\%$ of the cases^{1,2}. The most commonly utilized contraceptive method was the condom (both male and female variants), highlighting a preference for barrier methods that offer dual protection against both unintended pregnancies and sexually transmitted infections (STIs). The high usage of condoms could be attributed to their availability, ease of use, non-hormonal nature, and promotion within military health programs as part of broader reproductive health and HIV prevention strategies. This aligns with previous studies conducted among uniformed personnel and other high-mobility occupational groups, which have consistently demonstrated higher levels of condom use due to targeted awareness campaigns and concerns over STI transmission³.

About 48.8% of military personnel in southwest, Nigeria have good knowledge about contraceptive while 51.2% having poor knowledge. This near-equal distribution highlights a knowledge gap that may have implications for informed decision-making regarding reproductive health within this population. The finding suggests that despite ongoing reproductive health awareness campaigns, a significant number of military personnel may lack comprehensive understanding of contraceptive options, their mechanisms of action, effectiveness, side effects, and benefits. Poor knowledge can hinder the adoption of appropriate

family planning methods and may contribute to inconsistent or incorrect use of contraceptives, thereby increasing the risk of unintended pregnancies and sexually transmitted infections (STIs). This study contrasts a similar study conducted among Ghanaian military personnel which states that 80.6% showed a high level of knowledge on contraceptives, this difference can be attributed to several factors, including socio-cultural norms, access to education, and the effectiveness of health promotion initiatives⁴.

Ghana may benefit from more progressive societal attitudes toward family planning, greater health education resources, and military healthcare systems that prioritize reproductive health, resulting in higher awareness and acceptance of contraceptive methods. Conversely, in Nigeria, cultural conservatism, religious influences, and potential gaps in information dissemination could hinder knowledge levels among military personnel. Additionally, variations in study design and populations sampled may affect results, highlighting the need for tailored interventions that consider these contextual differences to improve reproductive health outcomes in diverse settings. Several factors significantly influence contraceptive knowledge such as Age Ethnicity, educational level, occupation, income level, attitude towards contraceptive use and number of children. Previous studies have emphasized the need for targeted educational interventions to improve contraceptive knowledge among special populations, particularly those in regimented environments such as the military⁵.

The study found that a majority (78.2%) of military personnel in Southwest Nigeria exhibited a positive perception towards contraceptive use, while 21.8% held negative perceptions. This predominantly positive perception is encouraging, as favorable attitudes are often associated with higher likelihood of acceptance and consistent use of contraceptives. However, perception was significantly influenced by several socio-demographic and socio-economic variables. This is supported by a study conducted in Ghana among military personnel where more than half of the participants (69.4%) had a positive perception of contraceptive use⁴. Notably, age and

marital status emerged as significant factors, with younger personnel (particularly those aged 20–24 years) and married individuals more likely to demonstrate positive perceptions, whereas negative perceptions were more common among single individuals. This may reflect the differing reproductive intentions and responsibilities between these groups^{5,6}. Settlement type significantly influenced perception, as urban dwellers were more likely to have positive attitudes compared to those in rural areas⁷. This could be linked to better access to information, education, and healthcare services in urban settings. Additionally, years of service in the military had a notable effect; personnel with 6–19 years of service exhibited more positive perceptions, potentially due to greater exposure to health education interventions over time. Family monthly income was positively associated with perception, as individuals earning above the national minimum wage were more likely to have favorable views. This may be due to increased access to resources, health literacy, and perceived ability to manage family size.

Interestingly, the number of children influenced perception negatively, with those having more children tending to view contraception less favorably, possibly due to entrenched cultural norms or completed family size. Conversely, level of education and partner's education or occupation did not significantly affect perception, indicating that other contextual or cultural factors may play a stronger role. However, when analyzed further, positive perception was significantly associated with having at least a primary education, having a partner who is a civil servant or trader, and having a partner with at least secondary education. Good knowledge of contraception was also a strong predictor of positive perception, underscoring the importance of targeted information dissemination⁸.

The study found that while a substantial proportion (69.7%) of military personnel in Southwest Nigeria reported convenient access to family planning services, 30.3% experienced various forms of inconvenience. This echoes findings that identified access barriers such as service location, provider availability, and logistical issues as major impediments to reproductive

health services across Nigeria^{9,10}. Though the military setting is typically expected to offer structured healthcare systems, these findings suggest that systemic and contextual challenges still persist¹¹.

Over half of the respondents (51%) reported having to pay for family planning services. This finding reinforces the concern raised a study that noted that out-of-pocket costs can significantly deter utilization of contraceptive services, particularly among low-income earners¹². Financial constraint, reported by 76.4% of the respondents, was the most significant barrier in this study. This aligns with a study, which identified cost as a primary barrier to contraceptive uptake among Nigerian men and women, especially in settings where subsidized or free services are unavailable or poorly implemented¹³.

Distance to service points and concerns about side effects were each cited by 7.4% of the respondents. These barriers are consistent with national and regional findings. For example, a review documented that fear of side effects is a pervasive barrier in Nigeria, often fueled by misinformation or lack of counseling during service delivery¹⁴. Similarly, distance to clinics was highlighted in a study as a major barrier to family planning utilization in rural Nigeria¹⁵.

Addressing these issues requires comprehensive strategies. As advocated by the World Health Organization, interventions must go beyond availability and include demand-side strategies such as community-based health education, counseling, and inclusion of men in family planning discussions¹⁶. In the military context, leveraging structured training, peer-led programs, and integration of services into barrack health systems could improve accessibility and reduce financial and social barriers.

One of the most significant contextual factor identified was the disruptive nature of military postings and deployments. Frequent relocation, especially to conflict zones or remote operational areas, often interrupted access to contraceptive services. This is consistent with

findings, who reported that mobility and displacement significantly hindered access to reproductive health services in military and humanitarian settings. Similarly, research among uniformed personnel in conflict regions found that inconsistent healthcare access due to mobility limited sustained contraceptive use and follow-up care^{17,18}.

The second key theme centered on systemic health service barriers, particularly the limited availability of reproductive health services and concerns around confidentiality. Participants expressed apprehension about stigma and potential breaches of privacy, which discouraged them from seeking family planning services. This aligns with the literature, including a review, which found that in Nigeria among other countries, concerns about confidentiality and judgmental attitudes among providers discouraged uptake of contraceptives, particularly among younger or unmarried individuals. Within institutional settings like the military, where interpersonal boundaries may be rigid and anonymity limited, such concerns are likely magnified.

Cultural, religious, and social norms emerged as prominent influences on contraceptive behavior. Deep-rooted beliefs, doctrinal prohibitions, and societal expectations often shaped negative attitudes toward contraception¹⁹. These findings corroborate a study that noted that religious and cultural resistance remains a significant deterrent to modern contraceptive use in Nigeria²⁰. Moreover, the influence of partners, especially in contexts of disagreement or non-support echoes similar findings, which emphasized the centrality of spousal support in decision-making around contraceptive use²¹.

Family pressure was another sub-theme, with respondents noting that expectations around fertility, lineage continuation, and gender roles frequently undermined contraceptive intentions. Noted in a study on Nigerian families, intergenerational and familial influences play

a key role in shaping reproductive choices, often prioritizing large family size over individual reproductive autonomy²⁰.

Younger military personnel, particularly those in their late twenties, demonstrated a higher likelihood of contraceptive use compared to their older counterparts. This is consistent with a study, who reported that contraceptive prevalence was significantly higher among younger individuals in Nigeria, possibly due to greater exposure to reproductive health information and more liberal attitudes toward fertility control²². Positive attitudes toward contraception and ease of access to family planning services were strongly linked with increased usage. According to Ajzen's Theory of Planned Behavior, attitudes toward a behavior are strong predictors of its execution. This finding is also echoed in Nigerian studies, which emphasize the role of favorable perceptions and health system accessibility in enhancing contraceptive uptake²³.

Religious affiliation emerged as a significant factor, with traditionalists showing higher contraceptive use compared to Christians and Muslims. This contrasts with general population trends in Nigeria, where religious beliefs often influence contraceptive practices²⁰. Personnel residing in urban areas were more likely to use contraceptives than those in rural settings. Urban residents often have better access to healthcare facilities and family planning services, which facilitates higher contraceptive use. Longer duration of military service was associated with increased contraceptive use. This may be attributed to greater exposure to health education and family planning programs within the military over time²⁴.

Personnel whose partners were unemployed were more likely to use contraceptives than those whose partners were engaged in occupations such as farming or trading. Additionally, higher educational levels of partners correlated with increased contraceptive use, reflecting the role of education in promoting health-seeking behaviours²⁵. Higher household income was associated

with increased contraceptive use. Economic stability enables better access to healthcare services and the ability to afford contraceptives, contributing to higher usage rates²⁶.

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Chapter Five

Conclusion

5.1 Summary of Findings

This study examined the contextual factors influencing modern contraceptive uptake among military personnel in Southwest Nigeria. The research was guided by six specific objectives, which sought to: (1) determine the level of contraceptive use, (2) assess the knowledge of contraceptive use, (3) examine perceptions toward contraception, (4) document obstacles in accessing contraceptives, (5) identify contextual factors influencing uptake, and (6) explore the perceptions of military personnel toward contraception.

Findings from the first objective showed that the majority of respondents (85.4%) had heard of contraceptives, mainly through health professionals (68.5%), while 54.7% had ever used one form or another. Condoms (55.6%) were the most used, followed by implants (11.3%) and injectables (11%).

Regarding the second objective, which examined knowledge of contraceptive use, 48.8% demonstrated good knowledge while 51.2% had poor knowledge. Knowledge levels were associated with age, education, and years of military service. Younger and more educated respondents displayed better understanding. In relation to the third objective on perceptions toward contraceptive use, the study revealed that 78.2% of respondents had a positive perception while 21.8% expressed negative attitudes. Religion, marital status, and settlement type were key influencers of perception. Christians and urban dwellers exhibited more favorable attitudes. Military personnel with higher education and income also showed more openness to modern family planning methods.

The fourth objective sought to document obstacles faced by personnel in accessing contraceptives. Although 69.7% found access convenient, barriers persisted for others. The most reported obstacles were financial cost (76.4%), distance (7.4%), and fear of side effects (7.4%). Additional concerns included stigmatization (3.7%) and lack of spousal support (2.9%). Qualitative data from interviews also revealed issues of confidentiality and fear of disapproval from peers or commanding officers, suggesting a unique institutional barrier in the military context.

Addressing the fifth objective, which identified contextual factors influencing contraceptive uptake, the study established that both social and institutional dynamics significantly affect usage. Younger personnel and those with more years of service were more likely to use contraceptives. Religion, urban residence, and partner's educational status also played crucial roles. Participants who accessed free contraceptive services exhibited higher usage rates. Institutional challenges, including frequent relocation and inadequate healthcare infrastructure in military facilities, were found to limit consistent use findings. The sixth objective explored perceptions through qualitative data and revealed that social norms, partner influence, and fear of stigma were major determinants of contraceptive attitude. Cultural and religious beliefs discouraged use, while personal autonomy and health awareness promoted positive perception.

5.2 Conclusion

In conclusion, this study underscores that contraceptive uptake among military personnel in Southwest Nigeria is shaped by a complex interplay of individual, social, and institutional factors. While awareness of contraceptives is relatively high, consistent and correct usage remains suboptimal. Educational level, age, religion, and service duration emerged as strong determinants of knowledge and usage, while cultural and financial barriers significantly hinder access. Institutional factors unique to military settings, such as frequent deployment, limited confidentiality in healthcare delivery, and absence of dedicated reproductive health programs,

further constrain utilization. These findings affirm the need for culturally appropriate, context-specific interventions to address both individual and systemic barriers.

5.3 Recommendations

1. Strengthen Reproductive Health Education: The Nigerian military should integrate regular reproductive health education sessions within its health programs, focusing on accurate information about modern contraceptive methods to dispel myths and misconceptions.

2. Ensure Accessibility and Affordability: Military clinics should provide contraceptive services free or at subsidized costs to remove financial barriers that hinder access, especially for lower-ranking personnel.

3. Enhance Confidentiality and Privacy: Reproductive health services should be delivered confidentially to encourage personnel to seek care without fear of stigma or exposure.

4. Train Healthcare Providers: Providers within military facilities should be trained in culturally sensitive counseling techniques and gender-responsive service delivery.

5. Promote Partner and Spousal Involvement: Encourage joint decision-making and male participation in family planning to reduce resistance and foster shared responsibility.

6. Institutional Policy Integration: Reproductive health and family planning should be formally included in military health policy frameworks, ensuring continuous availability and consistency across service locations.

7. Targeted Outreach Programs:

Special attention should be given to deployed and remote personnel through mobile health services and periodic outreach interventions.

5.4 Contribution to Knowledge

This study contributes to the growing body of knowledge on contraceptive use among special populations by focusing on Nigerian military personnel—a group often overlooked in reproductive health discourse. It provides empirical evidence that institutional structures and occupational demands uniquely shape contraceptive behaviors. Additionally, it identifies cultural, social, and systemic determinants that policymakers must consider when designing interventions for uniformed populations. The study also demonstrates the interconnection between knowledge, perception, and access, thereby enriching the understanding of reproductive health behavior within military contexts in sub-Saharan Africa.

5.5 Suggested Areas for Further Research

- 1. Impact Evaluation Studies:** Future studies should assess the impact of reproductive health education programs on contraceptive uptake among military personnel.
- 2. Comparative Studies:** Comparative research across different geopolitical zones of Nigeria could highlight regional variations in contraceptive knowledge and use.
- 3. Partner Influence Studies:** More research should explore the role of spouses and partners in contraceptive decision-making within military families.
- 4. Institutional Assessment:** Further investigations are needed to evaluate how military health infrastructure and administrative policies influence reproductive health access.
- 5. Longitudinal Studies:** Long-term studies examining how changing postings and deployments affect contraceptive continuity would provide deeper insights into behavioral patterns.

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Questionnaire

Factors Influencing Modern Contraceptive Uptake among Military Personnel in Southwest, Nigeria

Dear Respondent,

I am a postgraduate student of Lead City University, Ibadan, researching the above topic. Acceptance to answer the questionnaire will be taken as consent to participate in the study. All information will be treated confidentially and your name is not required on the questionnaire.

Instructions

Kindly tick (✓) the appropriate box option applicable in the questions below. You tick one or more boxes as appropriate

Section A: Socio – Demographic Characteristics.

1. Age as at last birthday _____ In years
2. Marital status: Single () Married/ Co-habiting () Divorced () widowed () Separated ()
3. Religion: Christianity () Muslim () Traditional ()
4. Ethnicity Yoruba () Hausa () Igbo () Others ()
5. Settlement: Rural () Urban ()
6. What is your rank in the military _____
7. How long have you been in military service? (Years) _____
8. Level of Education None () Primary () Secondary () Tertiary ()
9. Partner Occupation type: Trader () civil servant () Farmer () Professionals () Artisans () Not employed ()
10. Family monthly income: _____
11. No of children _____

12. Educational level of partner: None () Primary () Secondary () Tertiary ()

Section B: Contraceptive use among military personnel in Southwest, Nigeria

1. Have you ever heard of family planning? Yes () No ()
2. If yes, what are your primary sources of information on family planning?
 - a) health professionals, ()
 - b) media (such as TV, radio, or the internet), ()
 - c) family and friends, ()
 - d) religious leaders, ()
 - e) community meetings(),
 - f) your partner, ()
 - g) other sources. _____
3. Have you ever given birth before? Yes () No ()
4. Are you currently sexually active? Yes () No ()
5. Do you desire to have a child or more children? Yes () No ()
6. Have you ever used any family planning methods? Yes () No ()
7. If yes, which methods have you ever used?
 - a) male or female condoms, ()
 - b) oral contraceptives, ()
 - c) injectable contraceptives, ()
 - d) implants, intrauterine devices (IUDs), ()
 - e) emergency contraception, ()
 - f) withdrawal, ()
 - g) herbal concoctions, ()
 - h) periodic abstinence, ()
 - i) male or female sterilization, ()

- j) others _____
8. Are you currently using any family planning methods? Yes () No ()
9. If yes, which methods are you using?
- k) male or female condoms, ()
- l) oral contraceptives, ()
- m) injectable contraceptives, ()
- n) implants, intrauterine devices (IUDs), ()
- o) emergency contraception, ()
- p) withdrawal, ()
- q) herbal concoctions, ()
- r) periodic abstinence, ()
- s) male or female sterilization, ()
- others _____
10. For how long have you been on contraception? _____
11. Have you ever experienced any problems after using contraceptives? Yes () No () I don't Know ()
12. If yes, what specific problems did you encounter?
13. Do you agree that family planning is an issue that should concern only women? Yes () No () I don't Know ()
14. Are you aware that females can take a pill daily as a method of contraception? Yes () No () I don't Know ()
15. Do you know that females can have contraceptive injections every two or three months? Yes () No () I don't Know ()
16. Are you familiar with the use of condoms as a method where a male wears a rubber device during intercourse? Yes () No () I don't Know ()

17. Do you understand that emergency contraceptive pills can be taken by a woman shortly after intercourse? Yes () No () I don't Know()
18. Are you aware that withdrawal, where a man pulls out before climax, is a contraceptive method? Yes () No () I don't Know()
19. Do you understand that periodic abstinence involves avoiding sex on days when pregnancy is most likely to occur? Yes () No () I don't Know()
20. Do you believe that condoms are an effective method of preventing pregnancy? Yes () No () I don't Know()
21. Are you aware that condoms cannot be used more than once? Yes () No () I don't Know()
22. Do you know that condoms can slip off the male and disappear inside the female's body? Yes () No () I don't Know()
23. Is it a good idea to use hand lotion for lubrication when using a condom? Yes () No () I don't Know()
24. Should a condom be unrolled before putting it on a male's penis? Yes () No () I don't Know()
25. Should the male hold onto the end of the condom when withdrawing after ejaculation? Yes () No () I don't Know()
26. Do you think implants can be used by both men and women? Yes () No () I don't Know()
27. Is it correct that an IUD is taken as a pill by women three times a day? Yes () No () I don't Know()
28. Do you agree that female sterilization is a permanent method of contraception? Yes () No () I don't Know()

21. Do you know that male sterilization is a surgical procedure? Yes () No () I don't Know()

Section C: Perceptions towards contraception among military personnel in Southwest, Nigeria

Kindly indicate your level of response

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

S/n	Statement	SA	A	D	SD
1.	I feel safe when am having sex with condom				
2.	I feel so bad that my spouse does not like use of contraceptives.				
3	I prefer cohabitation relationship to hook up				
4.	I enjoy having sex without contraceptives				
5.	I feel great with contraceptives it enhances my sexual productivity.				
6.	I feel delighted with contraceptive usage it makes me feel radiant.				
7.	I dislike contraceptive usage it makes me feel uncomfortable.				
8.	I dislike contraceptives usage; it reduces the level of mutual trust between couples				
9.	I am happy that my faith supports use of contraceptive.				
10.	I don't value contraceptives usage it enhances sexual promiscuity.				
11.	My spouse supports contraceptives usage, it enhances mutual understanding and family support				

12.	I dislike using contraceptives because it reduces my urge for sex				
13.	I feel good with contraceptive usage it gives me sense of control.				
14	Should men be involved in taking decision on the usage of contraceptive methods?				
15	Do you think unmarried person should know about contraceptive methods?				
16	Do you feel comfortable discussing contraceptive use with a healthcare provider?				

Section D: Obstacles faced by military personnel in accessing contraceptive methods among military personnel in Southwest, Nigeria

1. Is it convenient for you to access family planning services? yes () no ()
2. Do you have to pay for family planning services? yes ()no ()
3. How important is family planning to you? extremely important () important ()very important () not important ()
4. Would you recommend family planning to a friend or relative? yes () no ()
5. Do you face any challenges in accessing family planning services? yes () no ()
6. If yes to the previous question, please specify the challenges you encounter.
7. In your opinion, what are the main challenges preventing men from involving themselves in family planning?
 - Negative community perception ()
 - Lack of service providers()
 - Stigmatization()

- Masculinity power()
 - Lack of support from wives()
 - Peer pressure()
 - Limited contraceptive choices for men()
 - High cost()
 - Shyness()
 - Lack of knowledge about family planning()
8. Does distance affect your ability to access family planning services? yes() no ()
9. Does your ability to reach the facility prevent you from accessing family planning services? yes () no ()
10. Do you typically walk or use transportation to get to the facility? Walk () Transport ()

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Interview Guide

Contextual Factors Influencing Modern Contraceptive Uptake among Military

Personnel in Southwest, Nigeria

Dear Respondent,

I am a postgraduate student Lead City University. Carrying out study research on Contextual Factors Influencing Modern Contraceptive Uptake among Military Personnel in Southwest, Nigeria. This interview guide is designed to elicit information for academic purpose only. I am requesting that you kindly volunteer to participate in the study. Please, study the questionnaire carefully and tick the response that you think are more appropriate. Do not write your name anywhere on this questionnaire. Confidentiality and anonymity of the information provided is guaranteed as findings will be used solely for research purpose. Thanks for your co-operation

Demographic Information

1. Age range
2. Rank/Designation
3. Marital status
4. Educational level

Institutional and Workplace Context

Are there any formal policies within the military that encourage or discourage contraceptive use?

1. Does the military offer health services or family planning counseling? If yes, are they adequate and accessible?
2. How does military discipline or hierarchy influence personal decisions regarding contraception?

3. Do you feel that the demands of military life (e.g., deployments, relocations) influence decisions around contraceptive use?
4. Are there social norms or cultural expectations within the military that impact the uptake of contraceptives?
5. Do you feel comfortable accessing contraceptive services within military health facilities? Why or why not?
6. Are there concerns about confidentiality when discussing contraceptives with military health providers?

Socio-Cultural Context

1. Are there cultural or traditional beliefs within your community that influence attitudes toward contraceptive use?
2. Does religion play a role in your personal decision-making about contraception? If yes, how?
3. In your opinion, how do gender roles in relationships or the military setting affect contraceptive use?
4. Are there differences in how male and female military personnel perceive or use contraceptives?
5. How does your spouse or partner influence your decision to use or not use contraceptives?
6. Do family expectations or societal pressures impact your views on contraception?

Health System and Accessibility Context

1. Are contraceptives readily available within military health facilities?
2. Do you face challenges in accessing contraceptive services due to your location or deployment?
3. How would you describe the quality of family planning services provided in military healthcare facilities?
4. Do you feel healthcare providers in your facilities are well-equipped to offer guidance on contraceptives?
5. Are contraceptives affordable for military personnel?
6. Have you experienced logistical challenges, such as stockouts or delays in accessing contraceptives?

Social and Peer Context

1. How do your peers in the military perceive contraceptive use?
2. Is there stigma or judgment associated with using contraceptives in your military community?
3. Do you feel supported by your peers or superiors in making decisions about family planning?
4. Are there programs or peer groups within the military that promote contraceptive awareness and use?

Deployment and Mobility

1. How does frequent mobility or deployment affect your ability to access or use contraceptives?
2. Are there specific challenges during deployment that impact contraceptive use?

3. How do military duties, such as extended time in conflict zones or remote areas, influence family planning decisions?
4. Are there differences in contraceptive access or attitudes during active operations compared to non-operational periods?

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of Medical Sciences**

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20 March 2025

ETHICAL CERTIFICATE

The project work titled: **Contextual Factors Influencing Modern Contraceptive Uptake among Military Personnel in Southwest, Nigeria** by Major Adekemi Omolola ADEGOKE LCU/PG/003101 has been carefully studied by the ethical committee. In view of the above, the project is hereby approved.

OO IGBINWEKA
Colonel
Chairman Ethical Committee

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Figure 3.1: Photograph of the respondents filling the copies of the questionnaire with the help of research assistants



Figure 3.2: Photograph of the respondents filling copies of questionnaire

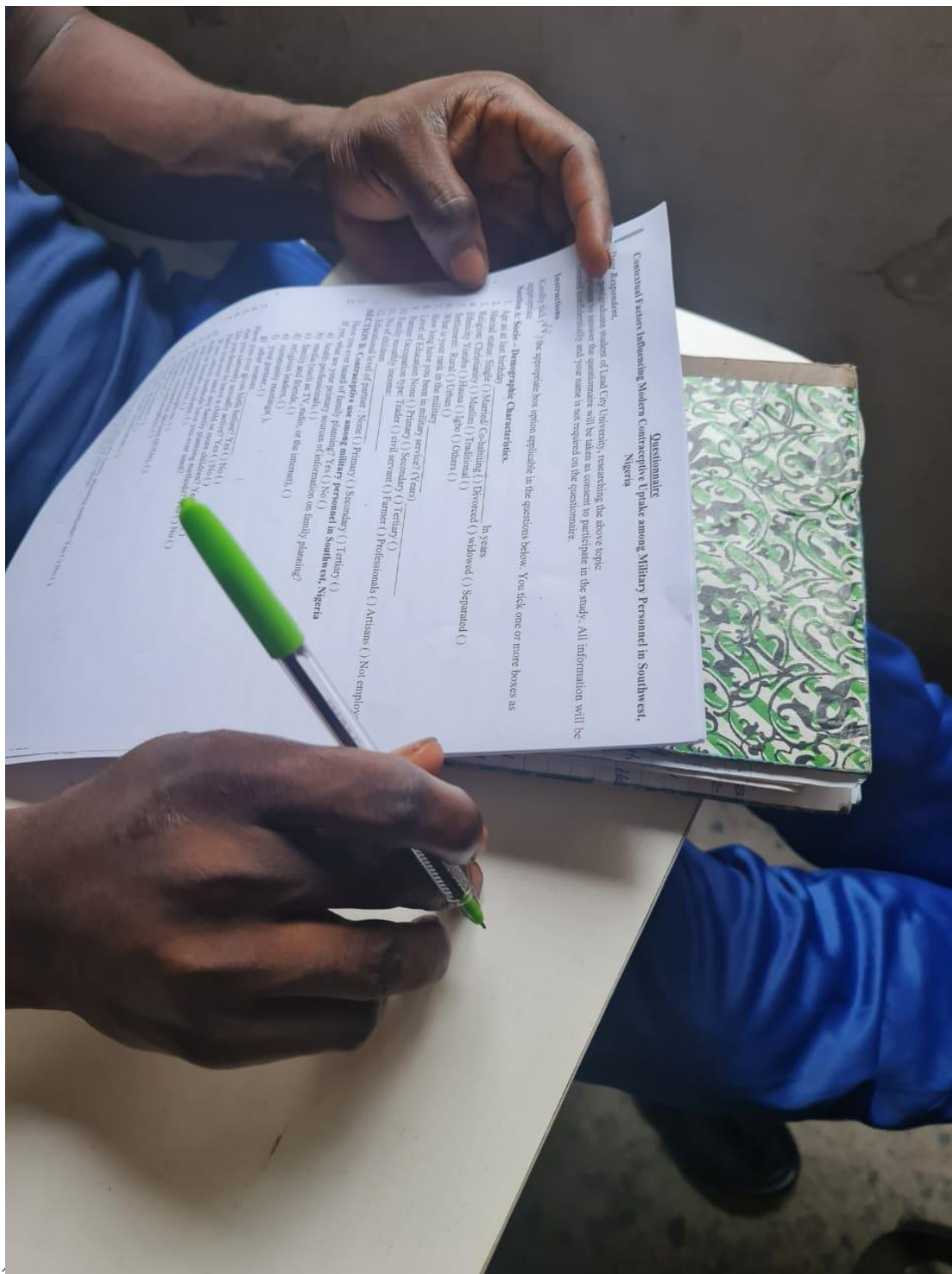


Figure 3.3: Photograph of a respondent filling the questionnaire

Bio-data

- 1. Name:** Adegoke, adekemi omolola
- 2. Date of Birth:** 05 – September – 1973
- 3. Place of Birth:** Ife East, Osun State, Nigeria
- 4. Nationality:** Nigerian
- 5. State of Origin:** Osun State
- 6. Local Government Area:** Ife East Local Government Area
- 7. Permanent Home Address:** Redemption City of God, km 46 Lagos-Ibadan Express way.
- 8. Contact Address:** Nigerian Army College of Nursing (NACON), Yaba, Lagos State, Nigeria
- 9. Telephone Number:** 08023086210
- 10. Email Address:** adekemi.adegoke2023@gmail.com
- 11. Marital Status:** Married
- 12. Number of Children:** Two (2)
- 13. Institutions Attended with Dates**
 - Nigerian Army School of Nursing – Yaba, Lagos State – 2004
 - Nigerian Army School of Midwifery – Yaba, Lagos State – 2008
 - University of Lagos – Akoka, Lagos State – 2016
 - Ladoke Akintola University of Technology Ogbomoso, Oyo State – 2019
 - Ladoke Akintola University of Technology Ogbomoso, Oyo State – 2022
 - Ignatius Ajuru University of Education – Port Harcourt, Rivers State – 2025
 - Lead City University – Ibadan, Oyo State – 2025
- 14. Academic Qualifications with Dates**
 - Registered Nurse (RN) – Nigerian Army School of Nursing – 2004
 - Registered Midwife (RM) – Nigerian Army School of Midwifery – 2008
 - Bachelor of Science (B.Sc.) Health Education (Health Professionals) – University of Lagos – 2016
 - Bachelor of Nursing Science (BNSc) – Ladoke Akintola University of Technology – 2019
 - Advanced Diploma in Health and Occupational Safety – 2019
 - Master of Public Health (MPH) – Ladoke Akintola University of Technology – 2022
 - Master of Education (M.Ed.), Educational Management – Ignatius Ajuru University of Education – 2025
 - Doctor of Philosophy (Ph.D.) Public Health – Lead City University, Ibadan – 2025
- 15. Professional Qualifications**
 - Registered Nurse (RN)
 - Registered Midwife (RM)
- 16. Work Experience**

Senior Military Officer: Nigerian Army – 1993 till date

Head of Department (HOD)

Midwifery and Community Nursing

Nigerian Army College of Nursing (NACON), Yaba, Lagos State – Till Date

Key Responsibilities:

- Academic and administrative leadership of the department
- Curriculum implementation and instructional supervision
- Training and mentoring of nursing and midwifery students
- Coordination of community health and midwifery programmes

17. Research Interests

- Factors influencing modern contraceptive uptake among military personnel in Southwest Nigeria
- Maternal and Child Health
- Public Health and Health Systems
- Climate Change and Infectious Diseases

18. Publications

- Manuscript ID: **INQ-25-08971**
The Nexus between Climate Change and Tuberculosis in Nigeria: An Agonist Relationship.
(Under review)

19. Conferences / Workshops Attended: Nurse Leadership's Conference Abuja**20. Profession:** Nurse Educator**21. Preceptor**

- Open University – 2024
- Nigerian Army College of Nursing (NACON) – 2024

22. Professional Memberships

- Nursing/Midwifery Council
- Member National institute of management
- Chartered institute of logistic and Transport

23. Skills / Competencies

- Academic leadership and administration
- Teaching and curriculum delivery
- Research and scholarly writing
- Counselling and mentorship
- Teamwork and collaborative practice
- Stress management and decision-making
- Problem-solving and solution-oriented thinking

24. Extracurricular Activities

- Counselling
- Teaching
- Reading
- Travelling
- Meeting people
- Dancing

25. Referees

Referee 1

Name: Dr K.O Omojola

Position: Consultant Physician

Institution: Dumfries and Galloway Royal Infirmary, Dumfries Scotland. DG2-8rx

Phone Number: +447540102064

Email Address: femiomojola@yahoo.co.uk, kolade.omojola@yahoo.co.uk

Referee 2

Name: Professor DT Essan

Position: Dean of faculty Nursing Science

Institution: Bowen university Iwo Osun State.

Phone Number: 08062484864

Email Address: Deborah.essan@bowen.edu.com

Referee 3

Name: Dr T.A Olowolafe

Position: Senion Lecturer

Institution: Lead city University Ibadan.

Phone Number: 08033986388

Email Address: tubosum.olowolafe@gmail.com

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The University Compliance Form

This is to certify that this Thesis written by Adekemi Omolola ADEGOKE with matriculation number LCU/PG/003101 in the Department of Public Health, Faculty of Basic Medical and Health Sciences, Lead City University, Ibadan, is in full compliance with the approved University format and style.

Signature

Date

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