TO DESCRIBE THE FACTORS INFLUENCING UTILIZATION OF MODERN CONTRACEPTIVE SERVICES BY ADOLESCENTS IN SOUTHERN NIGERIA AND WAYS TO IMPROVE UTILIZATION

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A thesis submitted in partial fulfilment of the requirement for the degree of Master of Science in Public Health

by

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Signature:…………… ………………………………

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List Of Abbreviations

ASRHR- Adolescent Sexual Reproductive Health and Rights

AYFCs- Adolescent Youth Friendly Centres

CSE- Comprehensive Sexuality Education

CPR: Contraceptive Prevalence Rate

CSOs- Community-Based Organisations

FBOs- Faith-Based Organisations

FGM/C - Female Genital Mutilation/Cutting

FLHE- Family Life and HIV education

FMOH- Federal Ministry of Health

GDP- Gross Domestic Product

HIV- Human Immunodeficiency Virus

LARC-Long Acting and Reversible Contraceptives

LGA- Local Government Area

LMIC- Low Middle Income Countries

MMR- Maternal Mortality Rate

NGO- Non-Governmental Organisations

SBCC- Social Behavior Communication Change

SES- Socioeconomic Status

SDGs- Sustainable Development Goals

SMOH- State Ministry of Health

SRHR- Sexually Reproductive Health and Rights

STIs- Sexually Transmitted Infections

TFR - Total Fertility Rate

UNICEF- United Nations International Children's Emergency Fund.

USAID- United States Agency for International Development

VVF- Vesico-Vaginal Fistula

WHO- World Health Organisation

Definition Of Terms

Modern contraceptives

Modern contraceptives are devices or substances such as condoms, injectables, pills, and intrauterine devices (IUD) used to prevent pregnancy and Sexually transmitted infections (STIs), including HIV (1).

Utilisation

Utilisation is a way of making effective use of any service, and it is determined by the need of the service, if the service is available, and the resources in place to provide and pay for the services (2).

Unmet need

Unmet need is defined as a demand not being met and is used to describe females who are active sexually and want to prevent a pregnancy but are not using any modern contraceptives (3).

Contraceptive prevalence rate (CPR)

The Contraceptive prevalence rate is measured by the percentage of women using a contraceptive method or whose partners use at least one form of contraceptive (3).

Adolescents

Adolescents are people within the age bracket of 10-19years and are a distinctive aspect of life between childhood and adulthood (4,5).

Abstract

Background: Adolescents in Southern Nigeria face lots of challenges that serve as barriers in accessing modern contraceptive services. Teenage pregnancies, unsafe abortions, and STIs are on the rise, so the utilisation of modern contraceptives by adolescents is essential for better health and economic outcomes. This will also contribute significantly to achieving the SDGs by 2030; therefore, it is crucial to know, understand, and analyse the factors that influence the utilisation of modern contraceptives.

Method: The method used was a descriptive review of literature published in the English language only from 2005 to 2021, and a conceptual framework was used to analyse the various factors that influence the utilisation of modern contraceptives among adolescents in Southern Nigeria. The Google Scholar search engine and the Vrije University online library were used to search for literatures and access articles databases. Peer-reviewed and systematic-reviewed articles were also searched.

Results: Results show various factors influence the utilisation of modern contraceptives, and these factors ranged from knowledge of adolescents, socio-demographic, socio-cultural, economic factors, and health system-related factors. Results also showed that proven interventions that improved the utilisation of modern contraceptives among adolescents were based on people-centred and multisectoral approaches.

Conclusion/Recommendation: Various factors from individual adolescent knowledge to cultural, economic, and health system-related factors are interlinked, affecting the utilisation of modern contraceptives. Therefore, this study recommends active and meaningful participation of all key stakeholders, including the adolescents, as the best and proven strategy in improving the utilisation of modern contraceptives by adolescents.

Keywords: Adolescents, Southern Nigeria, factors, modern contraceptives, utilisation.

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Introduction

Adolescents make up a large proportion of a country's working population and significantly contribute to its economic development (4). The current population of adolescents in Nigeria is about 53 million, making them essential, yet their reproductive and sexual health is neglected (6). Access to vital and accurate information on modern contraceptives, counselling, sexual education is essential for good reproductive and sexual health (6). Preventable deaths caused by a lack of adequate and effective Sexual and reproductive health (SRH) services have become a fast-growing global burden, especially concerning adolescents (6). The inability of adolescents to access SRH services when needed has become a severe public health burden because it has led to 36% of unintended pregnancies, unsafe abortions, and 42% of HIV infections among adolescents in Nigeria (7).

This thesis will focus on Southern Nigeria because of the vast adolescent sexual and reproductive health gaps, which have contributed to the high MMR in the country (8,9). This raises concerns because the Southern part of Nigeria is more educated than the North, and uptake of contraceptives has improved more over the years in the South than in other parts of the country. This contrary issue is one of the reasons why I decided to find out why there is still a high unmet need for modern contraceptives among adolescent boys and girls in the Southern part of Nigeria. I chose this topic primarily because it is very close to my heart due to my passion for vulnerable women and girls. Due to my work background as a public health district supervisor, I have seen firsthand the numerous barriers adolescent girls and young women, especially in the rural area, face in taking up a modern contraceptive method which is their right, but they are denied. In the southern part of Nigeria, the number of teenage pregnancies is alarming. My team and I carried out many advocacy meetings on this issue to the community leaders, healthcare providers, and parents, but nothing was done.

A girl of 15years old walked up to me and needed a modern contraceptive but could not access and uptake it due to apparent barriers, and she was scared of getting pregnant and dropping out of school as she was sexually active but could not tell anyone. I took her to a healthcare provider who offered her a service and was ready to face the consequences. Two years later, I went back to the same community for another project, and she recognised me, ran towards me, hugged me, and kept thanking me for making it possible for her to utilise modern contraceptives as it has helped her stay in school and make informed choices. This made me happy and concerned, as I realised many adolescent girls need modern contraceptives but cannot utilise them.

The central focus of this study is to explore the factors influencing utilisation of modern contraceptives among adolescents in the Southern part of Nigeria, interventions on adolescent health that worked, and recommendations to all key stakeholders on ways to improve utilisation of modern contraceptives by adolescents to have a healthier adolescent which will lead to a healthier and wealthier nation. This thesis is structured with the abstract, introduction, followed by the background of Nigeria and its southern part as chapter one, then move to chapter two, which covers the problem statement, justification, methodology, including conceptual framework used. The findings are presented in chapters three, four, and five. Then discussion, conclusion, and recommendations.

1. Chapter 1. Background

1.1 Geography

Nigeria is located in the Sub Sahara African and shares borders with Niger and Chad on the North, Cameroon on the east and Benin republic on the west (10,11). Nigeria's three main religions are Muslim, Christianity, and African traditional religions (11,12). The southern and northern parts of Nigeria are in different processes of demographic transition, which affects the balance between Christians and Muslims (12,13). There are 250 ethnic groups, but three main tribes in Nigeria; Hausa, Igbo, and Yoruba, and they make up 29%, 18%, and 21% of the country's population, respectively (13,14,15). The Hausa tribe and Muslim religion are dominant in the northern part of Nigeria, while the Christian religion and Igbo and Yoruba are dominant in the southern part of Nigeria (13,15). Nigeria has 527 languages and numerous traditions and norms, which gives the country great diversity in culture; this culture affects the lives of women and girls throughout their lifespan (11,15). Nigeria was colonised by the British and has numerous diverse ethnic groups and languages, making English her official language (10,11). Southern Nigeria is divided into South-East, South-West, and South-South and constitutes 17 states *(refer to map of Nigeria in Annexe 2)*. These states are Enugu, Imo, Ebonyi, Abia, Anambra, Bayelsa, Akwa-Ibom, Edo, Rivers, Cross-River, Delta, Oyo, Ekiti, Osun, Ondo, Ogun, and Lagos.

1.2 Demographics

The population of Nigeria is the largest in Africa and the 6th largest worldwide (10,11,16). About 50% of Nigerians reside in the urban part, which will increase to 70% by 2050 with a 4.3% rate of urbanisation (10,17). The population pyramid of Nigeria consists of about 200 million people and is made up mostly of young people (10,17) *(refer to figure 1 below)*. About 43% of the population are below 15years, 53.2% between 15-65years, and 2.8% above 65 years of age (17). The projected population of Nigeria by 2050 is 411 million, which will put the country at the third-largest population globally (10,11). The population density is high (895persons/km) in the Southern part of the country (11,18). The difference between the wealth quintile in Nigeria's southern and northern parts is very high (48%, 9% respectively) (17,19,20).

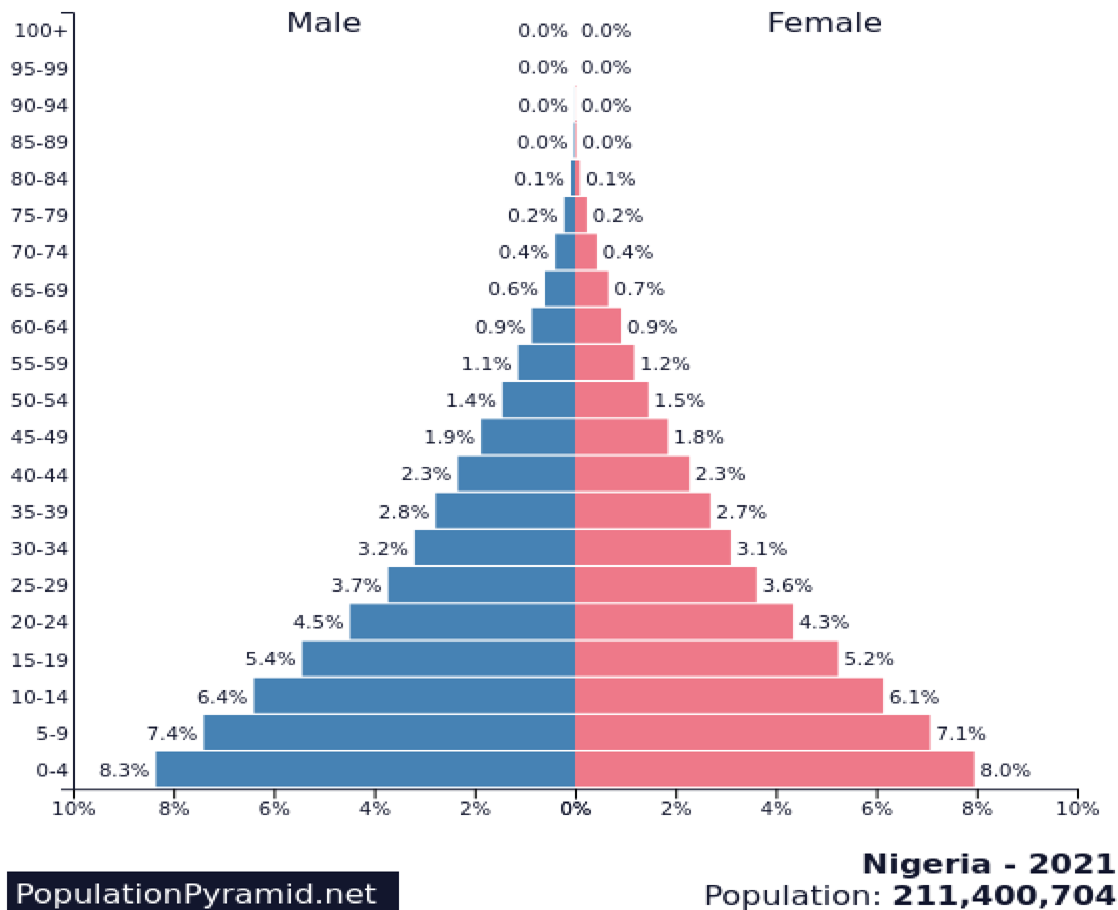

Figure 1: Population pyramid of Nigeria (Source: Populationpyramid.net 2021) (21).

1.3 Governance, Laws, and Policies

Nigeria has six geopolitical zones (South-South, South-East, South-West, North-East, North-West, and North-Central), 36 states, and a federal capital territory (FCT) and 774 local government areas (LGAs) *(refer to map of Nigeria in Annexe 2)* (11,20). The state governments and the two main political parties in the country control more than 50% of the country's revenue and influence the nation's budget, which makes them influential in implementing many health policies (20). There are various national policies such as National Policy on the Health & Development of Adolescents & Young People in Nigeria, National Gender Policy, Federal Republic of Nigeria National Youth Policy (22,23,24). Nigeria has very restrictive abortion laws, criminalisation of same-sex relationships, and firm policies about the age of consent, which restricts adolescents from seeking contraceptive services without parental consent (25,26).

1.4 Economy

Nigeria is known for its gas and oil production and is rated the most significant gas and oil in Africa (19). The oil sector contributes about 10% to the country's Gross Domestic Product (GDP),

while other sectors such as agriculture, telecommunications contribute 90.5% to the country's GDP and account for about 35% of employment (19,27). The current health expenditure in Nigeria is 3.89% of GDP, and the estimated budget of southern Nigeria is less than 2% of the national budget (27,28). The foreign economic relations of Nigeria are due to its vital function in supplying oil and natural gas to the world economy and its participation in international trading (19,27). The oil-producing states are in the southern part of Nigeria, so it is vital for this study.

1.5 Poverty rate

Nigeria's current poverty rate is 40.9% of its total population which amounts to about 83 million people below the breadline and 53 million vulnerable people (19,29). The poverty rate in the rural areas of Nigeria is approximately 52%, while that of the urban area is about 19% (19). Poverty in Nigeria is primarily due to corruption, income inequality, inequity, political instability, and ethnic conflicts of the country, and the level of poverty is lowest in the southern part and highest in the northern part of Nigeria (4.5% and 87% respectively) (29,30). This increased poverty rate has led to extreme food and child poverty (29,30).

1.6 Education/Literacy level

Nigeria has a literate level of about 62% and a high illiterate level of about 40% as of 2018 (17). The government tried to increase the literacy level by introducing vocational training for women and girls because the rapid development of a country's socio-economy is dependent on women (11,17). However, numerous non-governmental organisations (NGOs) introduced community-based strategies and informal education to increase the literacy level of adults and children (11,13). There are more educated women in the urban area of Nigeria than in the rural areas; only 16% of women have no education in the urban area compared to the rural which stands at 51% due to lack of schools and accessibility (13,31). The situation remains that there are more educated men than women in Nigeria; only 22% of men have no education as opposed to 35% of women (32). Literacy level is very high in the southern part of Nigeria compared to the northern part (74%, 14% respectively) (11,17,33).

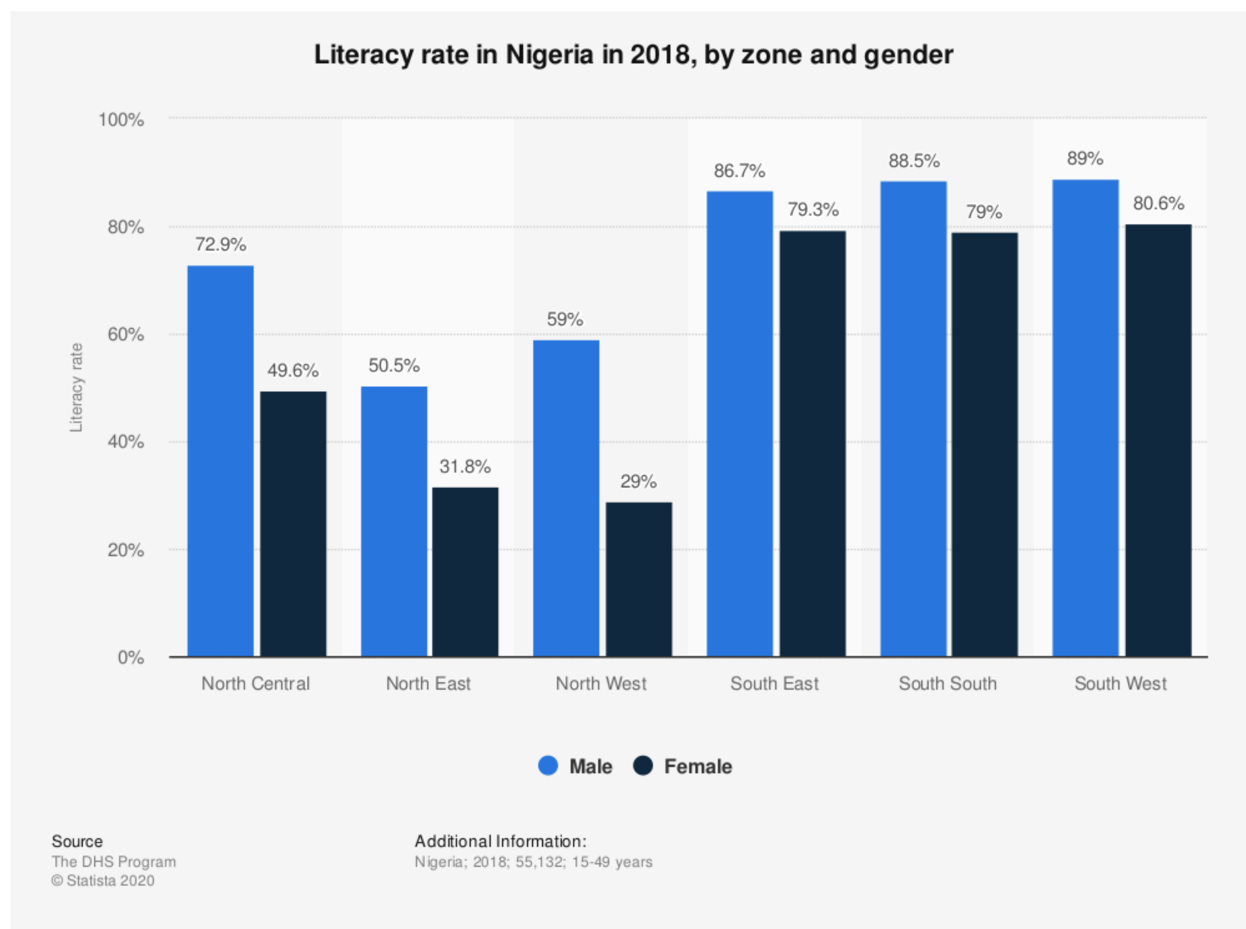

Figure 2: Literacy rate in Nigeria by zone and gender (Source: the DHS Program, 2018) (10).

1.7 Socio-cultural practices

There are a lot of beliefs and norms in the country (14,15). Some cultures believe illnesses are caused supernaturally and from angered ancestral spirits; for example, if one is ill with malaria, infertility, or unexplainable sicknesses, such a person is treated with traditional herbs and medicines (34). The most prevalent culture in Northern Nigeria is child marriage, and this leads to vesicovaginal fistula (VVF) (33,34,35), while the practice of Female Genital Mutilation/Cutting (FGM/C) is higher in the southern part of Nigeria due to traditional beliefs as compared to the North (41.1%, 1.4%) (36,37). Giving tribal marks and cultural incisions is common in Nigeria and mainly practised in the southwest (34). Inter-generational sex is a known practice in Nigeria, which can lead to widespread of HIV/AIDS as well as other STIs as most adolescents and young girls do not possess negotiation powers to practice safe sex (17,34). The male and female difference originates from root causes such as gender inequality and the patriarchal nature of Nigeria, where the boys and men are preferred and are sent to school, while the girls and women are expected to stay at home to take care of the house chores (13,15) while the disparity between the North and South is due to low level of education that is caused mainly by economic inequality, political instability and civil unrest (11,33).

1.8 Health in Nigeria

Even with the significant progress in the health situation of Nigeria, the country faces a dual burden of diseases which can be communicable and non-communicable diseases such as HIV/AIDS, malaria, tuberculosis, hypertension, malnutrition, road traffic accidents (16,38). Among the countries in Sub-Sahara Africa, Nigeria contributes the highest in maternal and neonatal deaths, and this is mainly due to unsafe abortions among adolescents, complications from pregnancy and childbirth such as severe haemorrhage, sepsis, obstructed labour (8,39). The prevalence of neonatal deaths has reduced but is still high in the North (187deaths/1,000live births) part of Nigeria compared to the South (62 deaths/1000 live births) (38,40), partially because of inefficient use of the health facility for deliveries in the North (16%) as compared to the South (82%) (17,41). Nigeria has a generalised HIV epidemic, but the key populations contribute primarily to the HIV burden in the country (17,42). The prevalence of HIV and other STIs varies amongst states and regions; it is highest in the southern part of Nigeria (5.6%) and lowest in the northern part (1.4%) (43,44). In 2018, the birth rate per 1000 was 35,2births while the death rate per 1000 is about 11.86 deaths (17,38,45). The life expectancy is increasing and varied by gender; for women was about 55years, while for men was 53years (17,38). In 2020, Nigeria was among the countries in Africa with the highest cases of COVID-19 (38,46)

1.9 Health System

1.9.1 Health care delivery system

The health care system faces challenges such as poor development, implementation of policies, underfunding, and poor infrastructures, which leads to inadequate and unfunctional surveillance systems (46,47). There have been some strategies to promote healthcare access by Nigerians, yet access is at 43% (47,48). Healthcare in Nigeria is delivered by three main methods: traditional, faith-based, and biomedical (public and private) (12,49). Private sectors of the health system provide about 70% of services while the government provides 30% (16,47). There is an improper distribution of healthcare facilities between urban and rural areas due to the urban centralisation of most health facilities. This limits access, makes referral system impossible, makes healthcare very expensive for rural dwellers, and makes universal health coverage challenging to achieve in Nigeria (47,49,50). People still believe and use traditional medicine in Nigeria; even though there are some benefits of traditional medicines, there are still harmful effects as most of these traditional medicines are not regulated and can be misuse and has also been a reason for patient's delay in seeking healthcare from the modern facilities (13,47).

1.9.2 Human resource for health (HRH)

In Africa, Nigeria possesses a vast health workforce consisting of doctors, midwives, nurses, yet there are not enough to provide health services (1.95/1000) effectively, efficiently, and sufficiently (51). There are different human resource for health (HRH) cadres in the different levels of healthcare (51,52). The health workforce is more concentrated in the urban parts than the rural parts of Nigeria (51,52). The migration of health workers to foreign countries is one of the major problems the Nigerian health workforce faces, leading to brain drain (51,53). There are 3.8 doctors to 10,000 people; this led Nigeria to develop an HRH policy and strategy to ensure the continuous availability of skilled health workers called the Abuja Declaration by African heads of state (51). This declaration ensures that 15% of the national budget goes to healthcare, yet that has never been

the case (51). Since the COVID 19 global pandemic, health workers in Nigeria have gone on more than two strikes, and the pandemic has led to the neglect of adolescent sexual reproductive health and rights (ASRHR) (51,53).

1.9.3 Health and Insurance Coverage

In 2005, the government came up with a scheme called the Nigerian health insurance scheme (NHIS) to improve the health-seeking behaviour of people (17,54). Health insurance can be obtained from the government, private agencies, and health management organisations (HMO), but coverage is limited (17,55). About 75% of the expenditure on health is from private sources, and about 70% is out-of-pocket (OOP) expenditure that is used to pay for health services at both public and private sectors, while the government expenditure is only about 25% (50,55). This shows that most people are not insured and have limited access to quality health care (17,54). Due to poor health insurance strategies and limited access to quality of care, Nigeria was ranked 187 out of 191 countries to least comply with the Universal Health Coverage (UHC) target (17,55).

1.10 Total Fertility Rate

Nigeria had a total fertility rate (TFR) of 5.281 births/woman in the year 2020, and this shows a drop compared to 2019 in that the fertility rate was 5.349 births/woman (17). There is a 19% increase in adolescent pregnancy in Nigeria, and the wanted fertility rate stands at 4.8 (17,45,56). In Nigeria, the birth rate of adolescents aged 10-14years is 10births/1000girls, while the birth rate for ages 15-19years is 121.6/1000 girls (56,57).

1.11 Contraceptive services and Contraceptive prevalence rate (CPR)

8.6% of Nigerians access contraceptive services every day (17,58). The major funding source for modern contraceptive services comes from international donors and health facilities that depend on donors to supply contraceptives provide the services for free. However, health-related factors still influence the utilisation of contraceptive services, such as direct and indirect costs of contraceptive services, stock out of commodities, distance of the facility, poor health services, prior counselling, and provider bias (17,59). Most accessed forms of modern contraceptives in Nigeria by adolescents are oral contraceptive pills (16%), injectables (21%), and male condoms (59,60). The prevalence of adolescents accessing reproductive healthcare and modern contraceptives is low (45%), and this is due to other factors such as policy on parental consent, cultural and religious norms (59,61). The Federal Ministry of Health (FMOH) is in charge of procuring modern contraceptives and is assisted by international organisations (17,62). Administrative costs of modern contraceptives such as in-training of health workers and transportation of commodities to the different levels of the health care system are not covered by the federal government. It is up to the state government to cover these costs and distribute the commodities from the regional stores to the district stores to prevent stock-out of commodities and variation in the utilisation of contraceptives in different country regions (54,59).

The unmet need for modern contraceptives among sexually active unmarried adolescents is high compared to married adolescents (65.6%% and 12.2% respectively) (17,63,64,65). This makes adolescents opt for a natural method such as withdrawal method and traditional methods such as the use of lime and herbs, and this method has a low effectiveness rate (59,66,67,68). The current CPR in Nigeria is only 17%, and it is higher in the southern part of Nigeria than in the northern

part (17,33,62). Adolescents' unmet need for modern contraceptives is higher in the southern part and lower in the Northern part of Nigeria (37%, 17%) (17,69,70). Utilisation of modern contraceptives has both health and social benefits as it prevents unintended pregnancies, gives room for proper spacing of births, reduces maternal and neonatal morbidity and mortality, and ensures the improvement of women's and children's lives (67,68,71). If the unmet need for modern contraceptives is met, there will be a 77% reduction in unintended pregnancies and a drastic reduction in unsafe abortions, leading to a 68% and 85% reduction in maternal and neonatal deaths, respectively (71,72). The financial implication of meeting the unmet need for modern contraceptives is $546 million annually, and this will give room for improved quality of care and for more people to utilise contraceptive services (58,62).

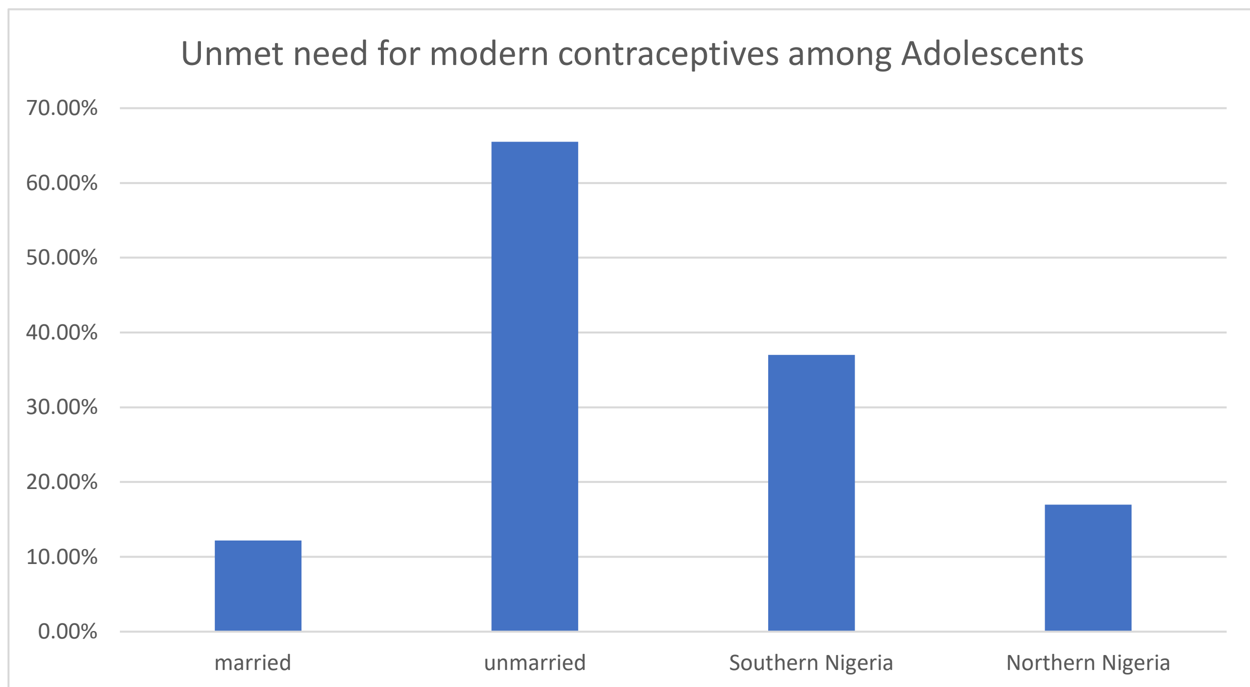

Figure 3: Unmet need for modern contraceptives among Adolescents (Source: NDHS 2018) (17).

2. Chapter 2. Problem Statement and Methodology

2.1 Problem Statement

Adolescents' sexual and reproductive health adds to the public health burden globally, even though it is neglected over time (73,74). About 90% of adolescents live in LMICs (73). In 2019, about 1.5 million adolescents and young people died due to inadequate access to contraceptives in Sub Sahara Africa region, and this region accounts for 57% of the unmet need for contraceptives (75). There is low contraceptive prevalence (less than 25%) (76), yet unmet need for FP in Nigeria is high (18.9%) and very high among adolescents (14.9%) (63,77). In 2020, Nigeria recorded a birth rate of 150 births per 1000 adolescent girls even though there are adolescents who want to avoid unplanned pregnancies (78), but they are unable to do so due to lack of information, autonomy and sometimes lack all the access to contraceptives due to lack of financial means (77,79). Non-health-related factors that influence utilising modern contraceptives in Nigeria include myths and misconceptions, cultural norms that support big family size, fear of side effects, gender inequity, no spousal support from married adolescents (17,59,80).

One major impact unmet need for modern contraception has on health is unintended pregnancy and, consequently, high levels of unsafe abortion (65,78). Unintended pregnancy among adolescents has social, economic, and health consequences, and this is a significant and lasting public health problem encountered globally. Complications arising from pregnancy and childbirth are primarily the leading cause of death among adolescents, especially in LMIC, which records about 99% of global maternal death (79). Unintended pregnancy puts adolescents at higher risk of uterine infection, eclampsia, severe bleeding, and sometimes death (79,81). Also, there is a high rate of unsafe abortions in Nigeria, accounting for 3.9 million among adolescents between 15-19 years, and this contributes significantly to high maternal and infant morbidity and mortality (77,78). This early pregnancy and childbearing among adolescents also put infants at higher risk of several newborn birth disorders such as low birth weight, anaemia, breathing problems, failure to thrive (65,77,82). Unintended pregnancy in adolescents has health consequences and socioeconomic consequences as adolescents are exposed to rejection and stigma by society, community, family, and peers (65). It also leads to adolescents dropping out of school, which affects their future education and employment status, thus limiting their opportunity at a better life, making them more vulnerable and dependent (compromise educational achievement and economic potential (77,83).

Another consequence of low utilisation of contraception is an increased rate of sexually transmitted infections (STIs) (84,85). Although STIs are poorly managed in Nigeria, it is a major risk for HIV transmission (85). Nigeria has the highest STI prevalence in West Africa and the third-highest globally (86,87). The rate of STI is increasing among adolescents due to unawareness of transmission and prevention, unprotected sexual intercourse, health facility factors (88,89). There are restrictive abortion laws in Nigeria, which makes abortion unsafe because they are conducted using unsterilised instruments by unlicensed and inexperienced personnel, exposing adolescents to contracting STIs (86,90). Adolescents are more vulnerable because their immune and reproductive systems are not fully developed yet, adolescent girls are more susceptible to STIs due to the biological structure of the female reproductive system and social inequality, and they are 6.5 times more at risk of getting cervical cancer if they have STIs than girls without the infection (65,87).

2.2 Justification

Uptake of modern contraceptives is essential for better health, and its effect spreads over the 17 Sustainable Development Goals (SDGs), so uptake of contraceptives must be increased (91). Goal three of the SDGs is good health and wellbeing for everyone and all ages (92). The specific targets to ensure goal three is achieved is to make sure there is universal access to sexual and reproductive services, which includes modern contraceptives, contraceptive information, education, and uptake, and to have a declined maternal mortality ratio (MMR) (< 70/100,000 live births) globally (78,92). Expanding contraceptive access, ensuring that both demand and supply of services are met using acceptable and effective contraceptive methods is critical in ensuring these targets are met. STIs have been a neglected part of ASRHR, and this age group is most susceptible to these infections (86,93). There is a need to focus on ASRHR in Nigeria as adolescents are essential in its socioeconomic development and contribute mainly to the MMR in Nigeria (7,93).

Uptake of modern contraceptives has increased over time, yet the unmet need for modern contraceptives in Nigeria is still high (63,93). The southern part of Nigeria, which makes up half of the country, was picked as the study population focus because of its high incidence rate of unintended pregnancy and unsafe abortions among adolescents (33,44,89). Although the educational level and SES are higher in the southern part of Nigeria compared to the North, there is still a high prevalence and incidence rate of unintended pregnancies, STIs including HIV/AIDS (11,64,89). This study seeks to find out why there is still a high unmet need for modern contraceptives, to understand the factors that influence contraceptive utilisation, and how the issue of low uptake of contraceptives among adolescents in Southern Nigeria can be addressed with a view on sustainability to improve adolescent health through achieving Goal 3 of the SDGs.

2.3 Research Objective

The primary goal of this research is to describe the factors influencing the utilisation of modern contraception services and ways to improve utilization among adolescents in Southern Nigeria.

2.3.1 Specific Objectives

I. To explore the knowledge and perceptions of modern contraceptive services among adolescents in Southern Nigeria.

II. To explore the socio-cultural and economic factors influencing utilisation of modern contraceptive services among adolescents in Southern Nigeria.

III. To describe the health system-related factors influencing utilisation of modern contraceptive services among adolescents in southern Nigeria.

IV. To identify best practices that have worked in Nigeria and Africa to improve utilisation of modern contraceptives among adolescents.

V. To recommend the best ways in which utilisation of modern contraceptive services can be efficient, effective, and sustained among adolescents in Nigeria.

2.4 Methodology

The method used to achieve the objective of this paper is a descriptive review of published literature in Nigeria, especially from the southern part of Nigeria. Google scholar and google were the search engines used for the paper. VU online library was used to access the PubMed and Cochrane electronic database to search for articles, peer-reviewed and systematic-reviewed journals, grey literature, and reports. The search strategy paired the term "Adolescents Contraceptive in Southern Nigeria" with the terms related to the different factors indicated by the conceptual model. The word "variable" in the framework was changed to "factor" during the search because the study is a descriptive literature review and not a measurable study. Except for the conceptual framework, I searched for articles published in the English language within the last 15 years, which may be a limitation. This was because English is the official language in Nigeria, and I felt 15years would cover the trends of utilisation over the years for better understanding and some personal observations due to experience in this field were documented. Other relevant grey articles were gotten from the Federal and State Ministry of Health (FMOH, SMOH), WHO, UNICEF, and USAID websites.

The first search was to describe the various factors influencing the utilisation of contraception by adolescents in Southern Nigeria while the second search was to identify best practices, evidently proven interventions and strategies that have worked to improve utilisation of modern contraceptives among adolescents in Nigeria and Africa. Keywords for the first search were gotten from the various factors indicated in the framework, such as "modern contraceptives", "Sub Sahara Africa", "Nigeria" "Southern Nigeria" "factors" "predictors", "age" "sex" "marital status" "peer pressure" "community" "waiting time" "region" "physical distance" "cost of service" "awareness" "clinic waiting time" "socioeconomic" "perceived risks" "fear of side effects". I also included "gender" as the keyword used even though it is not in the framework because gender plays a vital role in the utilisation of services, especially in Nigeria, which has a patriarchal nature and for there to be an improvement, gender is essential. Some cited articles were searched for further referencing using the snowballing technique, and primary sources of relevant papers were given priority. *(Table 1 in Annex shows the comprehensive list of keyword combinations used in this research).*

2.5 Conceptual Framework

The conceptual framework below was the best tool as it had all the specific factors relating to adolescents. It also showed the interactions between them and so was used to analyse the factors that influence the utilisation of modern contraceptives among adolescents in Southern Nigeria. The framework had been modified in various studies and consisted of the theory of reasoned action framework (94), the socioecological framework (95), the cost perspective, and the Easterlin framework (96,97,98). The theory of reasoned action applied in the study explains how the actions and behaviour of adolescents are influenced by their belief that other adolescents would not want unintended pregnancy or STIs and the adolescent's belief that a preferred action has a beneficial outcome (94). The framework also shows that the information adolescents receive, and the cost-benefit of services enables and influences their decision-making and actions (94). The socioecological framework also buttresses the importance of the family and the role of peers in shaping adolescents' behaviour to sexual and reproductive activities (95). The cost perspective and Easterlin framework show that socioeconomic, cultural, and demographic factors also act through diverse areas of intermediate factors that include information and knowledge that influence barrier

perceptions (96). The framework further explains barriers to contraception utilisation that arise from institutions such as the health system that affect adolescents' utilisation of reproductive health services (97,98).

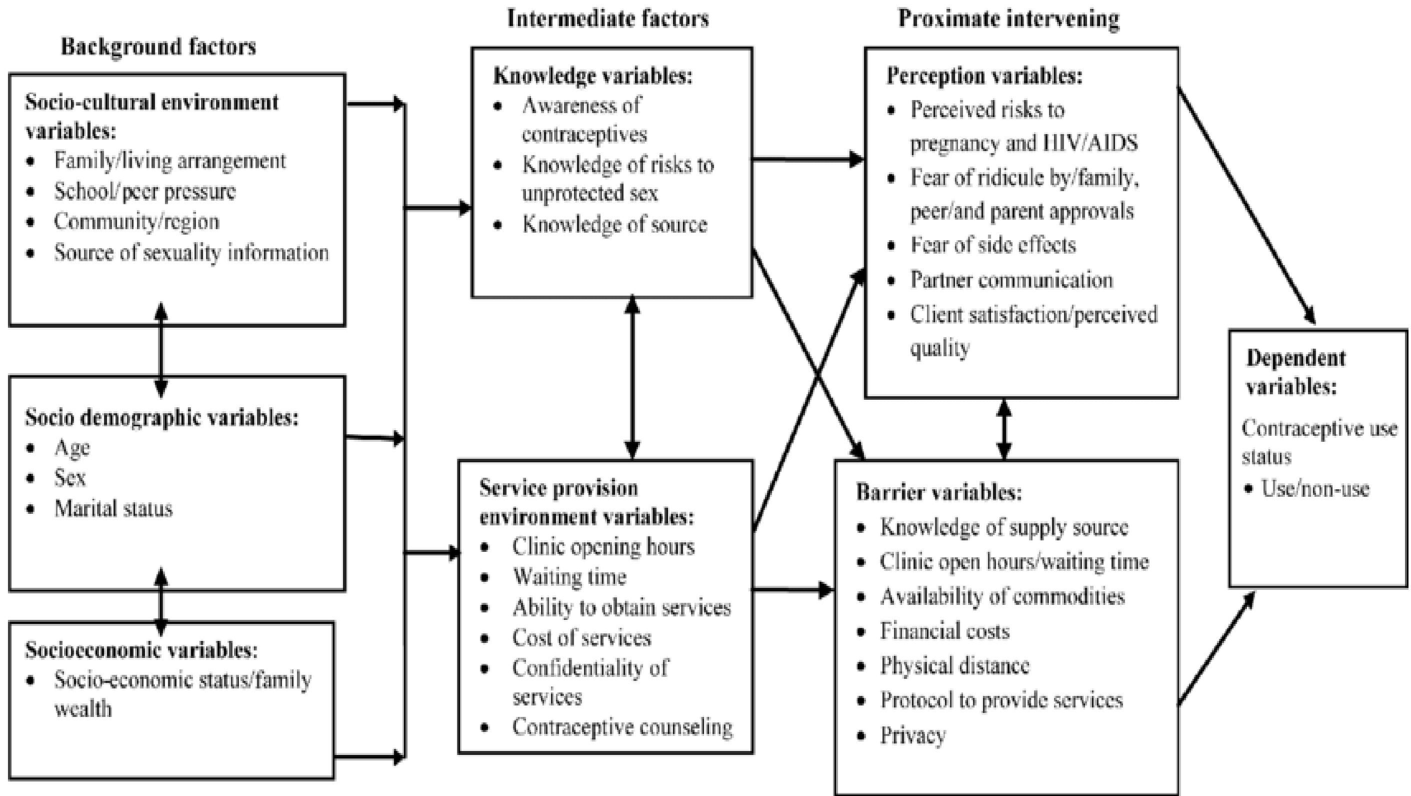

Figure 4: A conceptual framework modified from Fishbein and Ajzen (1980); Twa-Twa (1997); Gage (1998); Magnani et al. (2001); Prince and Hawkins (2007) (94,95,96,97,98).

3. Chapter 3. Knowledge And Perceptions of Adolescents and The Socio-Cultural and Economic Factors Influencing Utilisation of Modern Contraceptives in Southern Nigeria

This chapter covers the first and second specific objectives, which look at the knowledge and perceptions of adolescents in Southern Nigeria and the socio-cultural and economic factors influencing the utilisation of modern contraceptives. It will be analysed using the conceptual framework's socio-cultural, environmental, socio-demographic, socioeconomic, knowledge, and perception factors.

3.1 Socio-Cultural Environmental Factors

3.1.1 Family/Living Arrangements

Results from studies show a significant relationship between adolescents living conditions and utilisation of modern contraceptives. For unmarried adolescents living with either or both parents, the rate of modern contraceptive utilisation is drastically reduced as most parents will stop their adolescent children from accessing modern contraceptives (99,100). Adolescents less than 18years, who live on their own, also known as emancipated minors, can have access to modern contraceptives due to their independence (101). The relationship between utilisation of modern contraceptives and married adolescents who live with their partners is statistically significant; these married adolescents will require their partner to decide and provide money for them to uptake modern contraceptives (99,102).

3.1.2 School/peer pressure

About 50% of adolescents learn about their sexuality and modern contraceptives from friends and schoolmates (103,104). Adolescents in universities utilise modern contraceptives more than adolescents in secondary schools due to age and SES (105,106). Also, the schools in Nigeria provide little information to adolescents about sex, sexuality, and modern contraceptives (107). In Southern Nigeria, adolescents get 15% of modern contraceptives information from teachers in schools (108). Peers play a significant role in adolescents utilising modern contraceptives as their peers' influence many of their decisions (109,110).

3.1.3 Community/region

Urban and rural regions and religious and traditional communities influence the utilisation of modern contraceptives by adolescents. Adolescents residing in rural areas were less likely to have comprehensive knowledge of STIs, including HIV, pregnancy, unsafe abortions, than those in the urban areas, and compared to persons from the northern regions of Nigeria, those from the southern regions were more likely to have comprehensive knowledge of HIV (111,112). The region also plays a part in the utilisation of modern contraceptives among adolescents. Studies show a maldistribution of health facilities between urban and rural regions which makes modern contraceptives utilisation among adolescents in urban regions two times more than in rural areas regions of Southern Nigeria (60,65,113,114). A qualitative study showed that it is difficult for adolescents in rural and remote areas to access and uptake modern contraceptives due to the centralisation of health facilities in the urban regions (102,114). There are disparities among

regions in Southern Nigeria; utilisation of modern contraceptives is highest in the Southwest part (27.2%) of southern Nigeria and lowest in the southeast (17.9%) (115,116,117). There is a significant correlation between the region where adolescents reside and the rate of modern contraceptive utilisation (106,114). In Southern Nigeria, few community structures such as adolescent support networks or groups link the community and health facility. Studies showed that these support networks could increase utilisation of modern contraceptives by adolescents by facilitating access and uptake of modern contraceptives (102,118).

Most religious communities, especially the very conservative ones, believe that it is a taboo and a sin to discuss anything related to sex in public or outside the confinement of the matrimonial home (102,119). When eventually sex-related matters are discussed, the focus is on the negative aspects and consequences that can pose a barrier for adolescents in such communities to seek and access modern contraceptives (119). Christians predominate in Southern Nigeria, and this religious doctrine plays a role in influencing the utilisation of modern contraceptives by adolescents (59,117). For instance, the Roman Catholic and part of the Islamic doctrines are against any form of modern contraceptives, and this affects both married and unmarried adolescents from utilising modern contraceptives, which sometimes have a dual purpose (120,121). This belief further exposes adolescents to consequences such as contracting STIs, including HIV, from their partners. Communities and their societal and cultural norms in Southern Nigeria serve as a barrier to adolescents utilising modern contraceptives. Most cultures in Southern Nigeria are against contraceptives because it limits their population growth. Some community and traditional leaders see modern contraceptives as a means for the government or donors to reduce their population, dictate the number of children the community should have, and they are against it. In 2020, a qualitative study showed that using modern contraceptives was culturally unacceptable and taboo for unmarried adolescents, which led to poor utilisation of modern contraceptives (80,102). Participants from the study acknowledged some level of community resistance to adolescents having sex and using contraceptives, although they knew the adolescents were sexually active (109,116). The traditional, community and religious leaders are key influencers in the community, and the people listen to them, so if they are against modern contraceptives, utilisation of contraceptives will reduce in that community.

3.1.4 Source of sexuality information

Different studies show that the source of information on modern contraceptives is mainly from their peers and media (109,110). One of the studies in Osisioma Ngwa LGA shows that adolescents' primary source of sexual information is from the media and their peers (82.9% and 86.8%), respectively (110). This was a small study with small sample size and may not be generalisable to other parts of Southern Nigeria. A study in Lagos State showed that adolescents get about 10% of information on sexuality and modern contraceptives from their parents, while another study from Abia state showed 12.5% (109,110). This shows that sexuality education and information are rarely gotten from adolescents' parents, and most of the information will be biased as it will only be on the disadvantages of contraceptive use and early sex (109). The church also provides sexuality education to adolescents, but it mainly focuses on sexual abstinence and keeping pure, which does not make the information comprehensive (110,119). Due to policy restrictions, comprehensive sexuality education (CSE) is not comprehensive and is limited to family life and HIV education (FLHE). CSE is not inclusive, as out of school, living on the street, and displaced adolescents are left out (22,102,122).

3.2 Socio-Demographic Factors

3.2.1 Age

Age influences utilisation of modern contraceptives. Adolescents less than 18years find it challenging to access and use contraceptives. A study showed 93% age-related restriction of adolescents having access to modern contraceptives (102,123). Adolescents 15-19 years utilise modern contraceptives than younger adolescents 10-14 years (105). A study in the Southern part of Nigeria showed an increase in the utilisation of modern contraceptives with age as there was a 65% increase in utilisation of modern contraceptives among adolescents aged 18years (107). Age is a significant criterion for contraceptive use among adolescents (60,109). Another study proved an appropriate age for adolescents to utilise contraceptives and 16 years and below was not appropriate, although the appropriateness of age was not stated (123). Most communities believe that a girl of 16years should not be having sex, let alone have the need for modern contraceptives, and this can affect utilisation of modern contraceptives by adolescents (109,123).

3.2.2 Sex/Gender

Sex and gender also play essential roles in the utilisation of modern contraceptives among adolescents. Male adolescents have more access to contraceptives than female adolescents, and this is because of the belief that boys can be promiscuous more than girls (15,102). The boys can go to the health facility to take up a contraceptive method, but the girls are not allowed and will be reported to their parents if they do so. It is also often believed that girls and women should be responsible for contraceptives utilisation alone (124,125). Females were less likely to have comprehensive knowledge of HIV than males (111,126). Most gendered cultural norms target adolescent girls and not boys. Two qualitative studies carried out in Southern Nigeria showed that adolescent girls who go to the health facility for modern contraceptives are seen as wayward and shamed for it; this prevents them from utilising modern contraceptive information and services (102,124). This is not so for the adolescent boys as they can freely access condoms, but the girls are not allowed to due to cultural issues, which makes the girls ashamed and hide to get access to modern contraceptives (102).

3.2.3 Marital Status

Marital status influences utilisation of modern contraceptives among adolescents. Marital status plays a key role as married adolescents can utilise modern contraceptives compared to adolescents who are not married (109,127). 48.6% of healthcare providers in a study carried out stigmatised and discriminated against unmarried adolescents by refusing to provide contraceptives when they go to the health care facility because they feel unmarried adolescents do not have any reason and right to seek contraceptive services (123,128). A study showed that Muslim residents in the Southern part of Nigeria prefer adolescents to get married instead of using a modern contraceptive to prevent unintended pregnancies and unsafe abortions (109,127). This further shows the strong association between the marital status of adolescents and utilisation of modern contraceptives (60,109,129).

3.3 Socioeconomic Factors

3.3.1 Socioeconomic Status/Family wealth

There is a significant association between comprehensive knowledge of HIV and SES of adolescents (104,111). Adolescents from wealthy homes have higher odds of utilising modern contraceptives more than adolescents from poor homes (102,124,127). The economic status of an adolescent's family can either facilitate or be a barrier to the utilisation of modern contraceptives (102,130). Most adolescents are not financially independent and do not have the financial capacity to pay for the direct and indirect costs of contraceptive services such as consumables, transport fare to the health facility, and any other cost that may come up at the health facility (102,116,131). This low SES makes it impossible for adolescents to utilise modern contraceptives. Household wealth index or quintile influenced modern contraceptive utilisation among adolescents in Southern Nigeria (93,132).

3.4 Intermediate Factors/ Knowledge Factors

3.4.1 Awareness of Modern Contraceptives

It is known that knowledge and awareness is a protective factor that helps to reduce the consequences associated with risky behaviours of adolescents. In Southern Nigeria, studies show a high level of contraceptive awareness among adolescents, but the level of in-depth knowledge of modern contraceptives was low (12.5%) (104, 129,133). The level of awareness stood at 92.3% and has increased over time (104,134,135). Older adolescents (15-19years) are more aware of modern contraceptives than younger adolescents (10-14years) (105,106). States such as Lagos, Rivers, adolescents have more knowledge of contraceptives, what it is and their uses compared to states such as Akwa Ibom, Oyo. Adolescents are also aware of the different types of modern contraceptives. They are mostly aware of condoms, pills, and injectables, while a few of them are aware of implants such as the intra-uterine device (108,110,136). The level of awareness varied among ethnic groups in the southern part of Nigeria, the highest level of awareness was found among the Yoruba and Ijaw ethnic groups and lowest among the Edo ethnic group (135,137). Awareness of modern contraceptives was also dependent on religion; about 96% of adolescents who are Christians were more aware of contraceptives compared to adolescents who are Muslims (2.9%) (137,138). Additionally, a study showed that about 38% of adolescents living with a disability are aware of modern contraceptives (139).

3.4.2 Knowledge of risk to unprotected sex

Adolescents are more aware of the risk of unprotected sex and its consequences compared to some years ago (137,140), and this increases utilisation of modern contraceptives. Most adolescents are aware of this risk but still carry out risky behaviours and expose themselves to the consequences of unprotected sex (138). A qualitative study in a Southwest state showed that about 51% of adolescents were aware of the risk of unprotected sex and had knowledge of dual contraceptives (120). The knowledge of risk to unprotected sex is higher among the older adolescents aged 15-19years (78.3%) than, the younger adolescents aged 10-14years (48.3%) (104,141). Knowledge of risk to unprotected sex is significantly associated with utilisation of modern contraceptives,

especially barrier methods, increase in risky behaviour among adolescents led to inconsistent condom use and non-use of modern contraceptives (124,141). A study showed that the level of knowledge of risk to unprotected sex was higher among male adolescents (49%) than female adolescents (33%) (141,142). Another study showed risky behaviour increased among female adolescents (87.2% in 2008 to 93.7% in 2018) and decreased in male adolescents (85.9% in 2008 to 71.1% in 2018) (124). In Delta and Rivers States, more than 89.3% and 49% of adolescents, respectively, are aware and have the knowledge of the risk of unprotected sex and how to prevent its consequences such as unintended pregnancy and STIs (104,124).

3.4.3 Knowledge of Source of services

Knowledge of where to obtain services cannot be overemphasised and serves as a protective factor that positively influences adolescents' utilisation of modern contraceptives. There is a direct relationship between knowledge of the source of service and contraceptive use (143,144). A qualitative study carried out in Ebonyi State showed that while some adolescents have above-average knowledge of where to obtain modern contraceptives, others do not know where to get modern contraceptives (102,145). Another quantitative study showed that about 65% of adolescents knew that the hospital or health facility is the place to get contraceptives, while 35% said the source of modern contraceptives was family and friends (106,144).

3.5 Proximate Intervening

3.5.1 Perceived Risk to Pregnancy and HIV/AIDS

Adolescents perceived risk to pregnancy and STIs, including HIV/AIDS, influences their desire to utilise modern contraceptives such as condoms to prevent pregnancy and transmission of STIs, including HIV/AIDS**.** In 2011, a study carried out in Southern Nigeria indicated that 96.1% of adolescents were aware of the risk of unintended pregnancy and STIs, including HIV/AIDS, and the level of awareness has slightly increased over time to 97.9% (60,110). While this is so, there are still adolescents in the Southern part of Nigeria that feel they cannot get pregnant or have HIV/AIDS even though there do not seek contraceptive services (111). A study that was carried out in the Southwest part of Nigeria showed that while most adolescents believed to be at risk of contracting HIV/AIDS, others believed there were not at risk because they reuse condoms and believe their partners are not at risk too (112,120,146,147).

3.5.2 Fear of Ridicule by Family/ peer/ Parental Approval

There is a strong relationship between parental approval and utilisation of modern contraceptives by adolescents. In the African part of the world, especially in Nigeria, the policy on adolescent health states that parental consent is needed before adolescents can access contraceptive information and services (22,143). This is a huge barrier for adolescents as most parents tend not to allow their adolescents to access contraceptives. The parents and legal guardians believe that exposing them to contraception will increase promiscuity among adolescents (147). Adolescents 18years and above do not require parental consent to seek contraceptives, while younger adolescents do; they are the ones that contribute more to the number of unintended pregnancies and unsafe abortions in Southern Nigeria (68,90,148). Influence from peers also affects the utilisation of modern contraceptives by adolescents in Southern Nigeria (143,144). Most

adolescents prefer to use traditional contraceptives because their peers and friends use them (110,116). Getting pregnant out of wedlock, especially at a young age, is a disgrace in Nigeria, and adolescents are afraid and ashamed when they get pregnant, which can affect utilisation of contraceptive services (13,102). The pressure put on parents to train good adolescents makes it very difficult for parents and adolescents to speak about modern contraceptives (109,143,144). Fear of ridicule by friends can influence the utilisation of modern contraceptives as adolescents will try to avoid the consequences of unsafe sex (144). Parents have a significant influence on adolescents utilising modern contraceptives as parents have certain norms around sex and contraceptives, making it challenging for adolescent girls to go to their parents on topics like utilising modern contraceptives (109,143).

3.5.3 Fear of Side Effects

The perception of adolescents about the side effects of modern contraceptives determines the level of utilisation of modern contraceptives (134). This may prevent adolescents from seeking services and reduces the utilisation of modern contraceptives (60,129). A quantitative study showed that fear of side effects was one of the major reasons for adolescents' non-use of modern contraceptives (102,129). In Southern Nigeria, there are myths, beliefs, and misconceptions about modern contraceptives' side effect, which affects utilisation. A study revealed that about 39% of adolescents do not utilise modern contraceptives due to side effects and misconceptions/myths, such as modern contraceptives cause internal heat, infection, and disease, weight gain, irregular menstrual flow, and infertility (105,145,149). This fear of side effects hinders and discourages adolescents from utilising modern contraceptives and exposes them to the risk of unintended pregnancies, STIs including HIV (102,149). There are misconceptions that the barrier forms of contraceptives reduce sexual pleasure and libido (108,145,149).

3.5.4 Partner Communication

Partner communication is critical as most decisions around modern contraceptive use, and uptake are made by adolescent’s partners, both married and unmarried (60,109). Married adolescents, also known as in-union adolescents, their partner or spouse plays a crucial role in the utilisation of modern contraceptives. In Nigeria, the patriarchy way applies, especially in Southern Nigeria, where there is high male dominance, and female adolescents require partner approval as they do not have enough decision-making rights (59,150). Males believe that utilisation of modern contraceptives is an issue that affects only the females, making it difficult to convince them to allow the adolescent female wards/partners to access a method (60,105). For unmarried adolescents, their boyfriends, who are their partners at the time, are a critical player in deciding if adolescents should use modern contraceptives and the method to use (109,143). Adolescent partners also play a role in covering the cost of utilisation of modern contraceptives as most girl adolescents are not financially independent. This can be a barrier if the partner fails to provide the money for contraceptives (109,132).

3.5.5 Client satisfaction/ perceived quality

A cross-sectional descriptive study carried out in Abia state showed 86.3% client satisfaction on modern contraceptive methods utilised while 11.4% showed dissatisfaction (129). This state is similar in context to other parts of Southern Nigeria, so the result of this study can be generalised.

Adolescents perceive the quality of service if the health workers are friendly and have no bias towards them (123,151). Results from a study carried out in southwest Nigeria showed that 98% of married clients were treated respectfully and thus perceived the quality to be good, while 93% of unmarried adolescents felt the quality was not so good as they were treated differently due to their age and marital status (151). This proves the strong link between the quality of service and utilisation rate.

4 Chapter 4. The Health System-Related Factors That Influence Utilisation of Modern Contraceptives by Adolescents

This chapter covers the third specific objective, which looks at the health system-related factors affecting the utilisation of modern contraceptives among adolescents and will be analysed using the conceptual framework's service provision environment and barrier factors. The health system-related factors were divided into two: the health care provider factors and the government's health policies, law, and accountability.

4.1 Service Provision Environment/ Barrier Factors

4.1.1 Clinic Opening Hours

Opening hours seem not to be flexible and tailored to the needs of adolescents. This is a barrier in adolescents accessing modern contraceptives as the opening time is not convenient (102,113). Most health facilities in Southern Nigeria are not operational on weekends when most adolescents will be available and able to access services but operate between 8 am to 4 pm when most adolescents are in school or back home from school, which was why results showed best and convenient opening hours as after school availability (102,130,152).

4.1.2 Waiting Time

With integrated services in most primary healthcare facilities, adolescents have to wait longer than necessary as oftentimes, there are not enough health workers to attend to adolescents (102,153). The workload and efficiency of health providers can increase the average waiting time, which will limit adolescents from utilising modern contraceptives because adolescents might not have all the time to wait as most of them are students and have to either rush back home from school to do their chores or after schoolwork like farming, hawking (102,128).

4.1.3 Ability to Obtain Services

The ability to obtain services is key in the utilisation of modern contraceptives by adolescents; most adolescents cannot obtain services due to reasons such as parental consent is required for adolescents less than 18years. Most adolescents are not able to obtain modern contraceptive services due to healthcare provider bias (123,151). A study showed that 54% of health providers believe that providing contraceptives to adolescents will increase their promiscuity, and they discriminate against adolescents; this discriminatory act will inhibit the ability of adolescents to obtain services and reduce utilisation of modern contraceptives (128,151). This hinders adolescents from uptaking contraceptive services at the facility. These adolescents then decide to either get the oral contraceptive pills from the pharmacy as they can be easily accessible for those who can afford it or drink mixed herbs found in the bush for those who cannot afford the pills to prevent unintended pregnancies (130,143). This concoction sometimes leads to excessive bleeding and does not prevent STIs, including HIV/AIDS. The ability of adolescents to access and obtain services is a major factor that will improve the utilisation of modern contraception.

4.1.4 Financial Cost/Cost of Services

Adolescents are not finally independent and cannot afford services. In Nigeria, it is known that contraceptive commodities are free in government facilities but not free in private. The consumables are not free, this still acts as a barrier as adolescents are expected to pay for consumables before obtaining contraceptives (102). Most adolescents cannot afford to pay for services, and the few that can afford to pay will only pay if it is cheap and affordable to them (116,143). A qualitative study in 2021 showed that adolescents and young people prefer oral contraceptive pills because they were cheaper than the implants method (143,154). Direct, indirect and opportunity costs such as transport, missing schools are associated with accessing modern contraceptives services from a health facility serves as a barrier to the utilisation of these services by adolescents (102,113).

4.1.5 Confidentiality of Services/Privacy

Adolescents have the right to private and confidential services free from discrimination (155), but this is not so in southern Nigeria, as there is a huge lack of privacy between adolescents and health providers (102). Also, the integration of youth-friendly centres with primary health care was poorly set up, and this made adolescents feel stigmatised because there was no privacy as their health clinic was close to the adult clinic (102,154). A study showed that 71.9% of health providers threatened to report adolescents who come for modern contraceptives to their parents and legal guardian, thereby infringing on their right to privacy and confidentiality (128,156). Adolescents require privacy and confidentiality, and if this is not done, it reduces their trust in health providers and leads to a low utilisation rate of modern contraceptives by adolescents.

In Nigeria, institutional support for adolescent youth-friendly centres (AYFCs) and services is weak, especially in the rural southern part of the country (102,117). The unavailability of these AYFCs tailored to the needs of adolescents reduces the rate of modern contraceptive utilisation among adolescents (102,154). the few youth-friendly service centres available are either far for the adolescents or are not fully equipped to address the contraceptive and other needs of adolescents, which further discourages them from utilising modern contraceptive services

4.1.6 Contraceptive Counselling

Results showed that the odds of adolescents taking a modern contraceptive increased by 50% when being discussed by a healthcare provider in the health facility in Southern Nigeria (156,157). Adolescents have the right to sexual information (158). Knowledge about contraceptives is vital for comprehensive and accurate counselling. In 2018, results from a cross-sectionally described study indicated that about 69.8% and 30.2% of health providers had little and good knowledge of modern contraceptives, respectively, which can influence the utilisation of modern contraceptives by adolescents (128). In 2020 a study showed that health providers' unfriendly and judgmental attitude was a key factor that served as a barrier for adolescents to utilise modern contraceptives. Most adolescents feel reluctant to disclose their contraceptive needs and most health providers limit contraceptive counselling to pills and emergency contraceptives alone (102,154). Although international NGOs have trained health providers on modern contraceptive counselling and provision of services in recent times (123,159), there is still a need for more in-service training of more health providers. Health providers should be trained on their attitude towards adolescents that come to the facility for modern contraceptives as there is a strong significant relationship

between perception and attitude of health workers and provision of modern contraceptives to adolescents (123,128).

4.1.7 Knowledge of Supply Source

Studies show that most adolescents and health providers know that it is the government's responsibility to procure and distribute modern contraceptive commodities and consumables (102,130). Although adolescents can access these services due to the high presence and involvement of international and local NGOs, they are aware of this because as soon as intervention is over, there will be difficulties in accessing such services because most times, such services end (69,102).

4.1.8 Availability of Commodities

Availability of commodities is an essential factor that influences the utilisation of modern contraceptives by adolescents. Results from a mixed-method study in Southern Nigeria showed that although commodities are sometimes available, such commodities are not necessarily meant for adolescents, which discourages adolescents from accessing contraceptive services (102,116). Moreover, frequent stock out of modern contraceptive commodities in the health facilities reduces the rate of utilisation as adolescents visited such facilities (59,102,152).

4.1.9 Physical Distance

A systematic review showed that long-distance health facilities are a huge barrier to modern contraceptives utilisation among adolescents (59,109). In Southern Nigeria, the distance of a health facility is a significant factor influencing the utilisation of modern contraceptives by adolescents. Little transport cost makes it easier for adolescents to visit the health facility to uptake contraceptive methods, and a 30-minute walking distance from their homes to the health facility is considered close (102,105,152). Indirect and opportunity cost due to distance of the facility from home reduces utilisation of modern contraceptives by adolescents in Southern Nigeria.

4.1.10 Protocol to Provide Services

The protocol to provide and access modern contraceptive services such as signed consent from a parent or legal guardian for adolescents less than 18years, counselling and tests act as barriers for adolescents to utilise modern contraceptives (102,130). Parents or legal guardians will often not grant consent, and health providers will not provide services to them due to legal implications (25,68). Counselling takes up a lot of operating time that adolescents do not have as they have school or house chores to get to; this also hinders adolescents' utilisation of modern contraceptives in Southern Nigeria (22,102,116). These protocols to provide services hinders the utilisation of modern contraceptive utilisation by adolescents.

5 CHAPTER 5. BEST PRACTICES THAT HAVE WORKED TO IMPROVE UTILISATION OF MODERN CONTRACEPTIVES BY ADOLESCENTS

This chapter presents best practices and interventions that have evidently improved utilisation of modern contraceptives by adolescents in Nigeria and similar contexts. Modern contraceptive has been known to link to all the 17 SDGs and therefore has many social and health benefits especially among adolescents (91). These benefits include reduced teenage pregnancies and unsafe abortions, further reducing maternal mortality. There will also be social development as adolescents do not have to drop out of school and can be independent and achieve their dream. This chapter looks at interventions that have been proven to work and informed, will therefore cover systematic reviews and other studies both in Nigeria and in West Africa because of similar context. These evidently informed interventions will further guide the suggested recommendations.

A different literature search was conducted, but the same search engines were used as before. Keywords included: "best practices", "proven interventions", "evidence", "Nigeria", 'Africa", "West Africa", "contraceptives", "male involvement", "region", "community", "political' *(Table in Annex 1 shows the comprehensive list of keyword combinations used in this research)*. Snowballing was also done as well in order to get the evidence of the first studies. There is increasing evidence that investing in adolescent responsive contraceptive services (ARCS) using an intersectoral and people-centred approach improves modern contraceptive utilisation among adolescents (160,161,162), which was why this paper looked at the interventions using the major barriers adolescents faced in utilising modern contraceptives (65,73,131) and linking it to the WHO framework on integrated and people-centred health services (162,163). This people-centred health system approach involves integrating evidence-based and informed elements across all levels of healthcare and involving other sectors and key stakeholders (160,163,164). The positive outcomes of ARCS from Ethiopia showed a 38% increase in contraceptive utilisation among adolescents and a 51% reduction in unintended pregnancies among adolescents, and from Chile, ARCS increased utilisation of modern contraceptives by adolescents by 28% (160,165,166).

5.1 Strengthening Governance and Accountability

Governance and accountability consider the country's laws, policies, leadership, and political will. Good leadership and accountability between governments and international donors increased the utilisation of modern contraceptives among adolescents involving adolescents in decision making, the national health policy on adolescent's health have restrictions on who can access contraceptives based on age, marital status, and this has tremendously reduced utilisation of modern contraceptives among adolescents (22,131,167). Evidence proven from research and programs shows that lifting such policy restrictions and legitimising contraceptives to adolescents regardless of sex, marital status or age enhances uptake of contraceptives by adolescents (160,166). Complete and active participation of adolescents from service design to implementation to monitoring (160,168). Continuous advocacy to ensure integration sustainability of services across programs, policies, and indicators (160,165,167). Accountability also covers efficient monitoring and evaluation of interventions in some countries in West Africa (169). In Ethiopia, in order to track progress, identify gaps, and solve problems that arose, proper segregation of data by age and key

indicators and documentation were part of the intervention (166). This has proven to be effective as strategies are tailored to the needs and preferences of adolescents (160,165,170).

5.2 Empowering and Engaging People and Communities

Empowerment and engaging people and communities look at social norms and community-based interventions. Youth centres that served as a link between the health facility and adolescents in the community proved effective during a review of 15 countries, 2 in Asia and 13 in Africa (171,172,173). This social network was vital in the optimal utilisation of modern contraceptives among adolescents in Malawi (171) and Zambia (172). The youth corners were mostly for SRH education, services and life skills and were handled by young volunteers, which created a safe space without discrimination for all adolescents (171,174). The case of Ethiopia, an African country that launched a health extension program to strengthen the linkages between rural communities and the health facility (165,166). The health extension workers were trained and participated in community dialogues to address the norms and beliefs causing low utilisation of contraceptives. The results showed that utilisation of modern contraceptives increased by 40% both by married and unmarried adolescents and a 3.8% reduction in teenage pregnancies (165,166).

Interventions to engage the traditional, community and religious leaders as modern contraceptive champions on community social and behavioural change communication (SBCC) has been proven to improve utilisation of modern contraceptives among adolescents (175,176). Advocacy for community participation where the community and religious leaders who are the community's gatekeepers are involved in such interventions has a positive effect on utilisation of modern contraceptives (175,176). Evidence from a review on some African countries in 2017 and another in 2020 proved that community dialogues and the active involvement of the community leaders as champions of the SBCC intervention show significant impact on contraceptive uptake by adolescents (166,168,174).

Engaging boys and Men in contraceptive interventions are vital as there is a need for male involvement in adolescent health interventions because of the male-dominated environment in Nigeria and Africa. The boys and men play a critical role in utilisation of modern contraceptives as most adolescent girls are not the primary decision-makers on contraceptives. Interventions that involve educating and providing accurate and comprehensive information about contraceptives to men and boys will significantly improve utilisation of modern contraceptives and promote gender equality, just like in South Africa (160,170,177,178). Active participation of the boys and men as advocates for modern contraceptives has been proven to encourage positive views on modern contraceptives, which further leads to increased utilisation (175,177).

Educating and empowering adolescent girls and their mothers are interventions that were also targeted at mentoring and motivating adolescent girls and proved to have a statistically significant impact on utilisation of modern contraceptives, especially among adolescent girls (175,177). An exploratory qualitative cross-sectional study proved that interventions that focus on educating girls and keeping them in schools are highly beneficial as they reduced child deaths from unsafe abortions by 50%, improved gender equity and empowered the girls to make decisions that are beneficial to them, families, and communities (170,171). Empowerment is an essential part of any successful intervention because it comprises the agency, resources, and achievements and is needed for any intervention involving adolescent girls and women. A systematic review carried

out in 2019 proved that interventions that aim at increasing the economic power of girls and women through cash transfer, vocational and life skills training eliminate the substantial financial barrier of modern contraceptive uptake and result in sustainable use of modern contraceptives and reduction in unintended pregnancies (118,179). This strategy was carried out in countries such as Uganda, Zimbabwe and Ghana, and its result proved a significant increase in utilisation of modern contraceptives among adolescents by 37%, 42% and 25%, respectively (118,168).

5.3 Coordinating Services Within and Across Sectors

Coordinating services within and across sectors such as education, finance, Justice, and stakeholders such as policymakers, community and religious leaders proved to ensure appropriate, acceptable, and effective delivery of modern contraceptive services. Such interventions looked at the financial/physical barriers and worked on cash transfers, vouchers, and economic incentives because service affordability hindered the utilisation of modern contraceptives. Strategies of making contraceptives completely free in Zambia spiked a 70% increase in modern contraceptives among adolescents, especially unmarried adolescents, as they depend on their parents (118,172). In Sierra Leone, a strategy of voucher program was introduced, and this led to a 54% increase in utilisation of modern contraceptives among adolescents, while in Malawi, there was a cash transfer program that led to a reduction in unintended pregnancies, unsafe abortions and increase in utilisation of modern contraceptives (168,172,179). One of the best practices to curb the financial barrier of utilisation of modern contraceptives by adolescents is the use of vouchers.

This strategy was adopted in Kenya in 2018, and the outcomes were impressive as 83% of first-time contraceptive users and 89% of unmarried adolescents were reached (160,180). This voucher mode of intervention was effective and successful as it reduced barriers both at the supply and demand side and was proven to be sustainable (180). On the demand side, it gave adolescents access to free quality service, empowered them and reduced stigma, while on the supply side, voucher-income providers were motivated to expand their opening hours, attend to adolescents in a friendlier way and get over the fear of legal implications and disapproval from parents (180). This intervention also motivated the community health volunteers who were paid based on performance to involve the community leaders and organise outreaches to cover a broader and equitable range of adolescents (180). The MOH led the effective national intervention, but the ministry of education, finance and other ministries were fully involved and partook in the health promotion and education interventions to increase knowledge and awareness of modern contraceptives among adolescents (164,174).

5.4 Reorienting the model of care

Reorienting the model of care involves the availability of services and is a strategy that was proven to be effective and efficient (163,176). This strategy took place in Kenya, where interventions were targeted at full availability of contraceptives comprising of condoms, emergency and long acting and reversible contraceptives (LARCs), increased adolescent utilisation by 9.2%, which showed effectiveness and efficiency (160,168). Effective integration of service also proved to improve utilisation of modern contraceptives among adolescents. Studies show that integrating several services saves time and effort, and adolescents value this as it is convenient (172,181). Combining community outreaches, general service provision, and adolescent sexual and reproductive services promotes the continuum of care, increases privacy of adolescents, which increases utilisation (153,165,166,172,181). It is crucial to think of promising new modalities that will make client-

centred strategies more efficient. For example, in this time of COVID-19, there is a need to consider strategies such as self-injections, digital counselling, telemedicine and over the counter access to modern contraceptive pills. These new strategies have ensured that adolescent reproductive health does not suffer and have proven effective, efficient, and sustainable (160,182).

Youth-friendly service delivery points for modern contraceptives such as local pharmacies, drug shops, and hospitals should be easily, readily, physically, and financially accessible to all adolescents (131,168,171). This strategy promoted equity and proved effective as there was an increase in utilisation of modern contraceptives among adolescents. Findings from studies carried out by Chandra-Mouli, USAID in 2014 and 2015 respectively proved that adolescents prefer to access modern contraceptives from places closer to them and where they were sure of their confidentiality and privacy (131,160). In Ghana and Liberia, interventions that combined different channels such as community outreaches, public-private sector facilities, pharmacies were proven to be one of the best practices that increased utilisation of contraceptives among adolescents as a broader range of adolescents was reached (160,174,183). For example, this strategy was adopted in Kenya, and results showed a massive record of contraceptive utilisation among adolescents because they had various channels to obtain a modern contraceptive method (160,168). Large population-based scale surveys conducted in Zimbabwe and Kenya showed that a youth-friendly centre with short waiting time and flexible opening hours such as on weekends, evenings and holidays increased utilisation of modern contraceptives (172,181).

5.5 Creating an Enabling Environment

Creating an enabling environment works by eliminating misconceptions and knowledge gaps on adolescents or health providers. This is a colossal barrier factor to adolescents utilising modern contraceptives in Southern Nigeria. Evidence from a high-quality review of 40 evaluations showed that interventions of contraceptive services coupled with education on reproductive health delivered in a culturally acceptable and enabling environment proved to have a statistically significant impact on contraceptive utilisation and reduction in unintended pregnancies (165,175). Provider bias, which can be tackled by continuous training of the health workforce to be competent, empathetic, and committed at heart, was critical to any successful adolescent responsive intervention because the environment was enabling and supportive for the adolescents (166,184). Pre-service training and continuous in-service training of health workers alongside job descriptions backed with job aids and quality standards have been a proven strategy over time (160,166,185), but for sustainability purposes, there is a need for supportive supervision that is consistent and specific (166). Training health providers should be complemented with interventions that address the social, situational, and individual factors contributing to biased providers (160,174). Also, a review conducted in Africa proved that community health workers are linked to the increase in utilisation of modern contraceptives (164,166,184,186).

In summary, results show a complex interaction between the various factors influencing modern contraceptive utilisation among adolescents in Southern Nigeria. These factors have different magnitude of influence but can lead to contraceptive use or non-use, making it essential that all factors are critically analysed for better understanding and improvement. From the proven interventions and strategies mentioned above, intersectoral and people-centred approaches are essential in delivering affordable, available, accessible, acceptable, accountable, and quality services that will lead to effective, efficient, and equitable interventions on adolescent sexual and

reproductive health. Even though these strategies have been proven to work, it is essential to know that one size does not fit all, so the interventions must be tailored to individual adolescents centred.

6 CHAPTER 6. DISCUSSION

Based on the results above and from the conceptual framework used, in Southern Nigeria, there is high awareness and adequate knowledge of modern contraceptives among older adolescents compared to younger adolescents; however, the perception of contraception and risk of STIs, including HIV/AIDS, is relatively low. The factors that have the most significant effect on modern contraceptive utilisation among adolescents are the marital status, attitude of health providers, partner communication, fear of side effects and misconceptions, and availability and direct and indirect cost of services. Further analysis of these factors shows they are interlinked and dependent on each other, so no stand-alone factors. Socio-demographic factors such as age, sex, or marital status influence adolescents' knowledge, perceptions, and awareness towards modern contraceptive utilisation and are also criteria to access such services as health providers discriminate based on these socio-demographic factors. The socio-cultural and economic factors were seen to contribute to the utilisation of modern contraceptives among adolescents. The socio-cultural factor is seen to be linked to the socio-demographic as well as the service provision enabling environment. This shows that the religious and community leaders are at the frontline of making contraceptive services acceptable in the community and also play a role in the level of knowledge adolescents will have when it comes to modern contraceptives or other sexual and reproductive services. Services need to be culturally sensitive and acceptable to the community.

Male involvement is essential because of the male-dominated culture in Southern Nigeria, and the men are decision-makers which is vital for the partner communication factor. From the results above, it is evident that there is a need to shift the responsibility of modern contraceptive utilisation from just the female aspect and make it both male and female. Making the male champions of modern contraceptives will improve utilisation drastically. Another link is between the availability of services and the distance of the health facility. Availability and accessibility of services are equally important because if services are available but cannot be physically accessible, there will be less utilisation of modern contraceptives among adolescents. The cost of health services determines if adolescents will access and use them as they are not financially dependent, which shows the link between availability and financial accessibility. In Southern Nigeria, modern contraceptives are accessed without payment in the public health sector alone, but consumables are not, which affects the utilisation of modern services by adolescents. Indirect costs of services such as transport, waiting, and opening hours are vital determinants of modern contraceptives being utilised by adolescents. This shows the need for ambulatory services to reach a broader population in the rural region and ensure equity for marginalised adolescents such as out of school, on the street and displaced adolescents.

Health provider bias and attitude is another major determinant because if all the services are available and accessible financially and physically, adolescents will not utilise the services if they feel stigmatised as their preference would be health providers who are friendly, non-judgmental, and highly confidential. A primary data collection method would have been better suited for this work because of the gap in research with respect to the younger adolescents, but a literature review was also a suitable method as it showed the numerous factors, different trends, progress, and gaps in adolescent health with relation to modern contraceptive utilisation. The framework used was the best fit as it covered most of the key and specific factors affecting adolescents and made understanding and analysing the factors simpler. Although there was a repetition of some factors, which was slightly confusing, factors such as education, gender and right perspective, which are

essential, were left out, and knowledge of supply source felt irrelevant to this study and the research population. I will use this framework again to carry out any research on adolescent reproductive health concerning contraceptive utilisation.

What I found new and surprising was the contraceptive counselling factor, which formed part of the health system-related factors that served as both a positive and negative variable. Contraceptive counselling promotes utilisation of modern contraceptives as adolescents will be well equipped to make informed decisions yet, contraceptive counselling can hinder utilisation due to the protocol and long waiting time that are not favourable to adolescents. The solution would then be to strike a balance to ensure adolescents get all the counselling information they need and limit the waiting time. The author agrees with the results of this review, but there is a need to critically analyse the different states of Southern Nigeria because even though there are similarities in context, there are still slight differences among them. The various factors that influence utilisation of modern contraceptives among adolescents in one state may not be so in another state. This reinforces the need to actively involve the community and adolescents to find out their actual and perceived needs. How these various factors influence young adolescents should be looked into because young adolescents are a unique group, and little to no research is carried out on that demography. This will make interventions on adolescent health more effective and age appropriate.

6.1 Study Limitation

The author only searched for articles published in English language only. Unpublished articles could not be obtained and so were also excluded from this research. Some of the articles used were from other countries with similar contexts, and only covered factors except gender indicated in the conceptual framework. Few articles lacked external validity due to sample size and could not be generalised to other parts of Southern Nigeria. There were few articles specifically on marginalised adolescents such as the younger adolescents, adolescents living with disabilities and displaced adolescents in humanitarian settings due to lack of research in those demographic areas.

7 CHAPTER 7. CONCLUSION AND RECOMMENDATION

7.1 Conclusion

Nigeria is a youthful populous country, and its southern part is no different, which is why adolescent health is critical in ensuring a healthier and wealthier country. The consequences of the low utilisation of modern contraceptives by adolescents are detrimental to the country's total development and significantly impact all areas of the country. Neglecting adolescent health will cause the country more harm as adolescents contribute a great deal to Nigeria's MMR and the country's economic development. This literature review explored all the factors influencing the utilisation of modern contraceptives and concluded that they interact with each other as they are not stand-alone factors. Increased utilisation of modern contraceptives by adolescents is beneficial to the country, community, and adolescents.

The author generally concludes that

- In Southern Nigeria, adolescents have a fair knowledge and awareness of modern contraceptives, but the perception of risk to unintended pregnancy and STIs is still low. Fear of side effects and misconceptions also influence utilisation of modern contraceptives.
- Socio-demographic, cultural and economic factors such as age, marital status, SES, societal norms, region, and community play major roles in utilising modern contraceptives among adolescents.
- Other major factors that influence utilisation of modern contraceptives are health system-related such as attitudes of health providers, accessibility in terms of distance and cost of services, availability of contraceptive commodities, waiting time and opening hours.
- People-centred and multisectoral approaches were strategies that proved to improve utilisation of modern contraceptives by adolescents.

7.2 Recommendations

Based on the review of factors that influences modern contraceptive utilisation by adolescents in Southern Nigeria and proven best practices identified within Nigeria and Africa, it is evident that there is a need for integration of both the demand and supply side of interventions by ensuring meaningful and active participation of the government, community, and adolescents. This further confirms the importance of intersectoral approaches and making strategies adolescent centred. The following actionable, feasible, short- and long-term recommendations are suggested and specific to all levels of government and key stakeholders to ensure efficient, effective, and sustainable interventions towards improving utilisation of modern contraceptives by adolescents (163,187). The key stakeholders here are ministries of Health, Finance, Education, Labor, Justice, policymakers, NGOs, CBOs, donors, private sectors, traditional leaders, religious leaders, parents, researchers, adolescents.

7.2.1 Policy Level

Policymakers are responsible for the policies and laws, so they should ensure policies regarding adolescent health are up to international standards.

- Review and update the 2007 National Policy on the Health & Development of Adolescents and Young People in Nigeria.
- Age-appropriate CSE policy made mandatory and inclusive to all adolescents and not just for in-school adolescents.
- Parental consent should be reviewed as it is the right of adolescents to sexuality information and services.
- Change the policy of health workers not operating on weekends or later than 4 pm to give adolescents the flexible time to access services.

7.2.2 Regional Level

It is the government's responsibility for sustainability purposes to ensure there is constant availability of contraceptive commodities for adolescents to access and ensure that opening hours are flexible and suited to the needs of adolescents.

- Budget line specifically for adolescent health.
- National health insurance schemes for Adolescents.
- Pre-service training of healthcare providers to be professionals in modern contraceptives and to be more friendly and non-judgmental.
- Provision of international standard AYFCs with integrated life skills programs to empower the adolescents.
- Public-private partnerships where the government works together with the private sector to provide accessible and affordable modern contraceptives to adolescents.
- Ministry of health advocates with donors, ministry of finance and procurement agencies to ensure continuous procurement and distribution of commodities and consumables to avoid stock out.
- Decentralisation of health facilities and well-equipped facilities.

7.2.3 State Level

These ministries' duty at the state levels is to liaise with the regional level and adapt interventions to suit the community's needs and enable culturally appropriate and acceptable strategies.

- Job description of various health providers to ensure efficiency and reduce burnout.
- In-service training of health providers.
- Provision of regular and supportive supervision.
- Ensure health facilities are well equipped to international standards.
- Meet with Healthcare workers to work out flexible time and provide incentives to motivate them.

7.2.4 Health Facility Level

It is their responsibility to ensure adolescents feel welcome and have their privacy and confidentiality in the modern contraceptive services provided.

- Health providers should not discriminate against adolescents regardless of their age, sex, or marital status.
- Health facilities should provide all services that promotes continuum of care
- Health facilities opening hours should be flexible and continuously operational.

- Frequent ASRHR ambulatory services on health promotion and behavioural change to reach a broader population of adolescents, such as marginalised adolescents who cannot go to health facilities.

7.2.5 Community Level

Active and meaningful community engagement is needed for interventions to work.

- Advocacy to community gatekeepers to work on gender and cultural norms.
- Involve men and boys as advocates of modern contraceptives.
- Engage the community women and girls in acquiring a life skill.

7.2.6 Researchers/Data Analyst

Researchers are in charge of conducting research and evaluations that will show progress made so far, what needs to be done, and what needs not. Data is necessary for effective, tailored, sustainable and equitable interventions.

- More ethically approved research on the following demographics: younger adolescents (10-14years), displaced adolescents and adolescents living with a disability as there is little research on these marginalised groups, and they are often neglected.

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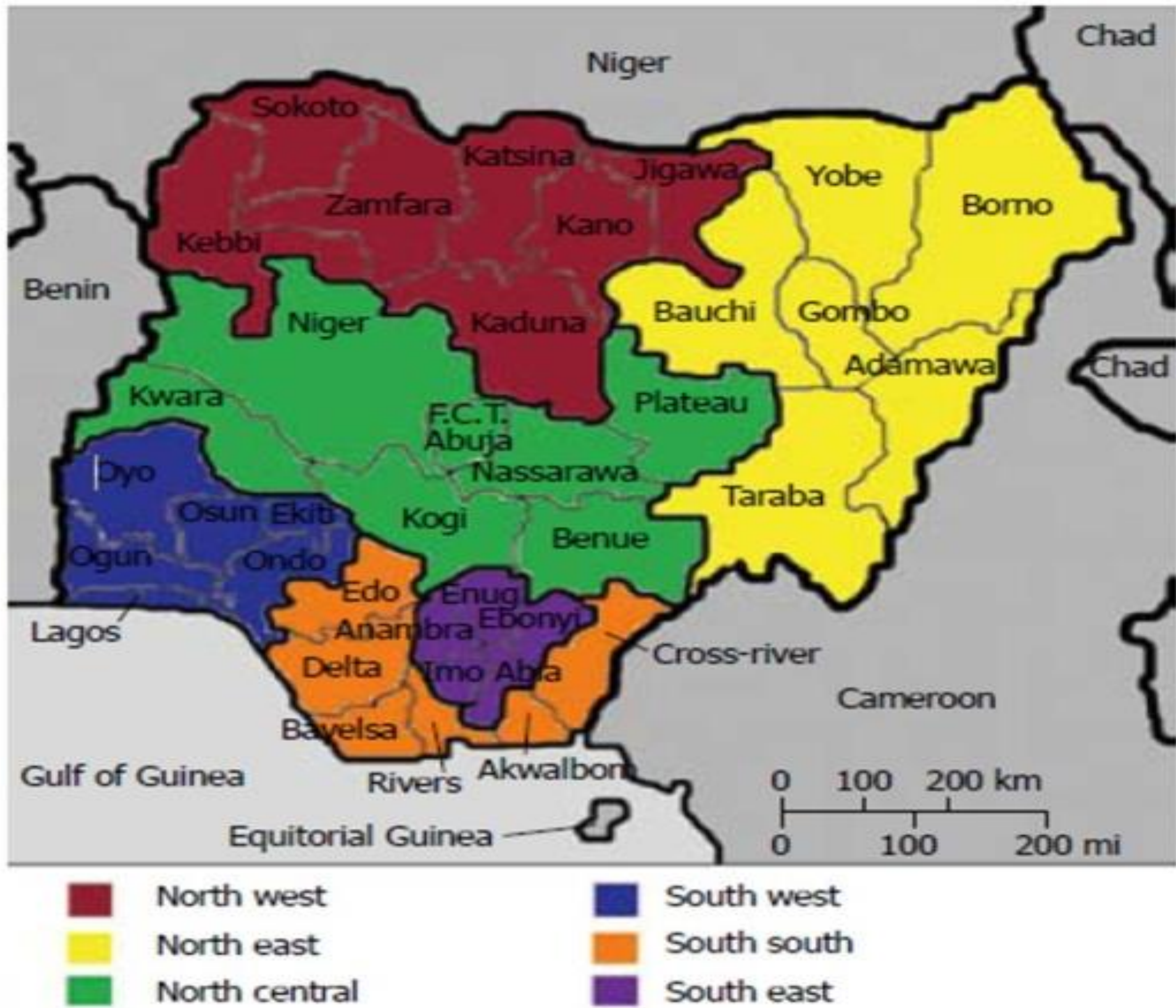
9 ANNEXES

9.1 Annexe 1. Table showing the keywords combination used during the literature search.

	AND		
OR	Factors	Contraceptives	Southern Nigeria
	Marital status	Modern contraceptives	South-east Nigeria
	Age	Utilisation	South-west Nigeria
	Sex	Uptake	South-south Nigeria
	Family	Adolescents	Nigeria
	Living arrangement	Younger adolescents	Sub -Sahara Africa
	School	Older adolescents	Africa
	Peer pressure	Use	West Africa
	Source of sexuality information	Services	
	Socioeconomic status		
	Awareness		
	Knowledge		
	Perceived risks		
	Clinic opening hours		
	Waiting time		
	Cost of services		
	Counselling		
	Confidentiality/		
	HIV/AIDS		
	Unintended pregnancies		
	Fear of side effects		
	Partner communication		
	Partner support		
	Parents		
	Privacy		
	Physical distance		
	Availability		
	Strategies		
	Interventions		
	Evidence		
	Systematic reviews		
	Evident-informed		



9.2 **Annexe 2.** Map of Nigeria showing the different Geopolitical zones and States

Source:https://openi.nlm.nih.gov/detailedresult?img=PMC4603956_pone.0140021.g001&req=4 2015