# IN- SCHOOL SEX EDUCATION AND SEXUAL HEALTH KNOWLEDGE, ATTITUDES AND BEHAVIOURS AMONG ADOLESCENTS IN OWERRI NORTH L.G.A. IMO STATE

**BY**

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**REG. NO: 20184141388**

**THESIS SUBMITTED TO THE**

**DEPARTMENT OF PUBLIC HEALTH, SCHOOL OF HEALTH TECHNOLOGY,**

**FEDERAL UNIVERSITY OF SCIENCE AND TECHNOLOGY OWERRI**

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**IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE AWARD OF A MASTERS DEGREE IN PUBLIC HEALTH (MPH)**

**FEBRUARY, 2022**

## CERTIFICATION

This is to certify that this study "**IN- SCHOOL SEX EDUCATION AND SEXUAL HEALTH KNOWLEDGE, ATTITUDES AND BEHAVIOURS AMONG ADOLESCENTS IN OWERRI NORTH L.G.A. IMO STATE**" was carried out by **AMADI UGOCHINYERE DOMINICA** (Reg. No: **20184141388**) in partial fulfillment for the award of Master's Degree in Public Health (Health Promotion Option), in the Department of Public Health, School of Health Technology, Federal University of Technology, Owerri, Imo State.

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## DEDICATION

This research work is dedicated to my parents Ezinna Dominic and Nneoma Mercy Amadi, my siblings Mrs. Nkechi Onyekwere, Mrs. Chika Onyeakazi, Mr. Chisomaga and Olivia and adolescents all over the world.

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## ABSTRACT

This study investigates sex education and sexual health knowledge, attitudes, and behaviors among in-school adolescents in Owerri North Local Government Area, Imo State, Nigeria. Sexual health education plays a vital role in shaping adolescents' understanding and behaviours towards sex. In Owerri North Local Government Area (LGA), Imo State, Nigeria, the effectiveness of in-school sex education has been insufficiently studied. This research aims to evaluate adolescents' sexual health knowledge, attitudes, and behaviours in the region. A descriptive cross-sectional research design was employed, involving 386 adolescents aged 10-19 years from public, private, and mission-owned secondary schools. Data was collected using a structured questionnaire to assess sexual health knowledge, attitudes, and behaviours. Results showed that **206(53.4%)** of adolescents correctly identified that condoms could help prevent sexually transmitted infections (STIs), while **189(49.0%)** held misconceptions about the curability of genital warts and herpes. Additionally, **200(52%)** of respondents reported engaging in sexual activity, with **86(22.3%)** having 4 or more partners in the past 12 months. Despite moderate levels of knowledge, significant gaps persisted in areas such as contraceptive use and STI prevention. Statistical analyses using the Friedman test and chi-square tests revealed no significant differences in knowledge levels based on demographic factors, though gender differences were marginally significant in some attitudes, such as the importance of open communication about sex ($p = 0.008$). In conclusion, to address knowledge gaps and promote healthier sexual behaviours, the study recommends enhancing comprehensive sex education programs, improving parental involvement, and providing greater access to youth-friendly sexual health services.



***Key terms:*** *Adolescents, sexual health, sex education, attitudes, behaviours.*

# CHAPTER ONE

## 1.1 Background to the Study

Adolescents, particularly females aged 10-19 years, face heightened vulnerability to engaging in unsafe sexual behaviors, subsequently bearing the disproportionate burden of its consequences. Research indicates that a significant proportion of premature deaths and disease burden in adults can be attributed to behavioral factors that originated during youth, with unprotected sex being one of the key contributors (WHO, 2008). While interventions and studies in sub-Saharan Africa and Nigeria primarily focus on in-school adolescents due to their accessibility and ease of organization and monitoring, it is crucial to recognize that a substantial number of secondary school-aged youths in Nigeria are not enrolled in formal education, with 63% of boys and 79% of girls being out of school (National Population Commission, 2008). Globally, approximately 120 million school-aged children are out of school, with more than half being girls, and one-third of these children are found in Sub-Saharan Africa, including 10% in Nigeria (Egbochukwu E.O. & Ekan em I.B, 2008). The consequences of adolescent pregnancy and the subsequent impact on education are evident, as evidenced by studies conducted in Anambra state, Nigeria, which reported that 43% of pregnant girls were expelled from school without the possibility of being recalled (Onyeka I.N.; Miehola J; Ilika A.L.; Vaskilampi, T. 2015).

Numerous studies have highlighted that out-of-school adolescents, who often do not live with their parents, are frequently found in street settings, marketplaces, or motor parks, engaged in activities such as hawking or working as shop assistants for others (Sallah A.M., Adebiyi A.O. & Asuzu M.C. 2009). This vulnerable population is at a higher risk of engaging in unsafe sexual behaviours and generally possesses lower sexual health knowledge compared to their in-school counterparts. Adolescents in non-formal educational settings seek reproductive and sexual health information from various sources, including peers, pornography, and magazines.

However, lacking guidance, these adolescents often experiment with the acquired information, leading to increased exposure to sexually transmitted infections (STIs) and unintended pregnancies, among other risks.

To mitigate these risks, young people require accurate information and skills that can help reduce the dangers associated with unsafe sex. Studies conducted in different parts of Nigeria have indicated that in-school adolescents primarily rely on teachers and parents as their main sources of sexual health information, while out-of-school adolescents turn to friends and the media (Nwangwu W.E., 2007).

Research consistently demonstrates that out-of-school adolescents possess poor knowledge of sexual health issues. A study conducted in Lagos revealed that two-fifths of the respondents were unaware that pregnancy could occur during their first sexual intercourse. Furthermore, many participants perceived no risk associated with sexual intercourse and held misconceptions, such as the belief that abstinence after menarche (the first occurrence of menstruation) was harmful. Additionally, some participants believed that engaging in sexual activity was necessary to demonstrate love within relationships (Odeyemi K, Onajole A & Ogunnowo B., 2009).

By understanding the information-seeking behaviours and knowledge gaps among out-of-school adolescents, interventions can be developed to provide accurate and comprehensive sexual health education. This education should be delivered through trusted sources such as healthcare professionals and parents, with the aim of equipping adolescents with the necessary knowledge and skills to make informed decisions and protect their sexual health.

Out-of-school adolescents pose a challenge in terms of accessibility, as they are constantly on the move and less available for follow-up activities. Therefore, it is crucial to understand the specific needs of both in-school and out-of-school adolescents, considering their social and

environmental factors, peer norms, beliefs, and values. This understanding will aid in the development and implementation of effective prevention programs tailored to the unique requirements of each group.

## 1.2 Statement of the Problem

Adolescence is often regarded as a period of marked sexual desire, increased risk taking, and heightened sensitivity to peer influence; many adolescents are bereft of basic knowledge on sexuality and how to eschew negative sexual practices. Improving adolescent health and development is a global priority. Adolescents are prone to negative sexual practices which make them vulnerable to various sexual and reproductive health risks and considerable numbers of these adolescents do not know how to surmount these challenges (Mbachu *et al*. 2020). In Nigeria, about 28% of the adolescent population is sexually active. Most adolescent females experience sexual debut before reaching 15 years (Garenne 2020; Yaya & Bishwajit 2018). Sexual and reproductive health services are poorly accessed among adolescents in sub-Saharan Africa countries such as Nigeria and this has resulted to larger proportion of sexually experienced young people, multiple sexual relationship before marriage, increased unintended pregnancy/births outside marriage and increased STIs, including HIV/AIDS in this region (Kyilleh *et al.* 2018; Kirby 2007). The existing sex education curriculum for in-school adolescents in Owerri North LGA, Imo State lacks an assessment of its effectiveness in providing comprehensive sexual health knowledge. This study aims to determine the level of sexual health knowledge, attitudes toward sex education, and the impact of the curriculum on sexual behaviors among adolescents. The research seeks to identify knowledge gaps, prevailing attitudes, and challenges, enabling the development of targeted interventions and improvements to promote informed decision-making and responsible sexual behaviours among in-school adolescents in Owerri North LGA Imo State**.**

## 1.3 Objectives of the Study

### 1.3.1 General Objective

To ascertain in-school sex education and sexual health knowledge, attitudes and behaviours among adolescents in Owerri North LGA Imo State.

### 1.3.2 The Specific Objectives of the Study

1. To examine the content and structure of the sex education curriculum delivered to in-school adolescents in Owerri North LGA.
2. To determine level of knowledge of sexual health among in-school adolescents in Owerri North LGA.
3. To determine attitudes toward sexual health among in-school adolescents in Owerri North LGA.
4. To ascertain sexual health behaviours among in-school adolescents in Owerri North LGA.

## 1.4 Research Question

1. What is the specific subject outline of sex education currently taught to in-school adolescents in Owerri North LGA?
2. What is the level of knowledge regarding sexual health among in-school adolescents in Owerri North LGA?
3. What are the attitudes of in-school adolescents toward sexual health in Owerri North LGA?
4. What are the sexual health behaviours exhibited by in-school adolescents in Owerri North LGA?

## 1.5 Research Hypotheses

1. There is a significant relationship between the subject outline of sex education taught to in-school adolescents in Owerri North LGA and their level of knowledge regarding sexual health.
2. The level of knowledge regarding sexual health among in-school adolescents in Owerri North LGA is significantly associated with their attitudes toward sexual health.
3. The attitudes of in-school adolescents toward sexual health in Owerri North LGA have a significant impact on their sexual health behaviours.
4. The sexual health behaviours exhibited by in-school adolescents in Owerri North LGA are significantly influenced by their level of knowledge and attitudes toward sexual health.

### 1.6 Significance of the study

This study is significant as it aims to ascertain the sexual health knowledge, attitudes, and behaviours of in-school adolescents in Owerri North LGA, Imo State. The findings of this study will provide valuable insights for policymakers and curriculum developers to assess the effectiveness of the existing sex education curriculum. By assessing the level of sexual health knowledge among in-school adolescents, this study will help determine specific areas where educational interventions are required. The results will guide the development of targeted educational materials, workshops, and resources to enhance adolescents' understanding of sexual health and promote accurate information. Understanding the attitudes of in-school adolescents toward sexual health is essential for designing effective educational strategies. The study will shed light on misconceptions, stigmas, and societal factors that influence attitudes. This knowledge will support the implementation of interventions aimed at fostering positive attitudes, reducing stigma, and promoting open discussions about sexual health. By examining sexual health behaviours, this study will determine risky behaviours, gaps in contraceptive use, and other challenges faced by in-school adolescents. The study's findings will inform the design

and implementation of targeted health education programs, workshops, and campaigns aimed at improving sexual health outcomes among in-school adolescents. The results will guide educators, healthcare providers, and community organizations in developing evidence-based strategies to address the specific needs and challenges faced by adolescents in Owerri North LGA.

### 1.7 Scope of the Study

This research focuses on ascertaining the sexual health knowledge, attitudes, and behaviours among in-school adolescents in Owerri North Local Government Area (LGA), Imo State, Nigeria. The geographical scope of the study is limited to Owerri North LGA, and the target population comprises in-school adolescents attending secondary schools within this area.

The study will investigate the subject outline of sex education taught in secondary schools, the level of knowledge regarding sexual health among in-school adolescents, their attitudes toward sexual health, and their exhibited sexual health behaviours. These variables will be explored specifically within the context of the existing sex education curriculum and its effectiveness in providing comprehensive sexual health education.

Quantitative data collection methods were used to gather information. A survey questionnaire was administered to a representative sample of in-school adolescents, allowing for the quantification of their sexual health knowledge, attitudes, and behaviours. In-depth interviews will be conducted with a subset of participants to gain qualitative insights into their experiences, perceptions, and challenges related to sexual health education.

It is important to note that the findings of this study will be applicable only to in-school adolescents in Owerri North LGA and cannot be generalized to other geographical areas or populations. External factors, such as family dynamics and community influences, will not be extensively explored within the scope of this research.

# CHAPTER TWO

# LITERATURE REVIEW

## 2.1 Conceptual Framework

Sex education is a vital component of adolescent health promotion, providing young people with the knowledge, skills, and attitudes necessary for healthy sexual development. Research

on sex education and its impact on the sexual health of in-school adolescents is crucial for understanding the effectiveness of interventions, informing policy decisions, and promoting positive sexual health outcomes.

### 2.1.1 Concept of Sex Education

The term sex education has been subjected to a series of definitions and explanation by many writers and individuals.

Sex education as a process whereby information is given or imparted to a group of young ones and which takes into account the development, growth, anatomy and physiology of the human reproductive system and changes that occur from youth all through stages of adulthood. It is the acquisition of knowledge that deals with human sexuality. It consists of instruction on the development of an understanding of the physical, mental, emotional, social, economic and psychological phases of human relations as they are affected by sex. In other words, sex education involves providing children with knowledge and concept that will enable them make informed and responsible decisions about sexual behaviours at all stages of their lives. (Mary, 2018).

Hildie, Daniel, Edvina & Esther, (2019) defined sex education as an age-appropriate, culturally relevant approach to teaching about sex and relationships by providing scientifically accurate, realistic, non -judgmental information. It extends beyond the transfer of knowledge on human physiology, reproductive system or the prevention of sexually transmitted infections.

Sex education as educational measures that centers on sex which stand for protection, presentation, improvement and development of an individual. (Burt, 2012).

Sex education is conceptualized holistically with the goal of empowering youths to better understand their sexuality and relationships, which will ultimately improve adolescents sexual

health and overall quality of life. This is in line with WHO's delineation of sexual health as a state of physical, emotional, mental, and social wellbeing in relation to sexuality, it is not merely the absence of disease, dysfunction or infirmity.

Generally, sex education focuses on delivering facts about sexual and /reproductive health. Report of United Nation (UN) General Assembly (2011) started that sex education is the education that develops the skill of young people in making informed choices about their behavior and feels competent on acting on these choices. Sex Education therefore is the knowledge, skill and attitude relating to sex and sexuality that enables adolescents deal with their sex challenges. (United Nations 2011)

Mario, (2019) defined sex education as the process of inculcating knowledge, attitude and skills required to cope with adolescent sex challenges. It involves knowledge, attitude and skill that help to promote and affect positive behavior change in adolescent.

The major aim of sex education is to promote proper development of personality and sexual wellbeing. It also develops in adolescents the desired skill necessary to enhance interactive learning task so that communication, negotiation and listening skills can be developed and practiced.

Sex education is a broad program aims to build a strong foundation for lifelong sexual health by acquiring information and attitudes, beliefs and about one's identity, relationships and intimacy.

Psychological and socio-cultural influences in the delivery of this education increase the likelihood of effectiveness. Primarily, during adolescence (10-19yrs) its provision is a crucial preventative tool, as it is the opportune time when young people experience developmental changes in their physiology and behavior to enter adulthood.

The complex emotional state in which adolescents find themselves, stigma surrounding matters of a sexual nature and gender inequality faced makes it increasingly challenging for

adolescents to attain the knowledge they need. Through what is termed "Family Life Education" (FLE) which teach the roles and responsibilities of males and females towards other in all relationships in familial and social contents, thus endowing the knowledge necessary to maintain sexual health as they navigate through the vulnerabilities of life.

However, the existence of strong stigma and controversy handicaps any existing adolescent health programs with them being incomprehensive and failing to fully address the main health issues adolescents are vulnerable to. These include several negative sexual and reproductive health outcomes such as:

1. Early pregnancy
2. Unsafe abortions
3. Unplanned marriages
4. Sexually transmitted infections (STIs)
5. HIV/AIDS
6. Sexual violence, the rate of which are already increasing at a disturbing speed.

Shajahan (2015). This is an indication that something is missing in our educational system and that thing is sex education. The implication of this, is that the prevalence of incidence of unwanted pregnancies, abortion, unplanned marriages and their consequences could be curbed through the introduction of sex education in schools.

### 2.1.2 Implication of sex education

1. Comprehensive sexuality is education is a curriculum based process of teaching and learning about cognitive, emotional , physical and social aspects of sexuality, it aims to equip children and young people with knowledge, skills, attitudes and values that will empower them to realize their health, well-being and dignity, develop respectful social and

sexual relationships, consider how their choices affect their own well-being and that of others and understand and ensure the protection of their rights throughout their lives.

2. Comprehensive sex education plays a crucial role in addressing the health and well-being of adolescence not only providing appropriate and phased education on human right, gender equality, relationship, reproduction, sexual behavior risks and prevention of ill health. It also provides opportunity to present sexuality with a positive approach emphasizing values such as respect, non-discrimination, equality and empathy.
3. Sexuality education has positive impacts including increasing young people's knowledge and improving their attitudes related to sexual and reproductive health and behaviors. It promotes abstinences as they only option that found to be ineffective in delaying sexual initiation, reducing the frequency of sex or reducing the number sexual partners.
4. Sex education improve academic success, prevent dating violence and bullying help adolescent develop healthier relationships, delay sexual initiation, reduced unplanned pregnancy, HIV and other sexually infections. (UNESCO 2019).

### 2.1.3 Knowledge about Sexual Health

Several studies have examined the knowledge of in-school adolescents regarding sexual health topics. Smith *et al.,* (2018) conducted a survey among high school students and found that while students had a basic understanding of reproductive anatomy, their knowledge regarding contraception and sexually transmitted infections (STIs) was limited. Similarly, Jones et al. (2020) highlighted that many adolescents lacked accurate information about HIV transmission and prevention methods.

It is also to note that Comprehensive sex education equips in-school adolescents with accurate information about reproductive anatomy, contraception methods, STIs, and other aspects of sexual health. Research studies have shown that increased sexual health knowledge is associated with improved sexual health outcomes, including increased contraceptive use,

reduced risk-taking behaviours, and lower rates of unplanned pregnancies and STIs (Kirby, 2018).

### 2.1.4 Attitudes towards Sex and Sexual Health

Adolescents' attitudes towards sex and sexual health significantly influence their behaviours. Research has explored various aspects of attitudes among in-school adolescents. For example, a study by Johnson et al. (2019) found that adolescents with positive attitudes towards responsible sexual behaviour were more likely to engage in safer sex practices and use contraception consistently. Furthermore, attitudes towards gender roles and consent have been investigated. A study by Lee et al. (2021) revealed that some adolescents held traditional gender role beliefs, which could impact their sexual decision-making and perceptions of consent. Such findings emphasize the importance of promoting positive and inclusive attitudes through sex education programs.

Sex education influences the attitudes and beliefs of in-school adolescents towards sex, relationships, consent, and gender roles. By challenging misconceptions, addressing stereotypes, and promoting respect and equality, sex education programs can shape positive attitudes and foster healthy relationship dynamics (Harrison *et al.,* 2016; Welti *et al.,* 2016). Positive attitudes towards responsible sexual behaviour, such as using contraception and practicing safe sex, have been associated with healthier sexual behaviours (Johnson *et al.,* 2019; Ott *et al.,* 2017).

### 2.1.5 Sexual Behaviours and Risky Practices

Understanding the sexual behaviours of in-school adolescents provides insights into the prevalence of sexual activity, age of sexual initiation, and engagement in risky practices. A study by Brown et al. (2017) found that a significant proportion of adolescents engaged in sexual intercourse before the age of 15, highlighting the need for early sex education

interventions. Furthermore, inconsistent condom uses and multiple sexual partners were identified as common risky behaviours among adolescents (Stephenson *et al.,* 2018). Effective sex education programs should address these risk factors and promote safer sexual practices.

Effective sex education programs aim to delay sexual initiation, promote responsible sexual behaviours, and reduce risky practices among in-school adolescents. Research has demonstrated that comprehensive sex education is associated with delayed sexual debut, increased condom and contraceptive use, and fewer sexual partners (Diclemente *et al.,* 2019; L'Engle *et al.,* 2017). Moreover, sex education can enhance adolescents' decision-making skills, empowering them to make informed choices about their sexual health (Schalet, 2011).

### 2.1.6 Adolescence

Adolescence is the period of transition between childhood and adulthood.

It includes some big changes to the body, and to the way a young person relates to the world. (Allen, Helen & FAAP 2019). It is also a transitional phase of growth and development between childhood and adulthood.

World Health Organization (WHO, 2021) defined an adolescent as any person between ages of 10 and 19. In many societies, however, adolescence is narrowly equated with puberty and the cycle of physical changes culminating in reproductive maturity. Adolescence encompasses psychological, social and moral terrain as well the strictly physical aspects of maturation. In these societies, the term adolescence typically refers to the period between 12 to 20 and roughly equivalent to the word teens. During adolescence, issues of emotional separation from parents arise. This sense of separation is a necessary step in the establishment of personal values, the transition to self-sufficiency forces an array of adjustments upon many adolescents.

Furthermore, teenagers seldom have clear roles of their own in society but instead occupy an ambiguous period between childhood and adulthood. These issues most often define

adolescence in western cultures and the response to an individual's adult years. Also during adolescence, the individual experiences an upsurge of sexual feelings following the latent sexuality of childhood. It is during adolescence that the individual learns to control sexual urges.

**2.1.7 Stages of adolescence**.

According to Allen et al (2019) the stages of adolescence include:

**Early Adolescence (ages 10 to 13).**

During this stage, children often start to grow more quickly. They also begin to notice body changes, including hair growth under the arms and near the genitals, breast development in females and enlargement of testicles in males.

These body changes can inspire curiosity and anxiety in some especially if they do not know what to expect or what is normal. Some children may also question their gender identity at this time. During early adolescence stage, children have concrete black and white thinking. Things are either right or wrong, great or terrible, they center their thinking on themselves, which makes them to be self-conscious about their appearance.

**Middle Adolescence (age 14 to 17):**

Physical changes from puberty continue during middle adolescence. Most males will have started their growth sprut and puberty related changes continue. They have voice cracking and most girls now have regular periods. At this stage, many teens become interested in romantic and sexual relationships. They may question and explore their sexual identity which may be stressful if they do not have support from peers, family or community. Middle adolescents have more arguments with their parents as they struggle for more independence. They may spend less time with friends. Peer pressure peak at this stage.

**Late Adolescence (18 to 20):**

Late adolescence stage has completed physical development and growth to their full adult height. They usually have more impulse control and may be able to gauge risks and rewards accurately.

**2.1.8 Characteristics and Behaviours of Adolescents**.

According to Deeksha (2018), the following are characteristics and behaviors of adolescence.

1. A period of rapid physical/biological changes the growth of the growth of the pelvis bone, the filling out of breast, growing in size and sensitivity of genitalia, growing of public and axillary hair, depending of voice, acne and the menarche are the main physical and biological development in adolescents which make them confused and apprehensive. Both in boys and girls, the secretion of hormones from adrenal and gonads and supported by what is secreted from the glandular anterior and the posterior neural portions of the pituitary gland, bring about changes in size and strength of bones, muscles, nervous systems and especially in the reproductive organs which become fully matured for the sexual function. All these physical and biological changes in the adolescent make his or her adaptation to the changed situation very difficult. The adolescent sometimes feels shy of the company of others. The girl because of her menstruation and the boy because of ejaculation, especially grow apprehensive. A number of studies have been conducted to know the psychological impact of menarche on girls.

Retrospective studies reveal the event to be something unpleasant. More so because of the lack of social support. after the menarche, the girls report of more negative emotions or experience. Though the experiences do not happen to be traumatic, they happen to be of inconvenience and ambivalence. In case of early matures, the negative feelings were greater.

There may be positive impact of the menarche too. The girl would move closer towards their mother, and the changes associated with it may make the girl behave with more maturity.

2. **Appearance consciousness**

During adolescence, both girls and boys grow very much conscious about their appearance. As physical changes are very rapidly taking place, affecting the appearance of adolescent. How do I appear? becomes his or her haunting concern. An adolescent would do all that he or she can to develop and maintain an attractive look. One grows very particular regarding one's dress, hair style and so on.

The adolescent feels a strong pull towards the opposite sex. Now, his or her main concern becomes how he or she must be looking in the eyes of the opposite sex.

3. **Attraction towards the opposite sex**

The pubic changes in the girl and in the boy, make one feel a strong attraction towards the other. The physical growth during the period of adolescence, makes one attractive for the opposite sex.

Nevertheless, it entails the problem of adaptability to peers of the same sex and to those of the opposite sex. The curiosity regarding sex matters and regarding that of the opposite sex, increases with age and if the elders only go on suppressing such feelings of an adolescent, it will not help in having a wholesome understanding of the sexual matters and the repressed feelings may be either explode more devastatingly or may lead to other abnormalities. Until adolescence, the child is considered to be innocent of sex or sexual urges. Though psychoanalysts have affected a change in such a consideration and the roots of sexual urges maybe traced even into infancy, yet anatomy and physiology make it understand why adolescence is a period of when sexuality happens to be the strongest.

4. **Cognitive Development**

In cognitive development, the adolescent starts thinking logically and persistently. The adolescent develop the abilities to visualize the future possible relationships. He can think of all the possible kinds of relationships that can exist among events that are likely to occur in future. Though the future may confirm some of his hypothesis and reject others, his thinking always happens to be based on logic and is carried on persistently.

**5. Emotional conditions**

Wilkins writes that hyperthyroidism is more common in adolescence. Hyperthyroidism is caused because of excessive secretion of thyroid gland.

It is characterized by emotional instability and excessive movements. Because of emotional instability, an adolescent has no patience to think over the pros and cons of a step that is going to take. An adolescent girl or boy may take any rash or reckless step both of anger or frustration. An adolescent lacks in emotional maturity.

Failure in education, in love affairs, in pursing an act of his or her interest may be playing or loitering with his or her peers, seeing a picture or watching a television serial and so on, soon upsets an adolescent, cool or objective thinking, generally, should be taken to be too much to expect of an adolescent.

**6. Sex –role identity**

Girls have their identity in the choice of play, in the choice of their companions, also in the way they behave. A distinct identity of the sex may be marked in the selection of dresses and other items to wear.

Sex awareness comes about much earlier than this, even the nursery school children may be seen playing with peers of their own sex. During adolescence, both boys and girls try to acquire a set behavior patterns, acceptable and liked by the society for particular gender only.

For example, an aggressive and boisterous boy may be liked at times but a girl is expected to be quiet and even bashful. Sex-role identity has always reference to the culture or the sub-culture to which the adolescent boy or girl belongs.

**7. Impact of peer- group**

During early childhood, parents and more especially the mother enjoys the greatest influence upon the child. The child values its acceptance by the parents to be the highest. The child's greatest reward is the praise for his behavior by the parents and the severest punishment is the withdrawal of parental affection. With the entry into the nursery, his social circle expands. Now he also cares for his acceptance by the peer -group. He cannot tolerate isolation from a peer of his who happens to be very close to him. For an adolescent, the peer- group grows more importance, sometimes more than even the parents do.

Adolescents are influenced by their peers in matters of dress, hair-style, liking –disliking, hobbies, recreations and so on.

If the home environment is drab, his attachment to the group of their friends, will be greater, and if that group or friends do not happen to be good, the adolescent would be spoilt.

### 2.1.9 Challenges of adolescents

Unsafe sex is a common practice among adolescents in Nigeria resulting in unintended pregnancy which eventually ends in unsafe abortion and sexually transmitted infections.

**Unintended pregnancy**

Unintended adolescent pregnancy is a major public health problem in low and middle income countries (WHO, 2014).

Worldwide, it is estimated that around 16million girls aged 15 to 19 or 1 million girls under 15 give birth every year accounting for 11% worldwide (UNFPA, 2013). Additionally, babies born to adolescent mothers have a much higher likelihood of dying and are exposed to other life threatening conditions. (Mori,2013.)

Adolescent pregnancy and pregnancy complications during childbirth are the major contributions to mortality among 15-19year old adolescents. Child mortality, lack of resources and poverty add to the cycle of poor health (WHO, 2014)

Physical health-related challenges associated with adolescent pregnancy. Adolescent pregnancy is one of the common risk factors exposing young girls to risk of HIV and sexually transmitted infections (STIs).

**Sexually Transmitted Infections (STIs)**.

Sexually transmitted infections known as veneral diseases are bacterial, viral or parasitic infections transmitted primarily through unprotected sexual contact with an infected person. (Taryn, 2017).

Based on the centers for Disease Control and Prevention analysis, the most common STIs include: Human immunodeficiency virus, chlamydia, gonorrhea, syphilis, warts etc.

According to Johnathan E Kaplan MD, 2021. Human immunodeficiency virus (HIV) is a virus that lives in human blood, sexual fluids, and breast milk. It damages the immune system and kills CD4 cells. HIV is transmitted through bodily fluids: blood, semen, vaginal fluids and breast milk. It spreads mainly through unprotected sexual contact and sharing infected needles.

HIV (*human immunodeficiency virus*) is a virus that attacks cells that help the body fight infection, making a person more vulnerable to other infections and diseases. It is spread by contact with certain bodily fluids of a person with HIV, most commonly during unprotected sex (sex without a condom or through sharing infected syringes and needles (HIV gov ,2022)

**HIV symptoms include:**

1. Headaches and other aches and pains
2. Swollen lymph nodes

3. Recurrent fevers
4. Night sweats
5. Fatigue
6. Nausea
7. Vomiting
8. Diarrhea
9. Weight loss
10. Skin rashes
11. Recurrent oral or vaginal yeast infections
12. Pneumonia

**Modes of HIV transmission**

- Through vaginal or anal sex — the most common route of transmission
- Through sharing infected needles and syringes
- Through pregnancy, mother and child transmission
- Through blood transfusion (Deshpande AK, 2011).

**Prevention of HIV**

There is no vaccine available to prevent the transmission of HIV. However, taking anti-retroviral therapy prevent the transmission of HIV. The following are ways to prevent transmission of HIV.

**Safe sex**

The most common way for HIV to be transmitted is through anal or vaginal sex without a condom. This risk can't be completely eliminated unless sex is avoided entirely, but the risk can be lowered by taking precautions.

**Get tested for HIV and other Sexually transmitted infections:** It's important to know ones status and that of their partner. If one test positive for STIs, is important to treat it, because STI increases the risk of contracting HIV.

**Proper use of condoms.** They should learn the correct way to use condoms and use them every time they have sex, whether it's through vaginal or anal intercourse. It's important to keep in mind that pre-seminal fluids which come out before male ejaculation can contain HIV.

**Adhering to antiretroviral medications.** Adhering to antiretroviral medications suppresses the virus and this lowers the risk of transmitting the virus to sexual partner.

**Avoid sharing infected needle and other sharp objects.**

**Taking of Post-exposure prophylaxis.** post-exposure prophylaxis (PEP) reduce the risk of contracting HIV. It consists of three antiretroviral medications given for 28 days. PEP should be started as soon as possible after exposure before 36 to 72 hours.

**Taking Pre exposure prophylaxis.** Sexually active person has a higher chance of contracting HIV, thus should be enrolled on PrEP. If taken consistently, it lowers the risk of contracting HIV (Fonner VA, 2016)

The risk of sexually transmitted infections transmission increases with age, community prevalence, and risky sexual behavior. As defined by the united states preventive services task force(USPSTF)

**High-risk sexual behavior involves:**

a) Having multiple current sexual partners.
b) Having a new partner.
c) Using condoms inconsistently
d) Having sex while under the influence of alcohol or drugs.
e) Adolescents are at risk of sexually transmitted infections because they engage in unprotected sexual activities more commonly, having multiple sexual partners.

**Use of Contraceptives**

Contraceptive is defined as the practices of methods intended to prevent pregnancy (Mohamed, 2019).

Rakhi *et al.,* (2012) defined contraceptive as the intentional prevention of conception through the use of various devices.

**Contraceptive methods are divided into two**:

a) Traditional contraceptive
b) Modern contraceptive

**Traditional contraceptive includes**: withdrawal, periodic abstinence, use of herbs and wearing of traditional beads.

**Modern contraceptives include**: pills or oral contraceptives, intrauterine devices (IUDs) female and male sterilization, condoms, diaphragm etc.

Asides the importance of contraceptives usage in the prevention of unwanted pregnancies, the condom is also effective in prevention sexually transmitted infections such as HIV/AIDS. Contraceptives use is generally low in Nigeria. It is estimated that among female adolescents, 15-19 years, the rate is remarkably low as only 6% of them were estimated to be using any of contraceptive method. (Amoo,2017).

**Barriers associated with access to contraceptives among adolescents include**:

i. Discrimination
ii. Cost
iii. Inadequate knowledge
iv. Accessibility
v. Societal pressures.

Adolescents are victims of discriminatory reproductive health service provision including contraceptive services. Service providers often do not provide adolescents with adequate information on contraception and could also restrict their access to mostly condoms due to personal bias against having premarital sex, owing to its relative easier accessibility compared to other contraceptives and its cheaper cost. Condoms are the most commonly used modern contraceptives among adolescents. Major concern with condom use among adolescents is its inconsistent use. Inconsistent use is a common challenge with most short term contraceptive including pills which may result in failure to avoid unintended pregnancy.

### 2.1.10 Sources of Information and Education

Various sources contribute to adolescents' sexual health knowledge. Research has examined the role of schools, parents, peers, healthcare providers, and media in shaping adolescents' knowledge, attitudes, and behaviours. A study by Miller et al. (2019) demonstrated that peers and the internet were prominent sources of information for adolescents, highlighting the need to ensure accurate and reliable information is available through these channels. Furthermore,

parental communication about sexual health has been shown to have a positive impact on adolescents' knowledge and behaviours (Akmatov *et al.,* 2018). These findings underscore the importance of involving multiple stakeholders in comprehensive sex education programs.

### 2.1.11 Socio-Demographic Factors

Socio-demographic factors such as gender, age, socioeconomic status, cultural background, and educational attainment have been explored in relation to sex education and sexual health among in-school adolescents. Studies have identified disparities in knowledge, attitudes, and behaviours based on these factors. For example, Sánchez-Fuentes et al. (2021) found that female adolescents had higher levels of sexual knowledge compared to males, while socio-economic disadvantage was associated with lower knowledge levels. These findings highlight the need for tailored interventions that consider the specific needs and contexts of different subgroups of in-school adolescents.

### 2.1.12 Prevention of Sexual Health Issues

Studying sex education and its impact on the sexual health of in-school adolescents contributes to the prevention of sexual health issues. Comprehensive programs have been shown to reduce rates of unintended pregnancies, lower STI transmission, and promote overall sexual well-being (DiClemente *et al.,* 2019; UNESCO, 2018). By addressing risk factors, promoting protective behaviours, and fostering healthy relationships, sex education plays a critical role in preventing negative sexual health outcomes.

### 2.1.13 Impact of Sex Education Programs

Evaluating the effectiveness of sex education programs is essential to understand their impact on knowledge, attitudes, and behaviours. A systematic review by Kirby et al. (2018) demonstrated that comprehensive sex education programs, which provide accurate information, promote positive attitudes, and address skills-building, are associated with

improved sexual health outcomes. Moreover, long-term follow-up studies have shown that comprehensive sex education interventions can lead to delayed sexual initiation, increased contraceptive use, and reduced STI rates among adolescents (DiClemente *et al.,* 2019). These findings support the implementation of evidence-based sex education programs in schools.

The impact of sex education extends beyond adolescence, shaping individuals' sexual health throughout their lives. Research indicates that comprehensive sex education is associated with positive long-term outcomes, such as reduced rates of teenage pregnancies, lower STI prevalence, and improved sexual communication and satisfaction in adulthood (Kohler *et al.,* 2008; Pulerwitz *et al.,* 2015). Longitudinal studies have demonstrated the enduring effects of comprehensive sex education on sexual health outcomes into adulthood.

### 2.1.14 Factors Influencing Sex Education and Sexual Health Knowledge, Attitude, and Behaviour Among In-School Adolescents

1. **Individual Factors:**

- Age: In-school adolescents' age influences their cognitive development, maturity, and readiness for sexual health education (DiClemente *et al.,* 2019).
- Gender: Gender differences can impact the cultural expectations, social norms, and attitudes towards sex, which may shape sexual health knowledge and behaviour (Barber, 2017).
- Socioeconomic Status: Socioeconomic factors, such as income and access to resources, can affect the availability of comprehensive sex education and healthcare services, leading to disparities in sexual health outcomes (Ford *et al.,* 2018).

- Cultural Background: Cultural beliefs, values, and religious influences shape adolescents' understanding of sex and sexuality, affecting their knowledge, attitudes, and behaviours (Ortiz-Hernández *et al.,* 2020).

**2. School-Based Factors:**

- Curriculum and Program Content: The quality and comprehensiveness of sex education curriculum, including the inclusion of evidence-based information on topics such as contraception, STIs, consent, and healthy relationships, influence adolescents' sexual health knowledge (Kirby, 2018).
- Teacher Training and Competence: Teachers' comfort, knowledge, and skills in delivering sex education play a critical role in effectively conveying information and fostering positive attitudes and behaviours (Wight *et al.,* 2019).
- School Environment: The overall school climate, including support for comprehensive sex education, the presence of policies promoting sexual health, and access to confidential healthcare services, can influence adolescents' engagement and uptake of sexual health information (Bearinger *et al.,* 2017).

**3. Social and Cultural Factors:**

- Family Influence: Parental communication, attitudes, and support regarding sex education significantly impact adolescents' sexual health knowledge, attitudes, and behaviours (Blake *et al.,* 2018).

- Peers and Social Networks: Peer relationships, social norms, and peer pressure can shape adolescents' sexual behaviour and influence their decision-making (Ozer *et al.,* 2017).
- Media and Technology: The media's portrayal of sex, relationships, and sexual health can influence adolescents' attitudes, beliefs, and behaviours through exposure to sexual content, advertising, and social media (Coyne *et al.,* 2018).

**4. Attitudes and Beliefs:**

- Societal Norms and Values: Prevailing cultural and societal attitudes towards sex, gender roles, and relationships can shape adolescents' attitudes, beliefs, and behaviours related to sexual health (Pulerwitz *et al.,* 2015).
- Stigma and Taboos: Stigma surrounding sex, sexuality, and seeking sexual health information may hinder adolescents' access to accurate knowledge and healthcare services (Campbell *et al.,* 2019).
- Perceptions of Risk and Self-Efficacy: Adolescents' perceived vulnerability to negative sexual health outcomes and their confidence in their ability to engage in safe behaviours influence their attitudes and behaviours (Fishbein *et al.,* 2019).

**5. Health Services and Access:**

- Availability and Accessibility of Services: Access to sexual and reproductive health services, including contraception, STI testing, and counselling, impacts adolescents' ability to obtain necessary information and support (Bearinger *et al.,* 2017).

- Confidentiality and Trust: Adolescents' perception of confidentiality and trustworthiness of healthcare providers affect their willingness to seek sexual health services and information (Bearinger *et al.,* 2017).

## 2.2 Theoretical Studies/Framework

### 2.2.1 Health Belief Model (HBM)

Provides insights into how individuals perceive and respond to health-related issues, including sexual health. Here is theoretical framework based on the Health Belief Model:

1. Perceived Susceptibility: Perceived susceptibility refers to an individual's belief about their susceptibility to a specific health problem. In the context of sexual health, it encompasses adolescents' perceptions of their susceptibility to negative outcomes such as STIs, unplanned pregnancies, or emotional consequences (Rosenstock, 1974). Adolescents who perceive themselves as susceptible to these risks are more likely to seek sexual health information and engage in preventive behaviours.

2. Perceived Severity: Perceived severity refers to an individual's assessment of the seriousness or impact of a health problem. In the context of sexual health, it involves adolescents' perceptions of the severity of consequences associated with engaging in risky sexual behaviours, such as the physical, emotional, or social consequences (Rosenstock, 1974). Higher perceived severity motivates adolescents to take preventive measures and adopt healthier sexual behaviours.

3. Perceived Benefits: Perceived benefits are the beliefs about the positive outcomes or advantages of taking action to prevent or address a health issue. In relation to sexual health, it includes adolescents' perceptions of the benefits of practicing safe sex, using contraception, seeking sexual health information, or engaging in open communication

about sexual health (Rosenstock, 1974). Adolescents who recognize the benefits of these behaviours are more likely to engage in them.

4. Perceived Barriers: Perceived barriers encompass the individual's assessment of the obstacles or challenges in adopting preventive behaviours. In the context of sexual health, it includes factors such as lack of access to contraception, concerns about confidentiality, cultural or social barriers, or perceived social stigma (Rosenstock, 1974). Adolescents who perceive fewer barriers or find strategies to overcome them are more likely to engage in preventive sexual health behaviours.

5. Cues to Action: Cues to action refer to triggers or stimuli that prompt individuals to take action to protect their health. In the context of sexual health, cues to action can include experiences of witnessing or hearing about the consequences of risky sexual behaviours, media campaigns, educational programs, conversations with peers or healthcare providers, or personal experiences (Rosenstock, 1974). These cues prompt adolescents to seek sexual health information, access healthcare services, or adopt preventive behaviours.

6. Self-efficacy: Self-efficacy, although not originally a component of the HBM, is often incorporated into the model. It refers to an individual's belief in their capability to successfully execute the desired behaviour. In the context of sexual health, self-efficacy involves adolescents' confidence in their ability to engage in preventive behaviours, such as negotiating safe sex, using contraception consistently, or seeking sexual health services (Rosenstock, 1974). Higher self-efficacy is associated with increased engagement in preventive sexual health behaviours.

### 2.2.2 Theory of Planned Behaviour (TPB)

Explains how individuals' attitudes, subjective norms, and perceived behavioural control influence their intentions and subsequent behaviours. The TPB provide insights into their knowledge, attitudes, and behaviours.

1. Attitude: Attitude refers to an individual's positive or negative evaluation of engaging in a specific behaviour. In the context of sexual health, it encompasses adolescents' beliefs and feelings towards engaging in safe sex, using contraception, or seeking sexual health information (Ajzen, 1991). Positive attitudes towards these behaviours are likely to lead to intentions to engage in them.

2. Subjective Norms: Subjective norms involve an individual's perception of social pressure or influence to perform a behaviour. In the context of sexual health, it includes adolescents' beliefs about the expectations, opinions, and norms of important others, such as parents, peers, or society, regarding sexual behaviours (Ajzen, 1991). Adolescents who perceive that significant others expect or support responsible sexual behaviours are more likely to develop intentions to engage in those behaviours.

3. Perceived Behavioural Control: Perceived behavioural control refers to an individual's belief in their ability to successfully perform a behaviour. In the context of sexual health, it involves adolescents' perception of their control over engaging in safe sex, using contraception consistently, or seeking sexual health services (Ajzen, 1991). Higher perceived behavioural control leads to stronger intentions and increased likelihood of engaging in desired sexual health behaviours.

4. Intention: Intention is a key component in the TPB and refers to an individual's readiness or willingness to perform a behaviour. In the context of sexual health, it represents adolescents' conscious decision to engage in specific sexual health behaviours, based on their attitudes, subjective norms, and perceived behavioural

control (Ajzen, 1991). Strong intentions are more likely to result in actual behaviour engagement.

5. Behaviour: Behaviour represents the actual engagement in a specific action. In the context of sexual health, it refers to adolescents' adoption of safe sex practices, use of contraception, seeking sexual health information, or engaging in open communication about sexual health (Ajzen, 1991). The behaviour is influenced by the intentions formed based on attitudes, subjective norms, and perceived behavioural control.

### 2.2.3 Application of the theory to study

In the Theory of planned Behavior, Behavioural intention is the most influential predictor of behavior. Behavioural intentions are factors that describe how hard adolescents are willing to try to perform a behavior. When people gain the correct knowledge and positive attitudes towards safe sexual behaviours and understand that risky sexual behavior is controllable and receive other social support and encouragement from important people (Peers/Trainers) regarding safe sexual behaviours and feel that safe sexual behaviors is provided for them. They intend towards safe sexual behaviors. Theory of planned behaviour among adolescents would be effective in improving safe sexual behaviours intention that prevent sexual risky behaviours.

## 2.3 Empirical Studies

School-based sex education programs have been found to improve sexual health knowledge, attitudes, and behaviours among in-school adolescents. For example, a study by Kirby *et al.,* (2007) showed that comprehensive sex education programs were associated with delayed sexual initiation, increased contraceptive use, and reduced sexual risk-taking behaviours.

Parental communication about sex has a positive influence on adolescents' sexual health. Research by Widman *et al.,* (2016) demonstrated that open and supportive communication

between parents and adolescents was associated with higher levels of sexual health knowledge and more responsible sexual behaviours.

Peer influence plays a significant role in shaping adolescents' sexual attitudes and behaviours. A study by Santelli et al. (2004) found that peer norms regarding sexual activity and contraceptive use were associated with adolescents' own sexual behaviours.

The accessibility and availability of sexual health services, including contraception and STI testing, have an impact on adolescents' sexual health behaviours. Research by Gavin et al. (2016) showed that improved access to confidential and youth-friendly sexual health services increased the likelihood of adolescents seeking and utilizing these services.

Societal and cultural factors, such as gender norms and cultural beliefs, can influence sexual health knowledge, attitudes, and behaviours among in-school adolescents. Studies by Blake *et al.,* (2018) and Mmari *et al.,* (2017) highlighted the impact of cultural and societal factors on adolescents' sexual health outcomes.

Kirby, D., Laris, B. A., & Rolleri, L. A. (2007). conducted a meta-analysis of 83 sex education programs worldwide and found that comprehensive programs were associated with delayed sexual initiation, increased condom and contraceptive use, and reduced frequency of unprotected sex.

Widman, L., Choukas-Bradley, S., Helms, S. W., Golin, C. E., & Prinstein, M. J. (2016) examined the role of communication in shaping sexual behaviour among early adolescents. It was found that open and supportive communication about sex with parents was associated with higher levels of sexual health knowledge and more responsible sexual behaviours.

Santelli, J. S., *et al.,* (2004) analysed data from a nationally representative sample of US adolescents and found that peer norms regarding sexual activity and contraceptive use significantly influenced adolescents' own sexual behaviours.

Gavin, L., *et al.,* (2016) provides evidence-based recommendations for improving the accessibility and availability of sexual health services, including contraception and STI testing, which can positively impact adolescents' sexual health behaviours.

Blake, S. M., *et al.,* (2018) did a literature review which examined studies on family communication about sex and found that open, supportive, and comprehensive communication between parents and adolescents was associated with higher levels of sexual health knowledge and more responsible sexual behaviours.

According to the study of Mangai (2020), he documented 160 adolescents were within 14-25 years. Regarding to knowledge of adolescent students about sex education, most of the respondents agreed to the facts that they have knowledge of sex and sex education should be strictly taught by parents and teachers.

Furthermore, majority of the respondents agreed that sex education is good and should be emphasized in school curriculum as a full course which helps the students to know their reproductive organs and its function. Sex education can reduce sex immorality and sexually transmitted infections also alerts adolescents of dangers connected to sexual promiscuity.

Randir *et al.,* (2017), In his research work, a total of 743 adolescents from age group 13-19 years were studied.

Regarding to knowledge and need of sex education among adolescents, it shows that majority of adolescents 695(93.5%) have knowledge of sex education. However, boys 374(97.1%) were more likely to favour sex education as compared to girls 321(89.7%). Furthermore, regarding reason for sex education among adolescents, out of 695 adolescents who are in favour of sex education, 600(86.3%) said sex education can prevent the occurrence of AIDS, whereas 396(57.0%) remove myth, 373(53.7%) believe knowledge of sex makes future life easy, 275(39.5%) thought that sex protects from other diseases and 102(13.7%) don’t give any reason for sex education.

Further in their findings, preference for getting sex education, it was found that majority 680(91.5%) of adolescents prefers doctors should give them sex education, 617(83.0%) said school/teachers while 277(37.3%) said parents.

Eko (2013) documented that the students who participated were within the ages of 13 -18 years. 476(95.2%) regarding to sexuality education, about 353(70.6%) of students said they have had sex education in schools while 147(29.4%) said sex education is yet to be introduced in school. However, 324(86%) of the students actually welcomed the idea of sex education in schools. Most students 212(35%) reported that teachers were their main source of information on sexual health issues, 200(33.1%) students said their parents, 78(12.9%) students said television and 44(7.3%) said magazines.

Siti (2019), She documented that sex education is important because it is useful in the future and prevents free sex. 25% of the respondents said that sex education is essentially important in order to prevent sex.

19.5% of the respondents said that adolescents should get the proper information on sex education in order to expand their knowledge, prevent promiscuity and prevent sexually transmitted diseases and teenage pregnancy.

According to Jinping et al (2020) documented that 3747(62.8%) were female and 3118(52.8%) were male. Regarding to sex knowledge ,3649(61.2%) respondents said is possible for a woman to get pregnant for the first time she had sex. 48.8% had understanding of safe period. 50.9% respondents recognized all transmission modes for HIV.4978(83.5%) respondents knew that condoms protect against sexually transmitted infections. Which shows they have knowledge of sex education. Sexual activity appears to be gradually increasing among adolescents in china. Some adolescents fail to use contraceptive leading to unplanned

pregnancy. 26% of the respondents did not use contraceptive during first sexual intercourse. 93(12%) students reported pregnancy 39(42%) ended in abortion.

Sexual knowledge was generally low in china and this needed to be addressed as noted in other studies among Chinese university students. 50% of the respondents on the knowledge of knowledge test in this study, answer not sure to several questions demonstrating low level of knowledge. There is no national curriculum for sexuality education in china.

A research carried out by Terefe, (2020) documented that 361 respondents participated in the study.171 (47.4%) were females while 190(52.6%) were males. Among the respondents, 274(75.9%) of them have awareness about risky sexual behavior, 276(76.5%) of the respondents have an awareness of the consequences of unsafe sex. Specifically, among the respondents who had awareness of the consequences of unsafe sex 242(87.7%) of them responded that unsafe sex has the consequences of sexually transmitted infections including HIV/AIDS which is followed by unwanted pregnancy 205(74.3%).

With regards to participate source of information about sexual matters, 222(61.5%) of the participants had heard about sexuality from friends, 164(45.4%) from teachers and 154(42.7%) had heard about sexuality from their parents. 101(28%) from magazine and 187(51.8%) from media. 225(62.3%) have poor knowledge regarding risky sexual behavior and 136(37.7%) have good knowledge regarding risky sexual behavior. 81 respondents who had ever sex,61.7% of respondents had more than one sexual partners and 38.3% of the respondents had only one sexual partner. From those who had ever sex, 19.8% had always used condom during their sexual intercourse with their partners but 22.2% uses condom sometimes and 58% never used condom during sexual intercourse.

A research carried out by Nicole J, Eric R, John P. and Heather L. (2016) documented that 99% of the participants have knowledge of ex education and only 1% respondents report that

they never received any formal sex education. Furthermore, most respondents (91.4%) reported using form of contraception during sex. Regarding to health implication of sex education on adolescents, most of the respondents indicated that comprehensive sex education is most effective at promoting safer sex among adolescents and effective strategy for preventing sexually transmitted infections and unintended pregnancies.

A research carried out by Marta R, Lucia R(2011) documented that 70% women and 30% men .56.2% of the respondents had sex education knowledge. 80.5% indicated that they had their first sexual intercourse and 89.3% used condom always. 65.9% of the respondents responded that sex education prevent sexually transmitted infections, unwanted pregnancy and abortions.

San Ranshid and Marisen Mwale (2016). They documented that majority of the adolescents responded (70%) are knowledgeable enough in sexuality issues including sexual risks. Their knowledge pertaining to sexual and reproductive health, HIV and STIs transmission including pregnancy prevention was found to be significantly high.

# CHAPTER THREE

# MATERIALS AND METHODS

## 3.1 Research Design

The research is descriptive cross-sectional design that assessed sex education and sexual health knowledge, attitudes and behavior among in-school adolescents in Owerri North. A cross –

sectional study was also used in research carried out by Randir k *et al.,* (2017) on knowledge attitude and perception of sex education among school going adolescents in Ambala District, Haryana, India.

**3. 2 Area of Study**

Owerri North is a local government area in Imo State, Nigeria. It has an area of 198 square kilometers and a median temperature of 27 degrees centigrade. It was created by in the year 1996 by the administration of General Sani Abacha. The Local Government Headquarters is suited at Orie Uratta and it has the following districts. Uratta, Ihittaoha, Emekuku, Emii, Ulakwo, Agbala, Naze, Egbu, Awaka, Obibiezena.

Owerri North is a semi-urban government area, it encircles owerri municipal like a peninsular. Six major roads that leads out of the municipal cuts across Owerri North communities. In the North, Orlu road leads to Amakohia and Akwakuma. In the East, Okigwe road leads to Orji Uratta community. In the West, Mcc road wethedral to Obibi uratta and ihittaoha communities. In the South, Mbaise road leads to Egbu, Awaka and Emekuku communities. While Aba road leads to Naze, Agbala and Ulakwo.

According to National Population Commision of Nigeria (NPCN) (2016) The population of Owerri North was estimated to be 242,800 inhabitants and are mainly members of igbo ethnic group. Owerri North people are known for trading with numerous markets like Orie-obibi market in Obibiezena where surplus of goods are bought and sold. They are also known for farming and hunting. Owerri North have fifty-one (51) secondary schools. A number of festivals are celebrated in Owerri North LGA and it includes: Onwa-oru festival celebrated by Uratta people, Ugu-uzo festival celebrated by Emekuku people, Ogazi festival celebrated by Emii people, Eke-oha festival celebrated by Ulakwo people, Mbomuzo festival celebrated by

Egbu people,Oka day festival celebrated by Awaka people. Popular food to owerri North people is ofe owerre. Christainity is the dominant religion in Owerri North.


Figure 3.1: Map of Imo State showing Owerri North L.G.A

Source: Owerri North

## 3.3 POPULATION OF STUDY

The population of the study consisted of in- school adolescents age 10-19 years in Owerri North. The population of the study was made of 11,781 adolescents aged 10-19 years in Owerri North. The population included both male and female who fall within the specified age range and are permanent residents of Owerri North. By focusing on this specific population, the study aims to ascertain in-school sex education and sexual health knowledge, attitude and behaviours among in-school adolescents.

| S/N | SCHOOL | CATEGORY | POPULATION |
|---|---|---|---|
| **1** | Community Comprehensive Secondary School Egbu | Public | 1,304 |
| **2** | Casita Maria Girls Secondary School Emekuku | Private | 1,210 |
| **3** | Uratta Secondary School | Public | 1,370 |
| **4** | Emekuku High School | Public | 2082 |
| **5** | Naze Secondary School | Public | 1,421 |
| **6** | Our Lady of Mount Carmel College Emekuku | Mission | 2,240 |
| **7** | Obube Comprehensive Secondary School | Public | 354 |
| **8** | Evangel Model School Egbu | Private | 690 |
| **9** | Christain Child Care Umuoba Uratta | Mission | 511 |
| **10** | Egbu Girls Secondary School | Public | 599 |

Source: Secondary education management board statistics 2019

## 3.4 SAMPLES AND SAMPLING TECHNIQUE

### 3.4.1 Sample size

The sample size is 386 and was determined by using Taro Yamane sample size Formula (Yamane, 1973)

$$n = \frac{N}{1+N\ (e)2}$$

n: represent sample size

N: represent population size

e: represent estimated error which is 0.05

$$\boldsymbol{n = \frac{11781}{1 + 11781\ (0.0025)}}$$

$$\boldsymbol{n = \frac{11781}{1 + 29.45}}$$

$$\boldsymbol{n = \frac{11781}{30.45}}$$

$$\boldsymbol{n = 386}$$

### 3.4.2 SAMPLING METHOD

The sampling technique adopted for selection of participants was multi-stage sampling method.

**Stage One: Selection of communities**

Five communities (Emekuku, Egbu, Uratta, Naze, Obube) were selected randomly by balloting without replacement from the eleven communities in Owerri North which are Awaka, Egbu, Uratta, Ihitte-Ogada, Emekuku, Emii, Ulakwo, Obube, Emeke-Obibi, Agbala, Naze.

**Stage Two: Selection of secondary schools**

Ten secondary schools were selected at random without replacement from the selected communities. These comprises of public owned schools such as (Uratta Secondary School, Naze Secondary School, Egbu Girls' Secondary, Community Comprehensive Secondary Egbu, Emekuku High School, Obube Comprehensive Secondary School), mission owned school such as (Our Lady of Mount Carmel College Emekuku, Christain Child Care Secondary School Umuoba Uratta,) and Private schools such as (Evangel Model Secondary School Egbu and Casita Maria Secondary School Emekuku) from fifty-one secondary schools in Owerri North.

**Stage Three: Selection of classes**

Participants from each class were selected by balloting style. Each participant picked a paper with either yes or no. The participants that picked yes, participates while the ones that picked No were left behind.

This technique ensures that each participant have equal opportunity of being selected.

**Proportion of participants that questionnaires were administered to in each school.**

| SCHOOL | CATEGORY | PARTICIPANTS |
|---|---|---|
| Community Comprehensive Secondary School Egbu | Public | 43 |
| Casita Maria Girls Secondary School Emekuku | Private | 40 |
| Uratta Secondary School | Public | 45 |
| Emekuku High School | Public | 68 |
| Naze Secondary School | Public | 47 |
| Our Lady of Mount Carmel College Emekuku | Mission | 73 |
| Obube Comprehensive Secondary School | Public | 11 |
| Evangel Model School Egbu | Private | 22 |
| Christain Child Care Umuoba Uratta | Mission | 17 |
| Egbu Girls Secondary School | Public | 20 |
| **Total** | | **386** |

## 3.5 INSTRUMENT FOR DATA COLLECTION

The instrument for data collection in this study was a self-structured questionnaire. The structured questionnaire consists of several sections that aligned with the specific objectives of the study. These sections include:

a. **Demographic Information:** This section gathered data on participants' socio-demographic characteristics such as age, gender, parental marital status, grade, etc were collected to provide a context for understanding the respondents and their background.

b. **Level of Knowledge:** This section assessed the participants' knowledge on sexual health.

c. **Attitudes towards Sex and Sexual Health:** This section explored the Attitudes towards Sex and Sexual Health among in-school adolescents.

d. **Sexual Behaviours and Practices:** This section determined the Sexual Behaviours and Practices among in-school adolescents in Owerri North.

The questionnaire was administered to the representative sample of in-school adolescents age (10-19) in Owerri North, which also include closed-ended questions with multiple-choice options, Likert scale questions to measure attitudes and perceptions, and some open-ended questions to allow participants to provide additional information or elaborate on their responses. It was designed to be clear, concise, and easy to understand, ensuring that participants can provide accurate and relevant information. After data collection, the responses were analyzed using appropriate statistical techniques. Descriptive statistics was used to summarize the demographic characteristics of the participants and their responses to different questionnaire sections. Inferential statistics, such as chi-square tests and regression analysis, was employed to examine associations and relationships between variables of interest.

## 3.6 VALIDITY OF THE INSTRUMENT

The questionnaire was subjected to validation by my project supervisor and two other experts who in relevance to the content, objectives and appropriateness of language usage modified and restructured the questionnaire. Their corrections were used in producing the final copy of the instrument.

### 3.7 RELIABILITY OF THE INSTRUMENT

A pre-test was conducted with 30 adolescents sampled from a school not used in the study and they gave their responses which show the questionnaire was reliable. The reliability of the instrument was tested using Chrombach Alpha Coefficient of Reliability test, and a coefficient of (r=0.70) was deemed reliable.

### 3.8 METHOD OF DATA COLLECTION

The data was collected by the researcher using a questionnaire administered to the respondents after an informed consent of the respondents' parents. Three trained research assistants helped to explain the questionnaire to the respondents and guide them to fill it, each questionnaire takes 5-8 minutes to be completed. 386 questionnaires were administered and 386 were retrieved, showing 100% response.

### 3.9 METHOD OF DATA ANALYSIS

The data collected for the study on sex education and sexual health knowledge, attitude and behaviour among in-school adolescents in Owerri North were analyzed using Statistical Product and Service Solution (SPSS) version 21. The following methods: Descriptive analysis was computed to summarize the demographic characteristics of the participants, including age, parental marital status, parental educational level, and occupation. Frequencies and percentages were calculated for categorical variables. Inferential analysis was used to examine the relationships between variables and test the research hypotheses. Friedman test and Chi-square tests were performed to assess the knowledge, attitude and behaviours of students on sex

education and sexual health. Alson it was used to test the associations between socio-cultural factors (such as parental level of education, student grade level, and parental marital status).

### 3.10 ETHICAL APPROVAL/ INFORMED CONSENT

The researcher got ethical approval from ethics committee department of Public Health of the Federal University of Technology Owerri and also the respondents were assured of confidentiality of any information given by them to the questionnaire.

# CHAPTER FOUR

## RESULTS

From the below table 4.1, out of 386 respondents 53.4% of the adolescents are female, while 46.6% are male. The result categorizes adolescents into three age groups; 10-12 years, 13-15 years, and 15 years and above, each comprising roughly one-third of the total sample. The result also divides adolescents into different grade or class levels, with SSS3 having the highest representation at 21.8%, followed closely by SS1 AND SSS2 at 20.2 and 19.9% respectively, and JSS3 at 15.5%. It was indicated that the religious diversity among these adolescents is quite evenly spread, with Christians making up 57.0%, Muslims at 12.7%, and those following traditional religions at 30.3%. It shows that marital statuses are distributed fairly evenly, with separated, divorced, and widowed parents each representing around 24%, and married parents at 23.1%. Understanding parental marital status is vital because it can influence adolescents' family dynamics, support systems, and emotional well-being. Sex education programs should be sensitive to family contexts.

**Table 4.1: demographic characteristics of the respondents.**

| | Frequency | Percent (%) |
|---|---|---|
| **Gender** | | |
| Male | 180 | 46.6 |
| Female | 206 | 53.4 |
| Total | 386 | 100 |
| | | |
| **Age** | | |
| 10-12yrs | 119 | 30.8 |
| 13-15yrs | 126 | 32.6 |
| 15yrs and above | 141 | 36.5 |
| Total | 386 | 100 |
| | | |
| **Grade/Class** | | |
| JSS1 | 40 | 10.4 |
| JSS2 | 47 | 12.2 |
| JSS3 | 60 | 15.5 |
| SSS1 | 77 | 19.9 |
| SSS2 | 78 | 20.2 |
| SSS3 | 84 | 21.8 |
| Total | 386 | 100 |
| | | |
| **Religious** | | |
| Christian | 220 | 57.0 |
| Traditional | 117 | 30.3 |
| Muslim | 49 | 12.7 |
| Total | 386 | 100 |
| | | |
| **Parental marital status** | | |
| Married | 89 | 23.1 |
| Separated | 101 | 26.2 |
| Divorced | 106 | 27.5 |
| Widowed | 90 | 23.3 |
| Total | 386 | 100 |

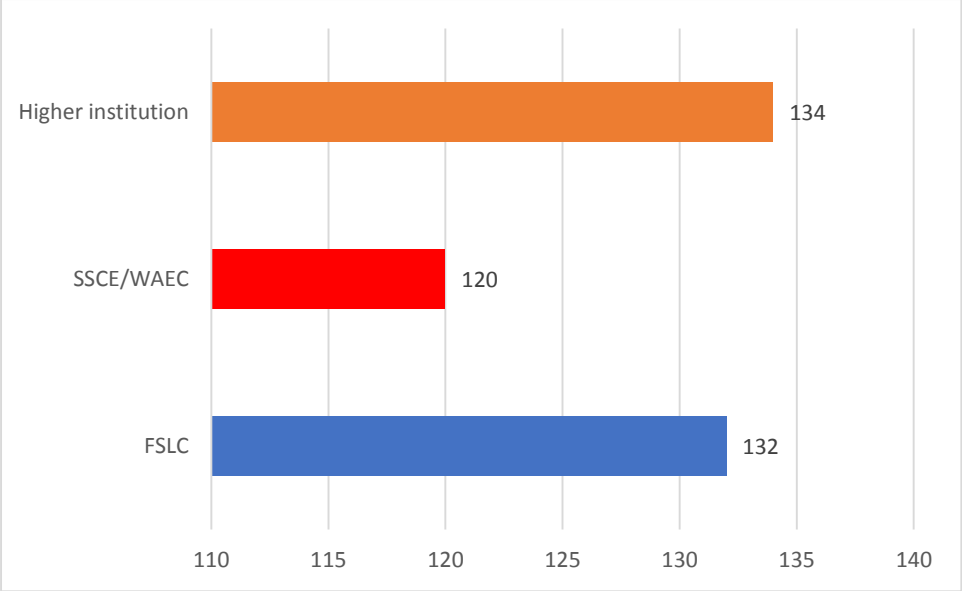


**Figure 4.1: Parental level of education**

Figure 4.1 presents the educational qualifications or levels of attainment among the in-school adolescents in Owerri North LGA, Imo State. The data categorizes the educational attainment of the adolescents into three groups: FSLC (First School Leaving Certificate), SSCE/WAEC (Senior Secondary Certificate Examination/West African Examinations Council), and Higher Institution. FSLC represents 34.2% of the adolescents, SSCE/WAEC accounts for 31.1%, and those in Higher Institutions make up 34.7%.

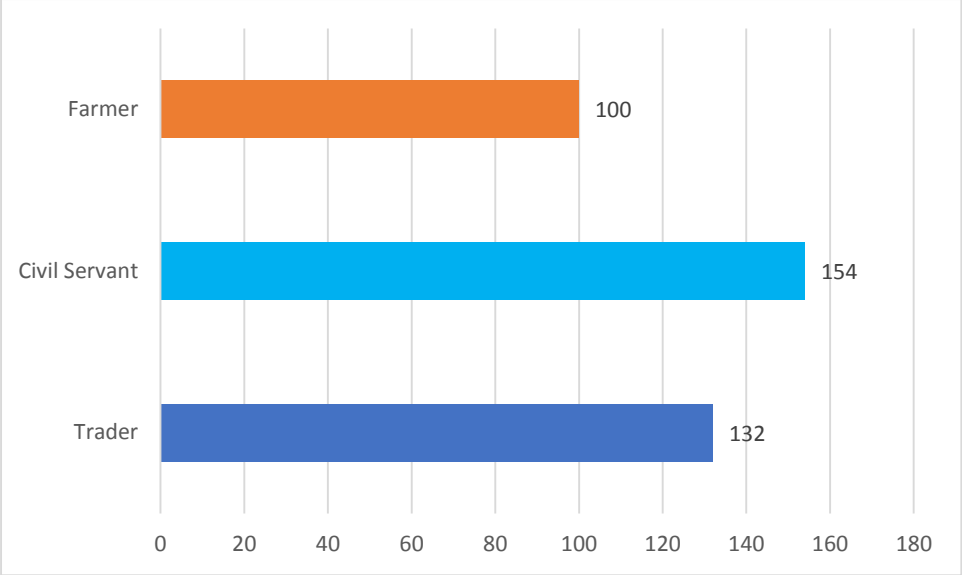


**Figure 4.2: Parental occupation**

From figure 4.2, the result categorizes parental occupations into three main groups: Trader, Civil Servant, and Farmer. Among the parents or guardians, 34.2% are traders, 39.9% are civil servants, and 25.9% are farmers respectively.

The table 4.2 below presents data on the knowledge of in-school adolescents in Owerri North LGA regarding the subject outline of sex education, categorized by knowledge levels ranging from low (0-2 scores) to high (9-10 scores).

The results indicate that a significant proportion of students (ranging from 19.2% to 21.8%) acknowledge that the subject outline covers a wide range of relevant sexual health topics, though there are slight variations across knowledge levels. A more detailed approach to sex education, addressing topics beyond reproductive anatomy and physiology, is recognized predominantly by students with moderate knowledge (3-6 scores), with 22.8% acknowledging its depth. However, awareness decreases among higher knowledge levels (7-8 scores, 16.8%).

The subject outline effectively addresses issues related to consent and healthy relationships, with 23.8% of high-knowledge students (9-10 scores) recognizing this aspect, demonstrating that students with better knowledge are more aware of these critical areas. Similarly, the understanding of contraception methods is well-distributed across knowledge levels, with a notable 21.2% of high-knowledge students acknowledging this coverage.

Regarding the prevention of sexually transmitted infections (STIs), awareness increases with knowledge level, peaking at 22.0% for high-knowledge students. The importance of sexual consent and its prevention aspects is well covered, with consistent recognition across all knowledge levels, reaching 22.3% among high-knowledge students.

The subject outline promotes inclusivity by addressing gender and sexual diversity, with 21.5% of students in the 7-8 score range recognizing this content. High-knowledge students (23.8%) are also more likely to recognize information about accessing sexual and reproductive health services, suggesting that as knowledge increases, awareness of these services grows.

Finally, interactive teaching methods, such as discussions and group activities, are acknowledged across all knowledge levels, with 23.3% of students in the 3-4 score group

recognizing their implementation. However, the recognition of these methods slightly decreases among higher-knowledge students.

**Table 4.2: To ascertain subject outline of sex-education taught in-school adolescents in Owerri North LGA.**

| | Low Knowledge | | High Knowledge | | |
|---|---|---|---|---|---|
| | **0-2 score (%)** | **3-4 score (%)** | **5-6 score (%)** | **7-8 score (%)** | **9-10 score (%)** |
| **The subject outline of sex education covers a wide range of relevant sexual health topics** | 84(21.8) | 74(19.2) | 76(19.7) | 74(19.2) | 78(20.2) |
| **Assessing sex education should go beyond reproductive anatomy and physiology, focusing on the depth, accuracy, and relevance of content in addressing adolescents' sexual health needs** | 77(19.9) | 88(22.8) | 81(22.8) | 65(16.8) | 75(19.4) |
| **The subject outline addresses issues related to consent and healthy relationships** | 83(21.5) | 69(17.9) | 66(17.1) | 76(19.7) | 92(23.8) |
| **The subject outline includes information on contraception methods and their effectiveness** | 87(22.5) | 64(16.6) | 75(19.4) | 78(20.2) | 82(21.2) |
| **The subject outline provides guidance on preventing sexually transmitted infections (STDs).** | 67(17.4) | 83(21.5) | 75(19.4) | 76(19.7) | 85(22.0) |
| **The subject outline covers the importance of sexual consent and the prevention of sex** | 85(22.0) | 81(21.0) | 64(16.6) | 70(18.1) | 86(22.3) |
| **The subject outline promotes an inclusive approach, addressing, issues of gender and sexual diversity** | 85(22.0) | 68(17.6) | 78(20.2) | 83(21.5) | 72(18.7) |
| **The subject outline provides information on accessing sexual and reproductive health services** | 63(16.3) | 79(20.5) | 79(20.5) | 92(23.8) | 73(18.9) |
| **ject outline incorporates interactive teaching methods such as discussion and group activities.** | 69(17.9) | 90(23.3) | 76(19.7) | 70(18.1) | 81(21.0) |

The table 4.3 categorizes responses based on adolescents' knowledge levels (scored from 0-10) on different aspects of the sex education curriculum, indicating how comprehensive the subject outline is across various sexual health topics. The result shows a mixed level of knowledge among adolescents in Owerri North LGA regarding the subject outline of sex education. While certain topics like sexual consent, healthy relationships, and access to health services seem to be well-covered for many students, there are clear gaps in other areas, particularly regarding contraception methods, the inclusion of gender diversity issues, and the depth of the education beyond anatomy and physiology. The variation in scores across different knowledge categories suggests that while some schools may provide comprehensive education, others might be lacking in certain areas, indicating the need for a more standardized or enhanced curriculum delivery.

**Table 4.3:** Friedman test between the subject outline of sex education taught to in-school adolescents in Owerri North LGA and their level of knowledge regarding sexual health.

| | N | Mean | Std. Deviation | Mean Rank | Rank |
|---|---|---|---|---|---|
| The subject outline of sex education covers a wide range of relevant sexual health topics | 386 | 3.0751 | 1.40945 | 5.15 | 7 |
| The subject outline includes information on reproductive anatomy and physiology | 386 | 2.9767 | 1.47251 | 4.98 | 4 |
| The subject outline addresses issues related to consent and healthy relationships | 386 | 2.9715 | 1.42217 | 4.89 | 1 |
| the subject outline includes information on contraception methods and their effectiveness | 386 | 3.0855 | 1.36008 | 5.13 | 6 |
| The subject outline provides guidance on preventing sexually transmitted infections (STDs). | 386 | 3.0104 | 1.40496 | 4.98 | 4 |
| The subject outline covers the importance of sexual consent and the prevention of sex | 386 | 2.9689 | 1.43755 | 4.90 | 3 |
| The subject outline promotes an inclusive approach, addressing, issues of gender and sexual diversity | 386 | 2.9301 | 1.40418 | 4.82 | 2 |
| The subject outline provides information on accessing sexual and reproductive health services | 386 | 3.0648 | 1.48007 | 5.15 | 7 |
| The subject outline incorporates interactive teaching methods such as discussion and group activities. | 386 | 3.0104 | 1.45759 | 5.00 | 5 |

p-value = 0.584 Friedman Test = 6.563

**Hypothesis**

$H_0$: There is no significant relationship between the subject outline of sex education taught to in-school adolescents in Owerri North LGA and their level of knowledge regarding sexual health.

$H_1$: There is a significant relationship between the subject outline of sex education taught to in-school adolescents in Owerri North LGA and their level of knowledge regarding sexual health.

The provided test statistics above indicate the results of a Friedman Test conducted on a sample of 386 respondents. To determine if the differences are statistically significant, we typically compare the p-value to a significance level (0.05). If the p-value is less than the chosen significance level (0.05), we reject the null hypothesis, indicating that there are significant differences among the groups. If the p-value is greater than alpha, we fail to reject the null hypothesis, suggesting that there are no significant differences among the groups. In this case, the p-value is 0.584, which is greater than the commonly used significance level of 0.05 (5%). Therefore, we fail to reject the null hypothesis. This means that, based on the Friedman Test, there is no statistically significant difference in respondents' opinions across the statements related to the subject outline of sex education. In other words, the result does not provide sufficient evidence to conclude that there are significant differences in how respondents perceive the various components of the sex education subject outline.

The table 4.4 below presents the relationship between the subject outline of sex education taught to in-school adolescents and their level of knowledge regarding sexual health, analysed by gender, age, and grade/class. The p-values indicate whether these variables significantly affect students' knowledge scores across various topics related to sexual health education.

The findings reveal no significant differences in knowledge levels between male and female students, with p-values for topics such as a wide range of sexual health topics ($p = .750$), reproductive anatomy and physiology ($p = .820$), and contraception methods ($p = .732$). Similarly, no significant differences are observed based on age or grade level, with p-values above the .05 threshold for topics such as reproductive anatomy and physiology ($p = .325$ for age, $p = .917$ for grade/class) and the prevention of sexually transmitted infections (STDs) ($p = .513$ for age, $p = .186$ for grade/class).

There is also no significant difference in knowledge regarding issues of consent and healthy relationships, with p-values of .655 for gender, .512 for age, and .080 for grade/class. While the p-value for grade/class approaches significance, indicating a potential trend, it remains above the threshold. Similarly, knowledge of gender and sexual diversity shows no significant differences by gender ($p = .348$) or grade/class ($p = .938$), though the p-value for age ($p = .065$) suggests a near-significant trend that may warrant further investigation.

**Table 4.4: Relationship between the subject outline of sex education taught to in-school adolescents and their level of knowledge regarding sexual health.**

| | | Gender | | | Age | | | | Grade/Class | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Male | Female | p-value | 10-12yrs | 13-15yrs | 15yrs and above | p-value | JSS3 | SSS1 | SSS2 | p-value |
| The subject outline of sex education covers a wide range of relevant sexual health topics | 9-10 score | 40 | 44 | .750 | 28 | 23 | 33 | .388 | 26 | 26 | 32 | .983 |
| | 7-8 score | 32 | 42 | | 18 | 22 | 34 | | 19 | 27 | 28 | |
| | 5-6 score | 37 | 39 | | 24 | 29 | 23 | | 22 | 30 | 24 | |
| | 3-4 score | 30 | 44 | | 29 | 23 | 22 | | 22 | 26 | 26 | |
| | 0-2 score | 39 | 39 | | 27 | 26 | 25 | | 22 | 29 | 27 | |
| The subject outline includes information on reproductive anatomy and physiology | 9-10 score | 39 | 38 | .820 | 25 | 21 | 31 | .325 | 23 | 26 | 28 | .917[a] |
| | 7-8 score | 42 | 46 | | 25 | 31 | 32 | | 25 | 32 | 31 | |
| | 5-6 score | 34 | 47 | | 28 | 19 | 34 | | 27 | 30 | 24 | |
| | 3-4 score | 28 | 37 | | 24 | 21 | 20 | | 19 | 23 | 23 | |
| | 0-2 score | 35 | 40 | | 24 | 31 | 20 | | 17 | 27 | 31 | |
| The subject outline addresses issues related to consent and healthy relationships | 9-10 score | 39 | 44 | .655 | 23 | 29 | 31 | .512 | 22 | 42 | 19 | .080[a] |
| | 7-8 score | 27 | 42 | | 24 | 19 | 26 | | 24 | 21 | 24 | |
| | 5-6 score | 29 | 37 | | 19 | 28 | 19 | | 20 | 20 | 26 | |
| | 3-4 score | 39 | 37 | | 25 | 24 | 27 | | 21 | 22 | 33 | |
| | 0-2 score | 44 | 48 | | 35 | 23 | 34 | | 24 | 33 | 35 | |
| the subject outline includes information on contraception methods and their effectiveness | 9-10 score | 40 | 47 | .732 | 35 | 22 | 30 | .226 | 23 | 32 | 32 | .746[a] |
| | 7-8 score | 32 | 32 | | 21 | 17 | 26 | | 20 | 18 | 26 | |
| | 5-6 score | 34 | 41 | | 18 | 26 | 31 | | 19 | 33 | 23 | |
| | 3-4 score | 39 | 39 | | 29 | 29 | 20 | | 24 | 29 | 25 | |
| | 0-2 score | 33 | 49 | | 23 | 29 | 30 | | 25 | 26 | 31 | |
| The subject outline provides guidance on preventing sexually transmitted infections (STDs). | 9-10 score | 29 | 38 | .631 | 20 | 26 | 21 | .513 | 19 | 16 | 32 | .186[a] |
| | 7-8 score | 40 | 43 | | 26 | 30 | 27 | | 19 | 31 | 33 | |
| | 5-6 score | 36 | 39 | | 27 | 19 | 29 | | 24 | 26 | 25 | |
| | 3-4 score | 39 | 37 | | 27 | 26 | 23 | | 26 | 29 | 21 | |
| | 0-2 score | 34 | 51 | | 26 | 22 | 37 | | 23 | 36 | 26 | |
| The subject outline covers the importance of sexual consent and the prevention of sex | 9-10 score | 39 | 46 | .392 | 31 | 28 | 26 | .512 | 22 | 29 | 34 | .794[a] |
| | 7-8 score | 37 | 44 | | 28 | 22 | 31 | | 24 | 28 | 29 | |
| | 5-6 score | 31 | 33 | | 21 | 16 | 27 | | 18 | 21 | 25 | |
| | 3-4 score | 38 | 32 | | 17 | 29 | 24 | | 17 | 28 | 25 | |
| | 0-2 score | 33 | 53 | | 29 | 28 | 29 | | 30 | 32 | 24 | |
| The subject outline promotes an inclusive approach, addressing, issues of gender and sexual diversity | 9-10 score | 39 | 46 | .348 | 32 | 27 | 26 | .065 | 27 | 32 | 26 | .938[a] |
| | 7-8 score | 35 | 33 | | 16 | 29 | 23 | | 18 | 24 | 26 | |
| | 5-6 score | 29 | 49 | | 28 | 22 | 28 | | 19 | 27 | 32 | |
| | 3-4 score | 43 | 40 | | 25 | 18 | 40 | | 24 | 31 | 28 | |
| | 0-2 score | 32 | 40 | | 25 | 27 | 20 | | 23 | 24 | 25 | |
| The subject outline provides information on accessing sexual and reproductive health services | 9-10 score | 25 | 38 | .743 | 22 | 20 | 21 | .167 | 21 | 24 | 18 | .406[a] |
| | 7-8 score | 36 | 43 | | 26 | 23 | 30 | | 22 | 33 | 24 | |
| | 5-6 score | 42 | 37 | | 25 | 28 | 26 | | 24 | 23 | 32 | |
| | 3-4 score | 49 | 43 | | 31 | 25 | 36 | | 22 | 40 | 30 | |
| | 0-2 score | 26 | 47 | | 22 | 27 | 24 | | 22 | 18 | 33 | |

The table 4.5 below shows the percentage of respondents who answered "True" and "False" to various statements related to sexual health knowledge. Slightly more than half of the respondents correctly believe that using a condom can help prevent STIs, including HIV. A majority of respondents correctly understand the role of emergency contraceptives in preventing pregnancy after unprotected sex. Most respondents correctly recognize that HIV/AIDS can be transmitted through sharing needles or syringes. Less than half of the respondents correctly understand that genital warts and herpes are not curable STIs. A majority of respondents correctly define abstinence as avoiding all types of sexual activities. Slightly more than half of the respondents incorrectly believe that the birth control pill is the most effective form of contraception. Almost half of the respondents incorrectly believe that condoms are not effective in preventing pregnancy. Less than half of the respondents correctly recognize that Hepatitis B can be transmitted through sexual contact. A minority of respondents correctly understand that STIs can be present without noticeable symptoms. Slightly more than half of the respondents have received formal sexual health education in their school.

**Table 4.5: Level of Knowledge of Sexual Health**

| Level of knowledge of sexual health | True (%) | False (%) |
|---|---|---|
| Using a condom can help prevent sexually transmitted infections (STIs), including HIV | 206(53.4) | 180(46.6) |
| Emergency contraceptives (e.g, morning-after-pill) can prevent pregnancy after unprotected sex | 208(53.9) | 178(46.1) |
| HIV/AIDS can be transmitted through sharing needles or syringes. | 206(53.4) | 180(46.6) |
| Genital warts and herpes are curable STIs. | 189(49.0) | 197(51.0) |
| Abstinence means avoiding all types of sexual activities | 203(52.6) | 183(47.4) |
| The most effective form of contraceptive is the birth control pill | 198(51.3) | 188(48.7) |
| Condoms are not effective in preventing pregnancy | 192(49.7) | 194(50.3) |
| Hepatitis B is a viral infection that can be transmitted through sexual contact. | 183(47.4) | 203(52.6) |
| Sexually transmitted infection (STIs) can be present without any noticeable symptoms | 178(46.1) | 208(53.9) |
| Have you received any formal sexual health education in your school? | 199(51.6) | 187(48.4) |

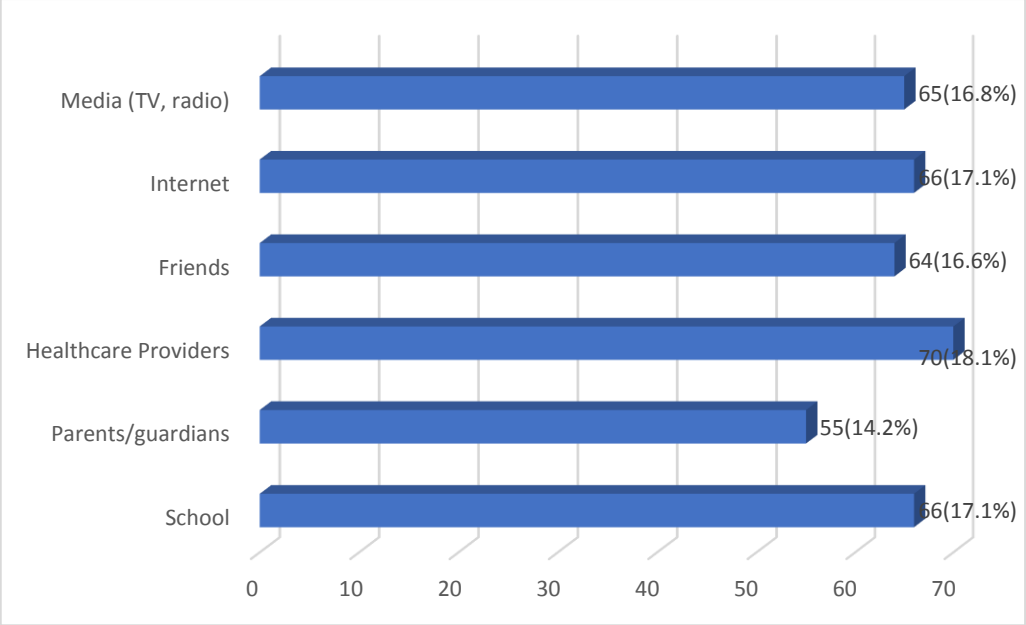


**Figure 4.3: Where do you typically seek information about sexual health?**

Figure 4.3 above shows where individuals typically seek information about sexual health. A significant portion of respondents 66 (17.1%) seek information about sexual health from their school. This suggests that formal sexual health education programs in schools play a role in providing information to adolescents. About 14.2% of respondents rely on their parents or guardians for information about sexual health. This highlights the importance of open communication between parents and their children on this topic. A substantial percentage (18.1%) of respondents turn to healthcare providers for information about sexual health. This indicates that healthcare professionals are seen as reliable sources of guidance. Approximately 16.6% of respondents seek information from their friends. While peer conversations can be valuable, the accuracy of the information may vary. The internet is a source of sexual health information for 17.1% of respondents. Nearly 16.8% of respondents rely on media, such as television and radio, for information about sexual health. Media can play a role in disseminating educational content.

**Table 4.7: Level of information about the following topics as part of their sex education**

| **information about the following topics as part of your sex education** | Gender | | Age | | |
|---|---|---|---|---|---|
| | Male | Female | 10-12yrs | 13-15yrs | 15yrs and above |
| Anatomy and physiology of reproductive system | 97 | 110 | 62 | 65 | 80 |
| Puberty and hormonal changes | 99 | 100 | 61 | 65 | 73 |
| Safe sex practices | 82 | 107 | 54 | 66 | 69 |
| Contraception and pregnancy prevention | 81 | 107 | 57 | 59 | 72 |
| Sexually transmitted infections (STIs) and their prevention | 95 | 105 | 61 | 66 | 73 |
| Consent and healthy relationships | 90 | 104 | 62 | 58 | 74 |
| Gender and sexual orientation | 103 | 111 | 68 | 69 | 77 |
| Reproductive rights and responsibilities | 88 | 101 | 63 | 66 | 60 |

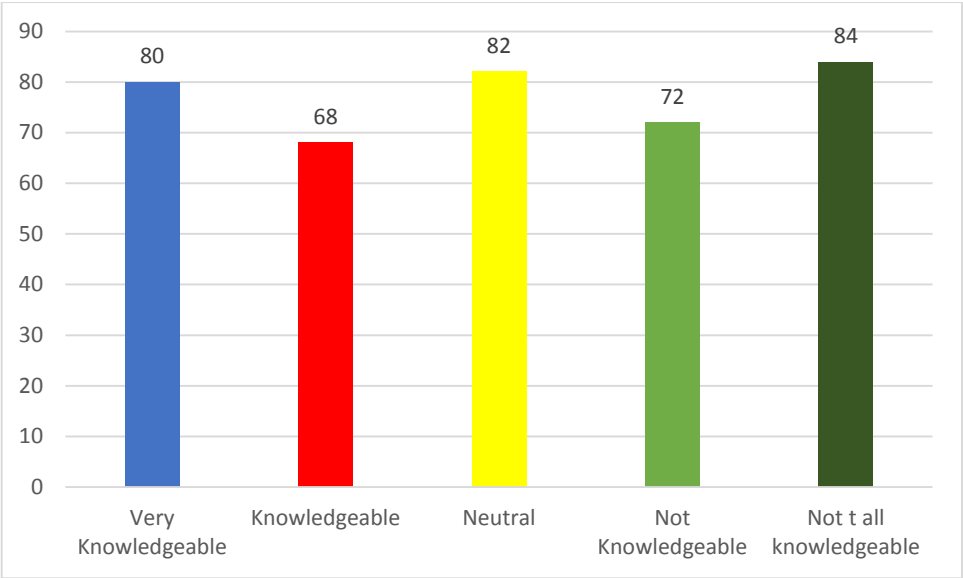


**Figure 4.4: How would you rate your overall knowledge about sexual health**

Figure 4.4 above presents individuals' self-assessment of their overall knowledge about sexual health. Approximately 20.7% of respondents consider themselves to be very knowledgeable about sexual health. About 17.6% of respondents describe themselves as knowledgeable about sexual health. A significant portion (21.2%) of respondents have a neutral stance on their knowledge about sexual health. Approximately 18.6% of respondents admit to not feeling knowledgeable about sexual health. These individuals may acknowledge a lack of understanding or awareness in this area. A notable percentage (21.8%) of respondents consider themselves not at all knowledgeable about sexual health.

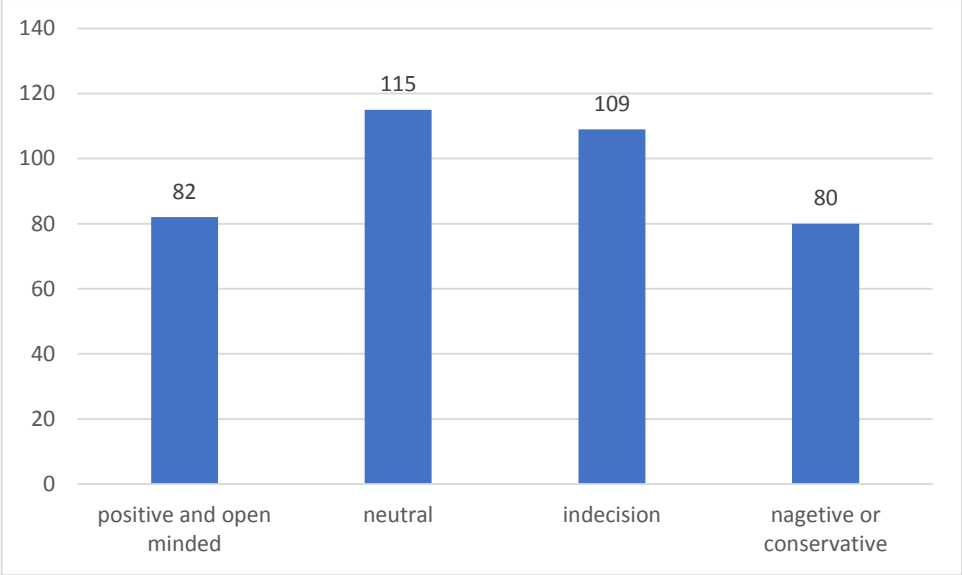


**Figure 4.5: What is your attitude towards sex and sexual health?**

Figure 4.5 above present attitudes towards sex and sexual health. Here's an analysis of the responses. Approximately 21.2% of respondents have a positive and open-minded attitude towards sex and sexual health. A significant portion (29.8%) of respondents have a neutral attitude towards sex and sexual health. Nearly 28.2% of respondents express indecision, indicating mixed or uncertain feelings about sex and sexual health. About 20.7% of respondents hold a negative or conservative attitude towards sex and sexual health.

**Section 4: Attitudes towards Sex and Sexual Health**

Table 4.8 presents the attitudes of in-school adolescents toward various aspects of sexual health. It shows the distribution of responses for each statement, ranging from "Strongly Agree" to "Strongly Disagree." A significant portion of respondents either strongly agree or agree that open communication about sex and sexual health is important for adolescents. However, a substantial number are neutral or disagree with this statement. Respondents express varied opinions on whether adolescents should have access to comprehensive sex education in schools, with a relatively even distribution across options. A majority of respondents agree that engaging in sexual activity should be based on informed and consensual decisions, but there are also significant numbers who disagree or are neutral. Respondents have diverse views on the importance of contraception, with a significant portion in agreement, but also a notable percentage in disagreement. A significant number of respondents are neutral about the importance of discussing sexual health with a partner, while others agree or disagree. A majority of respondents agree that sexuality is a natural and normal part of human life. Respondents have varying attitudes toward respecting and accepting different sexual orientations and gender identities, with a range of responses from agreement to disagreement. Opinions are mixed regarding the impact of adolescent pregnancy on educational and career opportunities, with a relatively even distribution of responses. Respondents hold diverse views on whether culture and religious beliefs should restrict discussions about sex and sexual health.

**Table 4.8: Attitudes of in-school adolescents toward sexual health in Owerri North LGA**

| | Strongly agree (%) | Agree (%) | Neutral (%) | Disagree (%) | Strongly Disagree (%) |
|---|---|---|---|---|---|
| **Open communication about sex and sexual health is important for adolescents** | 60(15.5) | 70(18.1) | 80(20.7) | 84(21.8) | 92(23.8) |
| **Adolescents should have access to comprehensive sex education in schools.** | 74(19.2) | 80(20.7) | 82(21.2) | 70(18.1) | 80(20.7) |
| **Engaging in sexual activity in should be based on informed and consensual decisions** | 80(20.7) | 70(18.1) | 80(20.7) | 90(23.3) | 66(17.1) |
| **It is important to use contraception to prevent unwanted pregnancies and sexually transmitted infections (STIs)** | 73(18.9) | 82(21.2) | 90(23.3) | 61(15.8) | 80(20.7) |
| **Discussing sexual health with a partner is a crucial aspect of a healthy relationship.** | 75(19.4) | 62(16.1) | 90(23.3) | 80(20.7) | 79(20.5) |
| **Sexuality is a natural and normal part of human life.** | 87(22.5) | 85(22.0) | 60(15.5) | 80(20.7) | 74(19.2) |
| **It is important to respect and accept people of different sexual orientations and gender identities.** | 74(19.2) | 80(20.7) | 62(16.1) | 90(23.3) | 80(20.7) |
| **Adolescent pregnancy and early parenthood can negatively impact a person's educational and career opportunities.** | 80(20.7) | 74(19.2) | 80(20.7) | 73(18.9) | 79(20.5) |
| **Culture and religious beliefs should not restrict discussions and education about sex and sexual health.** | 75(19.4) | 66(17.1) | 90(23.3) | 75(19.4) | 80(20.7) |
| **Adolescents should have access to confidential and non-judgmental sexual health services** | 80(20.7) | 84(21.8) | 60(15.5) | 92(23.8) | 70(18.1) |

**Hypothesis**

$H_0$: The attitudes of in-school adolescents toward sexual health in Owerri North LGA have no significant impact on their sexual health behaviours.

$H_1$: The attitudes of in-school adolescents toward sexual health in Owerri North LGA have a significant impact on their sexual health behaviours.

The result in Table 4.10 examines whether attitudes of in-school adolescents toward sexual health have a significant impact on their sexual health behaviours. The analysis is presented with respect to gender and age groups. The p-value for gender differences in attitudes toward open communication about sex and sexual health is significant (p = 0.008). More females strongly agree and agree that open communication about sex and sexual health is important for adolescents compared to males. The p-value for age group differences in attitudes toward open communication about sex and sexual health is not significant (p = 0.212). There are no significant differences in attitudes among different age groups regarding open communication about sex and sexual health. The p-value for gender differences in attitudes toward comprehensive sex education in schools is not significant (p = 0.438). There are no significant differences in attitudes between males and females regarding access to comprehensive sex education in schools. The p-value for age group differences in attitudes toward comprehensive sex education in schools is not significant (p = 0.329). There are no significant differences in attitudes among different age groups regarding access to comprehensive sex education in schools.

The p-value for gender differences in attitudes toward Sexuality is a natural and normal part of human life is not significant (p = 0.706). The p-value for age group differences in attitudes is also not significant (p = 0.285). There are no significant differences in attitudes based on gender or age regarding the naturalness of human sexuality. The p-value for gender differences in

attitudes toward is important to respect and accept people of different sexual orientations and gender identities is not significant (p = 0.973). However, the p-value for age group differences in attitudes is approaching significance (p = 0.083). While there is no significant gender difference, there may be a trend indicating that older age groups (15 years and above) are more likely to agree with the importance of respecting and accepting diverse sexual orientations and gender identities. The p-value for gender differences in attitudes toward Adolescent pregnancy and early parenthood can negatively impact a person's educational and career opportunities is not significant (p = 0.961). The p-value for age group differences in attitudes is also not significant (p = 0.656). There are no significant differences in attitudes based on gender or age regarding the impact of adolescent pregnancy on educational and career opportunities. The p-value for gender differences in attitudes toward Culture and religious beliefs should not restrict discussions and education about sex and sexual health is not significant (p = 0.788). The p-value for age group differences in attitudes is also not significant (p = 0.219). There are no significant gender or age group differences in attitudes regarding the role of culture and religious beliefs in restricting discussions about sex and sexual health. The p-value for gender differences in attitudes toward access to confidential and non-judgmental sexual health services is not significant (p = 0.467). The p-value for age group differences in attitudes is approaching significance (p = 0.149). While there is no significant gender difference, there may be a trend suggesting that older age groups (15 years and above) are more likely to agree with the importance of access to confidential and non-judgmental sexual health services.

**Table 4.9: Attitudes of in-school adolescents toward sexual health in Owerri North LGA have no significant impact on their sexual health behaviours**

| | | Gender | | | Age | | | |
|---|---|---|---|---|---|---|---|---|
| | | Male | Female | p-value | 10-12yrs | 13-15yrs | 15yrs and above | p-value |
| Open communication about sex and sexual health is important for adolescents | Strongly agree | 28 | 40 | .008 | 23 | 18 | 27 | .212 |
| | Agree | 35 | 33 | | 28 | 15 | 25 | |
| | Neutral | 25 | 57 | | 30 | 27 | 25 | |
| | Disagree | 45 | 35 | | 19 | 34 | 27 | |
| | Strongly Disagree | 45 | 43 | | 26 | 29 | 33 | |
| Adolescents should have access to comprehensive sex education in schools. | Strongly agree | 40 | 36 | .438 | 24 | 26 | 26 | .329 |
| | Agree | 38 | 40 | | 19 | 27 | 32 | |
| | Neutral | 37 | 42 | | 21 | 26 | 32 | |
| | Disagree | 27 | 45 | | 28 | 23 | 21 | |
| | Strongly Disagree | 36 | 45 | | 34 | 21 | 26 | |
| Engaging in sexual activity in should be based on informed and consensual decisions. | Strongly agree | 41 | 40 | .568 | 23 | 27 | 31 | .808 |
| | Agree | 29 | 46 | | 27 | 27 | 21 | |
| | Neutral | 39 | 39 | | 25 | 24 | 29 | |
| | Disagree | 39 | 49 | | 28 | 24 | 36 | |
| | Strongly Disagree | 30 | 34 | | 23 | 21 | 20 | |
| It is important to use contraception to prevent unwanted pregnancies and sexually transmitted infections (STIs) | Strongly agree | 31 | 36 | .621 | 21 | 21 | 25 | .420 |
| | Agree | 34 | 46 | | 27 | 28 | 25 | |
| | Neutral | 37 | 52 | | 31 | 22 | 36 | |
| | Disagree | 31 | 33 | | 17 | 19 | 28 | |
| | Strongly Disagree | 45 | 41 | | 30 | 33 | 23 | |
| Discussing sexual health with a partner is a crucial aspect of a healthy relationship. | Strongly agree | 36 | 36 | .202 | 33 | 13 | 26 | .054 |
| | Agree | 27 | 35 | | 14 | 23 | 25 | |
| | Neutral | 37 | 55 | | 23 | 34 | 35 | |
| | Disagree | 33 | 47 | | 26 | 26 | 28 | |
| | Strongly Disagree | 45 | 35 | | 30 | 27 | 23 | |

| | | Gender | | | Age | | | |
|---|---|---|---|---|---|---|---|---|
| | | **Male** | **Female** | **p-value** | **10-12yrs** | **13-15yrs** | **15yrs and above** | **p-value** |
| Sexuality is a natural and normal part of human life. | Strongly agree | 40 | 44 | .706 | 24 | 25 | 35 | .285 |
| | Agree | 43 | 44 | | 26 | 30 | 31 | |
| | Neutral | 30 | 31 | | 20 | 26 | 15 | |
| | Disagree | 36 | 44 | | 32 | 18 | 30 | |
| | Strongly Disagree | 29 | 45 | | 24 | 24 | 26 | |
| It is important to respect and accept people of different sexual orientations and gender identities. | Strongly agree | 35 | 37 | .973 | 33 | 17 | 22 | .083 |
| | Agree | 37 | 45 | | 32 | 27 | 23 | |
| | Neutral | 29 | 31 | | 13 | 22 | 25 | |
| | Disagree | 40 | 51 | | 23 | 31 | 37 | |
| | Strongly Disagree | 37 | 44 | | 25 | 26 | 30 | |
| Adolescent pregnancy and early parenthood can negatively impact a person's educational and career opportunities. | Strongly agree | 39 | 40 | .961 | 30 | 26 | 23 | .656 |
| | Agree | 31 | 37 | | 19 | 21 | 28 | |
| | Neutral | 39 | 50 | | 29 | 23 | 37 | |
| | Disagree | 34 | 38 | | 23 | 24 | 25 | |
| | Strongly Disagree | 35 | 43 | | 25 | 29 | 24 | |
| Culture and religious beliefs should not restrict discussions and education about sex and sexual health. | Strongly agree | 32 | 45 | .788 | 28 | 18 | 31 | .219 |
| | Agree | 34 | 33 | | 28 | 20 | 19 | |
| | Neutral | 40 | 46 | | 27 | 28 | 31 | |
| | Disagree | 34 | 35 | | 14 | 28 | 27 | |
| | Strongly Disagree | 38 | 49 | | 29 | 29 | 29 | |
| Access to confidential and non-judgmental sexual health services | Strongly agree | 37 | 42 | .467 | 26 | 30 | 23 | .149 |
| | Agree | 32 | 51 | | 24 | 23 | 36 | |
| | Neutral | 33 | 29 | | 28 | 15 | 19 | |
| | Disagree | 45 | 47 | | 32 | 30 | 30 | |
| | Strongly Disagree | 31 | 39 | | 16 | 25 | 29 | |

**Section 5: Sexual Behaviours and Practices**

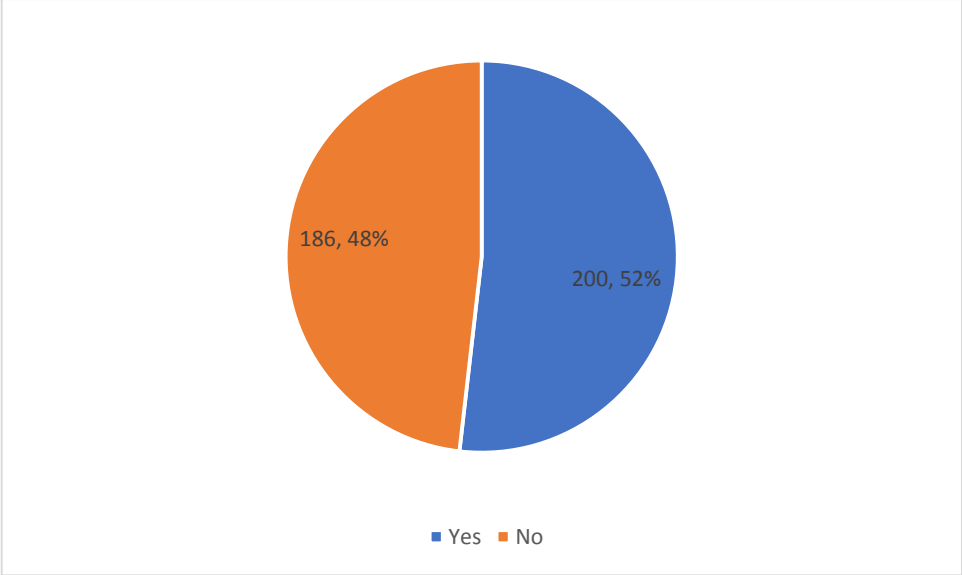


**Figure 4.6: Have you ever engaged in sexual activity?**

Figure 4.6 provided shows responses to the question, "Have you ever engaged in sexual activity?" 200 respondents (52%) indicated that they have engaged in sexual activity while 186 respondents (48%) indicated that they have not engaged in sexual activity.

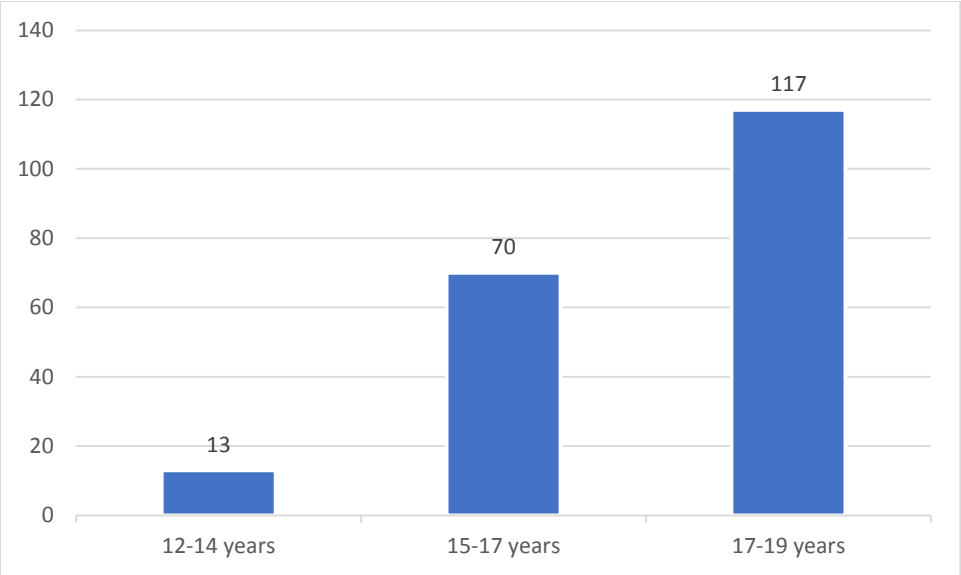


*Figure 4.7: At what age do you had your first sexual intercourse*

From the figure 4.7 above, out of 200 respondents who indicated that they had engaged in sexual activities, majority of the respondents 117(58.5%) had their first sexual intercourse at age 17-19 years, followed by 70(35%) at the age 15-17 years, the least is 13(6.5%) at the age 12-14 years.

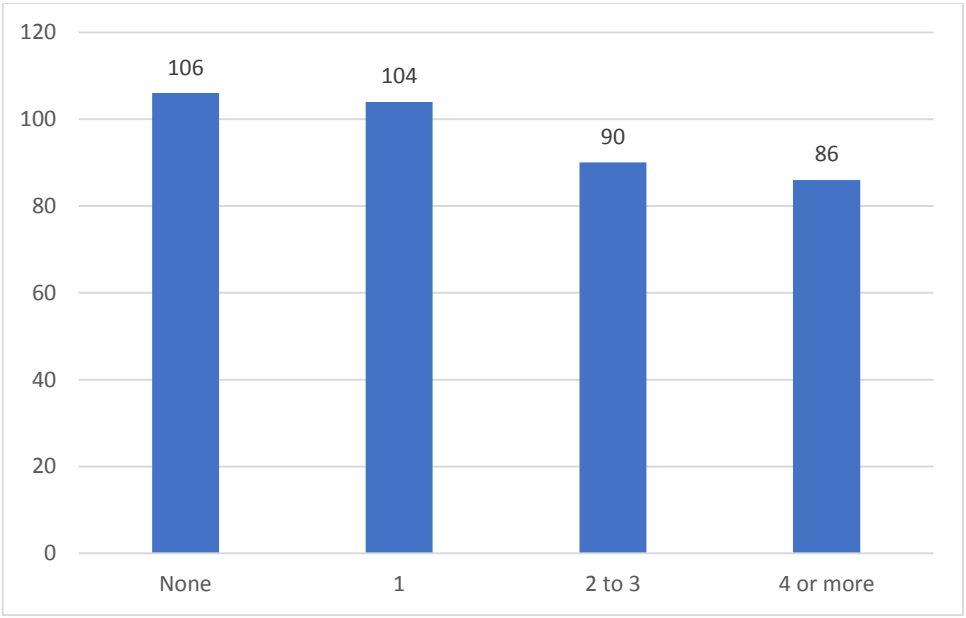


**Figure 4.8: How many sexual partners have you had in the past 12 months?**

The figure 4.8 provided shows responses to the question, "How many sexual partners have you had in the past 12 months?" 106 respondents (27.5%) reported having had no sexual partners in the past 12 months. 104 respondents (26.9%) reported having had one sexual partner in the past 12 months. 90 respondents (23.3%) reported having had 2-3 sexual partners in the past 12 months. 86 respondents (22.3%) reported having had 4 or more sexual partners in the past 12 months.

The table 4.10 below shows the types of sexual activity engaged in by the respondents, with a breakdown by gender and age groups. A total of 93 males and 121 females reported engaging in kissing. A total of 89 males and 115 females reported engaging in hugging/cuddling. A total of 89 males and 121 females reported engaging in oral sex. A total of 87 males and 113 females reported engaging in vaginal sex. The result indicates that no respondents (neither male nor female) reported engaging in anal sex. Among respondents aged 10-12 years, the majority engaged in activities like kissing and hugging/cuddling. The 13-15 years age group also reported engagement in these activities, with a slightly higher prevalence. The 15 years and above age group reported the highest prevalence of all types of sexual activities, except for anal sex, which was reported by none in any age group.

**Table 4.10: Types of sexual activity engaged by the respondents and demographic characteristic s**

**N= 386**

| | Gender | | Age | | |
|---|---|---|---|---|---|
| | Male (%) | Female (%) | 10-12yrs (%) | 13-15yrs (%) | 15yrs and above (%) |
| Kissing | 93(24) | 121(31) | 73(18) | 70(18) | 71(18) |
| Hugging/cuddling | 89(23) | 115(29) | 65(16.8) | 75(19.4) | 64(16) |
| Oral sex | 89(23) | 121(31) | 6(1.5) | 65(16.8) | 83(21) |
| Vaginal sex | 87(22) | 113(29) | 61(15.8) | 65(16.8) | 74(19) |
| Anal sex | 0 | 0 | 0 | 0 | 0 |

Missing value was indicated

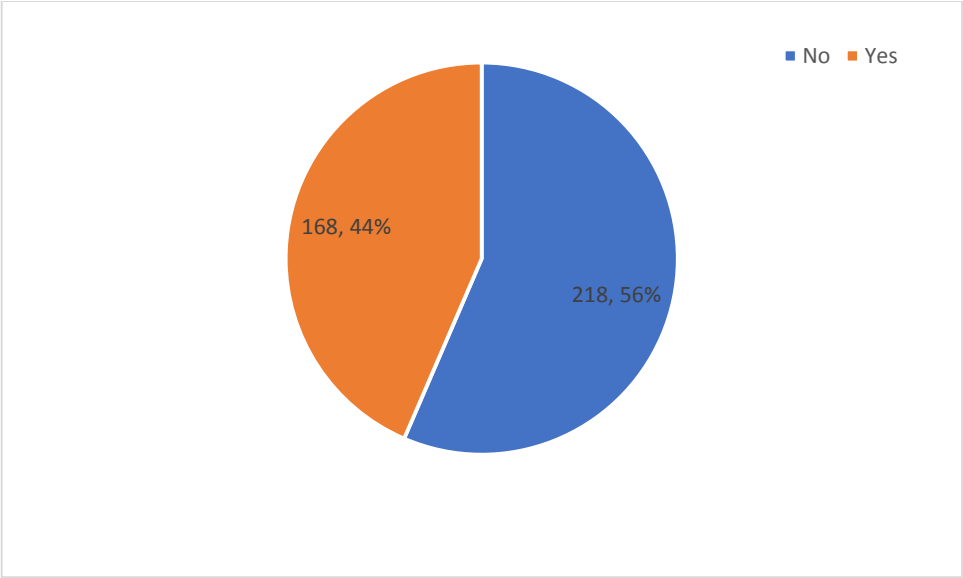


**Figure 4.8: Have you ever experienced an unintended pregnancy?**

Figure 4.8 shows responses to the question, "Have you ever experienced an unintended pregnancy?" 218 respondents (56%) reported that they have not experienced an unintended pregnancy. 168 respondents (44%) reported that they have experienced an unintended pregnancy.

**Hypothesis**

$H_0$: There is no significant relationship between the subject outline of sex education taught to in-school adolescents in Owerri North LGA and their level of knowledge regarding sexual health.

$H_1$: There is a significant relationship between the subject outline of sex education taught to in-school adolescents in Owerri North LGA and their level of knowledge regarding sexual health.

**Decision rule**: reject the null hypothesis if p-value is less than 0.05 level of significant, otherwise do not reject.

The table 4.11 presents the results of independent samples t-tests that were conducted to examine the relationship between the subject outline of sex education taught to in-school adolescents in Owerri North LGA and their level of knowledge regarding sexual health. The analysis assessed whether there were significant differences in the mean knowledge scores of students who strongly agreed or agreed with various statements related to the subject outline and those who didn't.

The p-value associated with the t-test for subject outline of sex education and relevant sexual health topics is 0.702, indicating that there is no statistically significant difference in the mean knowledge scores between students who strongly agreed/agreed that the subject outline covers relevant sexual health topics and those who didn't. The p-value for this subject outline and reproductive anatomy and physiology is 0.633, suggesting no statistically significant difference in the mean knowledge scores between students who strongly agreed/agreed and those who didn't regarding the subject outline covering reproductive anatomy and physiology. The p-value is 0.964, indicating that there is no statistically significant difference in mean knowledge scores related to consent and healthy relationships between students who strongly agreed/agreed with the subject outline and those who didn't. The p-value is 0.323, suggesting no statistically significant difference in mean knowledge scores about contraception methods and

effectiveness between the two groups. The p-value is 0.799, indicating that there is no statistically significant difference in mean knowledge scores regarding the prevention of STDs between the two groups. The p-value is 0.399, suggesting no statistically significant difference in mean knowledge scores related to sexual consent and the prevention of sex. The p-value is 0.879, indicating that there is no statistically significant difference in mean knowledge scores related to inclusivity in gender and sexual diversity. The p-value is 0.437, suggesting no statistically significant difference in mean knowledge scores regarding access to sexual and reproductive health services. p-value is 0.250, indicating no statistically significant difference in mean knowledge scores related to the use of interactive teaching methods.

**Table 4.11: Relationship between the subject outline of sex education taught to in-school adolescents in Owerri North LGA and their level of knowledge regarding sexual health**

**Independent Samples Test**

| | | Levene's Test for Equality of Variances | | t-test for Equality of Means | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | 95% Confidence Interval of the Difference | |
| | | F | p-value | t | df | p-value | Mean Difference | Std. Error Difference | Lower | Upper |
| The subject outline of sex education covers a wide range of relevant sexual health topics | Equal variances assumed | 2.733 | .099 | .383 | 384 | .702 | .05626 | .14684 | -.23244 | .34496 |
| The subject outline includes information on reproductive anatomy and physiology | Equal variances assumed | 3.460 | .064 | -.478 | 384 | .633 | -.06861 | .14341 | -.35058 | .21336 |
| The subject outline addresses issues related to consent and healthy relationships | Equal variances assumed | .070 | .792 | .045 | 384 | .964 | .00685 | .15121 | -.29045 | .30415 |
| the subject outline includes information on contraception methods and their effectiveness | Equal variances assumed | .280 | .597 | -.989 | 384 | .323 | -.14714 | .14872 | -.43955 | .14527 |
| The subject outline provides guidance on preventing sexually transmitted infections (STDs). | Equal variances assumed | 2.106 | .148 | .255 | 384 | .799 | .03668 | .14398 | -.24641 | .31976 |
| The subject outline covers the importance of sexual consent and the prevention of sex | Equal variances assumed | .094 | .759 | -.845 | 384 | .399 | -.12697 | .15029 | -.42247 | .16853 |
| The subject outline promotes an inclusive approach, addressing, issues of gender and sexual diversity | Equal variances assumed | .053 | .818 | -.153 | 384 | .879 | -.02217 | .14529 | -.30783 | .26349 |
| The subject outline provides information on accessing sexual and reproductive health services | Equal variances assumed | .413 | .521 | .779 | 384 | .437 | .10814 | .13884 | -.16483 | .38112 |
| The subject outline incorporates interactive teaching methods such as discussion and group activities. | Equal variances assumed | .486 | .486 | 1.153 | 384 | .250 | .16516 | .14329 | -.11657 | .44688 |

# CHAPTER FIVE

## 5.1 Discussion

The findings from this study shed light on various aspects of sexual health education, knowledge, attitudes, and behaviors among in-school adolescents in Owerri North LGA, Imo State, Nigeria. The study sample consisted of 386 respondents from diverse backgrounds, enabling us to gain valuable insights into this important and often sensitive topic.

The study's demographics revealed a relatively even distribution in terms of gender (53.4%) of the respondents were females (46.6%) were males, age groups (30.8%) were 10-12yrs, (32.6%) were 13-15yrs (36.5%) were 15yrs above, religious affiliations, and parental marital statuses among the adolescents. This diversity is important to consider when designing and implementing sex education programs, as it highlights the need for inclusivity and sensitivity to various backgrounds (Smith *et al.,* 2020). Regarding educational attainment, a significant portion of the adolescents were in senior secondary level (21.8%), emphasizing the importance of tailored sex education programs that address the specific needs and challenges faced by this age group (UNESCO, 2018). Parental occupations were diverse, with traders, civil servants, and farmers being the primary categories. These findings suggest that sex education programs should consider the potential influence of parental occupations on adolescents' perspectives and access to information (Hoffman & Maynard, 2008).

The study revealed that most respondents agreed that the subject outline of sex education covered relevant sexual health topics, including reproductive anatomy and physiology, consent, contraception methods, and prevention of sexually transmitted infections (STIs). This is in line with a study carried out by (Siti,2019) majority of the respondents agreed that comprehensive sex education expand knowledge, prevent promiscuity and prevents STIS. Is also in line with recommendations for comprehensive sex education programs (UNFPA, 2015). However, the

results also indicated room for improvement in addressing issues related to consent, healthy relationships, and inclusivity in gender and sexual diversity.

Level of knowledge of sexual health. Respondents answered true or false to various statement related to sexual health knowledge. Majority of my respondents believed and answered true to various statement related to sexual health knowledge which signified that the respondents have adequate knowledge on sexual health. This is in line with Nicole et al (2016) research where 99% of respondents have knowledge of sex education. Also, San Ranshid and Marisen (2016) study, 70% of respondents were knowledgeable enough in sexuality issues/sexual risks. Their knowledge pertaining to sexual and reproductive health, HIV and STIS.

Attitudes toward sexual health among the adolescents. Respondents have varying attitudes towards respecting and accepting different sexual orientations with respect to gender and age groups. Females strongly agree that open communication about sex and sexual health is important for adolescents compared to males. Older age groups (15yrs and above) have a positive and open-minded attitudes towards sexual health. While others expressed ambivalence or conservative views. These findings underscore the importance of addressing diverse attitudes and beliefs in sex education programs (Kirby *et al.,* 2007).

Sexual health behaviours. A notable finding was that a significant percentage (52%) of respondents reported have engaged in sexual activity. (48%) have not engaged in sexual activity. (27.5%) have no sexual partners in the past 12 months (26.9%) had one sexual partners ( 45.6%) had more than one sexual partners in the last 12 months. Higher number of the respondents engaged in both vaginal and anal sex which indicates that more than half of the respondents are sexually active. This is in line to the study carried out by Terefe (2020) majority of the respondents (61.7%) had more than one sexual partners while (38.3%) had one sexual partners.

In my findings, with the high knowledge of respondents on sexual health, most adolescents are sexually active, they fail to practice what is in their school curriculum regarding safe sex /sex education which make them vulnerable to contact sexually transmitted infections like HIV and Gonorrhea.

With regards to this findings, Non- governmental organization into STIs implementation should create awareness in secondary schools and sensitize in-school adolescents on HIV , its risk factors, ways of contacting it and how to prevent it.

## 5.2 Conclusion

Overall, these findings underscore the need for a holistic approach to sexual health education among in-school adolescents in Owerri North LGA and similar settings. Such an approach should encompass not only the dissemination of accurate information but also the promotion of positive attitudes, responsible behaviors, and access to supportive services. By addressing these aspects comprehensively and inclusively, policymakers and educators can contribute to the sexual health and well-being of adolescents in their communities, ultimately fostering healthier and more informed future generations.

### 5.3 Recommendation

Based on the findings of the study among in-school adolescents in Owerri North LGA, Imo State, Nigeria, the following recommendations are made to improve sexual health education and promote positive sexual health outcomes among adolescents:

1. **Strengthen Comprehensive Sex Education Programs**: Educational institutions should enhance existing sex education programs to cover a wide range of topics, including reproductive anatomy, consent, healthy relationships, contraception methods, sexually transmitted infections (STIs), and inclusivity in gender and sexual diversity. These programs should be evidence-based, age-appropriate, and culturally sensitive.
2. **Tailor Education to Specific Demographic Groups**: Recognize and address the diverse attitudes, beliefs, and knowledge levels among adolescents. Tailor educational initiatives to specific demographic groups, considering factors such as gender, age, and cultural background. Personalized approaches can engage adolescents more effectively and meet their unique needs.
3. **Involve Parents and Guardians**: Encourage open communication between parents, guardians, and adolescents about sexual health. Parents should be educated on how to approach these conversations and should be aware of the importance of their role in their child's sexual education. Schools can organize workshops or informational sessions to facilitate parent-child discussions.
4. **Promote Accessible and Youth-Friendly Sexual Health Services**: Ensure that adolescents have access to confidential, non-judgmental, and youth-friendly sexual health services. Healthcare providers should be trained to cater specifically to adolescent needs, offering services related to contraception, STI testing and treatment, and reproductive health counseling.

5. **Strengthen Peer Education Programs**: Engage peer educators within schools to promote accurate sexual health information and positive attitudes among adolescents. Peer-led initiatives can create a comfortable environment for discussions and increase the acceptability of sexual health education among adolescents.
6. **Implement Teacher Training Programs**: Provide comprehensive training for teachers to equip them with the knowledge and skills necessary to deliver effective sexual health education. Training programs should focus on addressing potential biases, promoting inclusivity, and fostering open dialogue.
7. **Conduct Further Research**: Continuously conduct research to understand evolving trends in adolescent sexual health, attitudes, and behaviors. This research can inform the development of targeted interventions and policies.
8. **Evaluate and Revise Curriculum**: Regularly evaluate the effectiveness of sexual health education programs through assessments, surveys, and feedback from students. Based on the results, revise and update the curriculum to ensure its relevance and impact.

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## APPENDIX A

**QUESTIONNAIRE ON IN SCHOOL SEX EDUCATION AND SEXUAL HEALTH KNOWLEDGE, ATTITUDE AND BEHAVIOUR AMONG IN-SCHOOL ADOLESCENTS IN OWERRI NORTH LGA IMO STATE.**

Department of Public Health Technology

Federal University of Technology

Owerri,

Imo State.

Dear Respondent,

**QUESTIONNAIRE DESIGNED ON IN SCHOOL SEX EDUCATION AND SEXUAL HEALTH KNOWLEDGE, ATTITUDE AND BEHAVIOUR AMONG IN-SCHOOL ADOLESCENTS IN OWERRI NORTH LGA IMO STATE.**

I am a post graduate student in the department of public health technology. Federal University of Technology Owerri, Imo state.

The questionnaire is for research purpose to obtain information on the research topic stated above. Information obtained will be treated with utmost confidentiality for which it was meant for.

Thanks, in anticipation

***Yours faithfully,***

***Amadi Ugochinyere Dominica***

**Section 1: Demographic Characteristics**

1. **Gender:**

   Male ☐ Female ☐

2. **Age:**

   10 – 12 yrs ☐ 13 – 15yrs ☐ 15yrs and above ☐

3. **Grade/Class:**

   Jss1 ☐ Jss2 ☐ Jss3 ☐ SSS1 ☐ SSS2 ☐ SSS3 ☐

4. **Religion: Christian** ☐ Muslim ☐ Traditional ☐

5. **Parental marital status:**

   married ☐ separated ☐ divorced ☐ widowed ☐

6. **level of education completed by your parents/guardians:**

   FSLC ☐ SSCE/WAEC ☐ Higher Institute ☐

7. **Parental occupation**:

   Trader ☐ Civil servant ☐ Farmer ☐

**Section 2:** To ascertain subject outline of sex-education taught in-school adolescents in Owerri North LGA.

**Please indicate your level of agreement with the following statements regarding the subject outline of sex education taught in your school.**

| | 0-2 score | 3-4 score | 5-6 score | 7-8 score | 9-10 score |
|---|---|---|---|---|---|
| **The subject outline of sex education covers a wide range of relevant sexual health topics.** | | | | | |
| **The subject outline includes information on reproductive anatomy and physiology.** | | | | | |
| **The subject outline addresses issues related to consent and healthy relationships.** | | | | | |
| **The subject outline includes information on contraception methods and their effectiveness.** | | | | | |
| **The subject outline provides guidance on preventing sexually transmitted infections (STIs).** | | | | | |
| **The subject outline covers the importance of sexual consent and the prevention of sexual** | | | | | |
| **The subject outline promotes an inclusive approach, addressing issues of gender and sexual diversity.** | | | | | |
| **The subject outline provides information on accessing sexual and reproductive health services.** | | | | | |
| **The subject outline incorporates interactive teaching methods, such as discussions and group activities.** | | | | | |

**Section 3: Level of Knowledge of Sexual Health**

**Please indicate whether the following statements are true or false:**

1. **Using a condom can help prevent sexually transmitted infections (STIs), including HIV.**

   True ☐ False ☐

2. **Emergency contraception (e.g., morning-after pill) can prevent pregnancy after unprotected sex.**

   True ☐ False ☐

3. **HIV/AIDS can be transmitted through sharing needles or syringes.**

   True ☐ False ☐

4. **Genital warts and herpes are curable STIs.**

   True ☐ False ☐

5. **Abstinence means avoiding all types of sexual activity.**

   True ☐ False ☐

6. **The most effective form of contraception is the birth control pill.**

   True ☐ False ☐

7. **Condoms are not effective in preventing pregnancy.**

   True ☐ False ☐

8. **Hepatitis B is a viral infection that can be transmitted through sexual contact.**

   True ☐ False ☐

9. **Sexually transmitted infections (STIs) can be present without any noticeable symptoms.**

   True ☐ False ☐

10. **Have you received any formal sexual health education in your school?**

    Yes ☐ No ☐

11. **If yes, please rate the effectiveness of the sexual health education you have received.**

    Very effective ☐ Effective ☐ Neutral ☐

    Ineffective ☐ Very ineffective ☐

12. **Where do you typically seek information about sexual health? (Check all that apply)**

    School ☐ Parents/guardians ☐ Healthcare providers ☐

Friends ☐ Internet ☐ Media (TV, radio, etc.) ☐

**13. How confident do you feel in your knowledge about sexual health topics?**

Very confident ☐ Confident ☐ Somewhat confident

Not very confident ☐ Not confident at all ☐

**14. Have you received information about the following topics as part of your sex education? (Check all that apply)**

Anatomy and physiology of reproductive systems ☐

Puberty and hormonal changes ☐

Safe sex practices ☐

Contraception and pregnancy prevention ☐

Sexually transmitted infections (STIs) and their preventi ☐

Consent and healthy relationships ☐

Gender and sexual orientation ☐

Reproductive rights and responsibilities ☐

Other (please specify): _____

**15. How would you rate your overall knowledge about sexual health?**

Very knowledgeable ☐

Knowledgeable ☐

Neutral ☐

Not knowledgeable ☐

Not at all knowledgeable ☐

**16. What is your attitude towards sex and sexual health? (Check all that apply)**

Positive and open-minded ☐

Neutral ☐

Ambivalent ☐

Negative or conservative ☐

Other (please specify): _____

**Section 4: Attitudes towards Sex and Sexual Health**

**Please indicate your level of agreement or disagreement with the following statements:**

| | **Strongly Agree** | **Agree** | **Neutral** | **Disagree** | **Strongly Disagree** |
|---|---|---|---|---|---|
| Open communication about sex and sexual health is important for adolescents. | | | | | |
| Adolescents should have access to comprehensive sex education in schools. | | | | | |
| Engaging in sexual activity should be based on informed and consensual decisions. | | | | | |
| It is important to use contraception to prevent unwanted pregnancies and sexually transmitted infections (STIs). | | | | | |
| Discussing sexual health with a partner is a crucial aspect of a healthy relationship. | | | | | |
| Sexuality is a natural and normal part of human life. | | | | | |
| It is important to respect and accept people of different sexual orientations and gender identities. | | | | | |
| Adolescent pregnancy and early parenthood can negatively impact a person's educational and career opportunities. | | | | | |
| Cultural and religious beliefs should not restrict discussions and education about sex and sexual health. | | | | | |
| Adolescents should have access to confidential and non-judgmental sexual health services. | | | | | |

**Section 5: Sexual Behaviours and Practices**

1. **Have you ever engaged in sexual activity?**

   **Yes** ☐ **No** ☐

   **If the answer to question 40 is "Yes," please answer the following questions. If the answer is "No," please skip to Section 6.**

2. **Age at first sexual encounter: _____ years**

3. **How many sexual partners have you had in the past 12 months?**

   None ☐ 1 ☐ 2-3 ☐ 4 or more ☐

4. **Which of the following types of sexual activity have you engaged in? (Check all that apply)**

   Kissing ☐ Hugging/cuddling ☐ Oral s ☐

   Vaginal sex ☐ Anal sex ☐ Other (please specify): _____

5. **Do you consistently use condoms during sexual intercourse?**

   Yes, always ☐ Sometimes ☐ No, never ☐

6. **Have you ever been tested for sexually transmitted infections (STIs)?**

   Yes ☐ No ☐

7. **Have you ever been diagnosed with a sexually transmitted infection (STI)?**

   Yes ☐ No ☐

8. **Are you currently using any form of contraception to prevent pregnancy?**

   Yes ☐ No ☐

9. **Have you ever experienced an unintended pregnancy?**

   Yes ☐ No ☐

10. **If you have not engaged in sexual activity, what are the reasons for abstaining? (Check all that apply)**

    Personal values and beliefs ☐ Lack of interest ☐

    Not ready or mature enough ☐ Waiting until marriage ☐

    Concerns about pregnancy or STIs ☐

    Lack of access to contraceptives or sexual health services ☐

    Other (please specify): _____

## APPENDIX B

### KEY WORDS

1. In-school adolescents
2. Sexual health education
3. Sexual health knowledge
4. Sexual health attitudes
5. Sexual health behaviors
6. Formal sexual health education
7. Reproductive anatomy
8. Consent
9. Contraception methods
10. Sexually transmitted infections (STIs)
11. Attitudes toward sex
12. Multiple sexual partners
13. Unintended pregnancies
14. Peer education programs
15. Youth-friendly sexual health services
16. Cultural and religious beliefs
17. Access to sexual health information
18. Knowledge assessment