

Knowledge of Puberty, Sexually Transmitted Infections, and Sexual Behavior Among Very Young Female Adolescent Students' 10–14 Years in Agbor Metropolis, Nigeria

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ABSTRACT

Background: Adolescence marks the beginning of transition between childhood and adulthood. However, inadequate knowledge about this transition remains a challenge among this group.

Objective: This study was therefore designed to investigate the knowledge of puberty, sexually transmitted infections (STIs), and sexual behavior among very young female adolescent students aged 10-14 years in Agbor metropolis, Nigeria.

Methods: A qualitative and quantitative cross-sectional study was conducted among female adolescent students (10–14 years). The discussants were grouped into ages 10–12 years and 13–14 years. A total of four focus group discussions were conducted among the two groups in two government secondary schools in the study area, while a semi-structured questionnaire which comprised sociodemographic characteristics, knowledge of puberty, STIs, and sexual behavior was used to collect the quantitative data. The qualitative data were analyzed thematically for themes and content, while the quantitative data were analyzed using SPSS Version 15.0.

Results: The result shows most of the respondents 96 (97.0%) have heard of puberty and were able to define puberty 82 (85.40%). Furthermore, majority of the respondents have heard of the word human immunodeficiency virus 95 (96.0%) and STI 60 (60.6%), but few 4 (4.0%) have heard of the word contraceptive. In addition, only 12 (12.10%) of the respondents have a boyfriend, out of which only 3 (3.0%) have had sex at the age of 9 and 11 years, respectively.

Conclusions: The results shows some of the respondents are already sexually active at that young age, therefore more intervention programs targeting these group of students should be carried out regularly in schools nationwide.

Key words: Knowledge, puberty, sexual behavior, sexually transmitted infections, students, very young female adolescent

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INTRODUCTION

Adolescence is the most important period of human life as it marks the beginning of transition between childhood and adulthood. Globally, there are about 1.2 million adolescent in the world today, 90% of these adolescent lives in the lower and middle income countries and are between 10 and 19 years, 15% of this population are between 10 and 14 years, often referred to as very young adolescent.¹

This transition between childhood and adulthood usually set the stage for future sexual and reproductive health outcome. Thus, this transitional stage is often critical as these younger ones are faced with profound biological, emotional, and social changes associated with the passage

through puberty.^{2,3} Menarche, the onset of menstruation in girls remains a challenge as they are uninformed, unprepared, and lack advice on how to manage their monthly menstrual period. These young female often times hide the onset of menses from others, missing school due to fear of a shameful menstrual leak.⁴ Evidence has demonstrated lack of understanding on how menstruation occurs, how menstruation relates to fertility and when to calculate and expect their monthly period.⁴

For instance, in a study conducted across four African countries, only between 17% and 31% of female adolescents

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aged 12–14-year-old were able to identify and report experiencing their menstruation.⁵⁻⁸

This transitional stage could be as devastating as girls at this stage of sexual maturation feel afraid, ashamed and confused most times.⁴ Furthermore, girls see parents, mostly mothers as primary source of information and support during this transitional stage but most parents are not equipped to address issue relating to puberty.⁹ Thus, leaving most of these young adolescents to obtain information on their reproductive health to peers and friends, who in turn may not have adequate knowledge on sexual and reproductive health.⁹ Consequently, most of these adolescents grow up to engage in early sexual activity and risky sexual practices including unprotected sex with multiple partners. For example, in a study conducted at Ile-Ife South Western Nigeria on male adolescents aged 15–19 years and found that 76% of the secondary school youths had been sexually active within the past 12 months, 5% with prostitutes and 56% with more than one partner, but that only 8% had used a condom during that year.¹⁰ Subsequently, some of these adolescents will grow up to account for a high proportion of sexually transmitted diseases including human immunodeficiency virus (HIV) in the country.¹¹

Furthermore, studies still show sub-optimal 7% and 44%, level of knowledge of symptoms of sexually transmitted infection (STI) for men and women, among adolescents aged 15–19-year-old. In addition, research also confirms that many young people participate in risky sexual activities including early debut of sexual activities, multiple sexual partners, low and inconsistent use of condoms.¹²⁻¹⁴ Similarly, most of the previous studies focused more on adolescents aged 15–19 years, thus leaving a gap among the very young adolescents 10–14-year-old. Furthermore, this age group has been overlooked in most sexual and reproductive health programs yet this group of females face health challenges with little or no knowledge about puberty, sexuality and reproduction. There is a need to access the knowledge of very young female adolescent student on puberty, STIs, and sexual behavior. Thus, this study was designed to determine the knowledge of puberty, STIs, and sexual behavior among very young female adolescent students' 10–14 years in Agbor metropolis, Nigeria.

Conceptual framework

The sociocultural environment logic framework¹⁵ was adapted for this study to explain the relationship among the variables. The theory includes the determinants of sexual behavior which includes age, knowledge of puberty, HIV, and STI, having a boyfriend or friends that have boyfriends. Consequently, the immediate behavioral outcome is safe sexual behavior. The health outcome will be healthy youth and population.

MATERIALS AND METHODS

Study design

This study is a descriptive cross-sectional survey using both qualitative and quantitative method of data collection. The

study focused on very young female adolescents (10–14 years) in two government secondary schools; Dein Secondary School and Ime-Obi Secondary School, Agbor, Delta State.

Study area

The area of the study is Ime-Obi Secondary School and Dein Secondary School, Agbor, Delta State of Nigeria. The school is located in Ika South Local Government Area of Delta State.

Study population

The study focused on very young female adolescents in two government secondary schools. Dein Secondary School and Ime-Obi Secondary School, Agbor, Delta State.

Inclusion criteria

The study focused on very young female adolescent students in junior secondary school (JSS) 1–3 between 10 and 14 years of age.

Exclusion criteria

Female adolescents below 10 years and above 14 years were not included in the study. Senior secondary class were not also included in the study.

Sample size determination

For the quantitative study, a sample size of 100 was calculated using the formula for sample size determination for single proportion; while a total of 20 students from both schools were used in generating the qualitative data.

Sampling technique

There are six government secondary school in Agbor metropolis which are Ogbemudein Secondary School, Agwu-Ewuru Secondary School, Iwu-Iyase Secondary School, Dein Secondary School, Agbor Technical Secondary School and Ime-Obi Secondary School. A random sampling through balloting was used to select two schools namely Dein Secondary School and Ime-Obi Secondary School. Four focus group discussions (FGDs) were used to obtain the qualitative data. Two FGDs with five respondents each were conducted between respondents of ages 10–12 years in Dein Secondary School and Ime-Obi Secondary School while two FGDs with five respondents each were conducted between respondents of ages 13 and 14 years in Dein Secondary School and Ime-Obi Secondary School. Purposive sampling was used to select the respondents in the FGDs.

Furthermore, random sampling technique was used to collect the quantitative data, 50 students from each school were randomly picked in the classroom. Students in JSS 1–3 were used for the study because most of the students in the age bracket of 10–14 years are usually in these classes in public secondary schools which were used for the study. Students in each of the classes were asked to stand and those students within the age bracket were randomly selected and given questionnaire to fill. The filled questionnaires were immediately retrieved from the respondents after filling. A total of 100 questionnaires were distributed but only 99 were retrieved giving a response rate of 99%. Both the FGD

and the questionnaire distribution were done concurrently so as to prevent those that took part in the FGD from partaking in filling the questionnaire.

Instruments for data collection

Data collection in the study was carried out using FGD guide which was adapted from save the children formative research guide on very young adolescent girls and a semi-structured questionnaire which was developed. The FGDs was carried out among very young female adolescent student using a FGD interview guide. The FGD was conducted to assess respondent's knowledge on differences between sexes, fertility awareness, romance and sexual attraction, while a semi-structured questionnaire was self-administered to obtain information on the respondent sociodemographic characteristics, knowledge of puberty, STIs, and sexual behavior.

Data collection technique

The participant consented to the use of tape recorder during the FGD. The use of a voice recorder allowed the capture of their responses clearly during the discussion. The questionnaire administered were monitored properly and ensured that questions were read out for easy understanding since they are very young adolescent.

Data analysis

To ensure the validity and reliability of the instrument, the qualitative guide was pretested in Amai Mixed Secondary School. Cronbach alpha test reliability was used to determine the reliability of the instrument. The Cronbach alpha reliability statistics gave 0.703. Data generated were analyzed using SPSS version 15.0 (IBM Corp., Chicago, USA). Descriptive statistics were used to evaluate frequency distribution, while Chi-square test were performed to test for the association between variables of interest with level of significance set at $P < 0.05$.

Ethical consideration

Ethical approval for the study was obtained from the Department of Public and Community Health, Novena University Ethical Committee. In addition, an official approval for the study was given by the principal of Ime-Obi and Dein Secondary School, Agbor Delta State, respectively.

RESULTS

Quantitative findings

According to Table I, 30 (30.3%) of the respondents were 14 years old, and 44 (44.5%) were in JSS 3. Similarly, almost half 48 (48.5%) of these respondents had fathers who attained secondary education and more than half 54 (54.5%) of these respondent had mothers who were business women.

Table II shows that majority of the respondents, 82 (85.4%) said puberty is the period of maturity, 44 (45.8%) identified breast and hips development as signs of puberty in girls, and 25 (26.1%) mentioned hair in the armpit and reproductive part. This shows that some of the respondents had knowledge

Table I: Sociodemographic information

Variables	Frequency (%)
Age (years)	
10	6 (6.1)
11	13 (13.1)
12	21 (21.2)
13	29 (29.3)
14	30 (30.3)
Name of school	
Dein secondary school	50 (50.5)
Ime-Obi secondary school	49 (49.5)
What class are you?	
JSS 1	25 (25.5)
JSS 2	30 (30.5)
JSS 3	44 (44.5)
What is your father's highest level of education	
No formal education?	5 (5.1)
Primary	5 (5.1)
Secondary	48 (48.5)
Tertiary	41 (41.4)
What is your mother's highest level of education?	
Civil servant	7 (7.1)
Trader	34 (34.3)
Artisan	2 (2.0)
Business woman	54 (54.5)
Others	1 (1.0)
Pastors wife	1 (1.0)

JSS: Junior secondary school

Table II: Knowledge of puberty among respondents

Variable	Frequency (%)
Have you heard of puberty?	
Yes	96 (97.0)
No	3 (3.0)
If yes what is puberty	
Puberty is the period of maturity	82 (85.4)
Beginning of menstruation	7 (7.3)
Don't know	4 (4.2)
Puberty is one that do not have money	3 (3.1)
What is your source of information on puberty?	
Parents	25 (26.0)
Friends	7 (7.34)
School	47 (48.95)
Hospital/clinic	15 (15.63)
Mass media	2 (2.08)
List the signs of puberty in girls	
Hair in the armpit and reproductive part	25 (26.1)
Breast development and hips	44 (45.8)
Flow of blood/menstruation	14 (14.6)
Don't know	12 (12.5)
The girl can eat freely	1 (1.0)
The menstrual cycle is the period from one menstruation to another	
Yes	65 (65.7)
No	34 (34.3)

of puberty. Furthermore, almost two-third 65 (65.7%) of the respondents affirmed that menstrual cycle is the period from one menstruation to another.

As shown in Table III, majority 95 (96%) have heard of the word HIV, while 83 (87.4%) of the respondent “defined it as human immune virus” and 60 (60.6%) of the respondent were aware of STI and 25 (41.67%) correctly identified HIV/AIDS as a type of STI. In addition, few 4 (4.0%) have heard of the word contraceptive, while most 53 (53.50%) believes use of condom can prevent pregnancy and diseases.

As shown in Table IV, 12 of the respondent (12.1%) affirmed to have a boyfriend while 87 (87.9%) do not have a boyfriend. Few of the respondents 3 (3.0%) have had sex and 96 (97.0%) have not. Moreover, 2 (66.7%) of the respondents agreed to have had sex 1 week ago while 1 (33.3%) attested to have had sex more than 6 months ago and 1 (33.3%) had sex at the age of 9 years.

According to Table V, 12 (12.1%) have a boyfriend, out of which only 3 (3.0%) of the respondents have had sex. Statistically, there is a significant difference between the respondents that have boyfriend and those that had sex ($P = 0.00$).

In addition, 9 (9.1%) of the respondent have been kissed or romanced before, out of which 3 (3.0%) of these respondent have had sex. Moreover, there was a significant difference between respondents that have been kissed and romanced and those that have had sex ($P = 0.00$) [Table V].

Furthermore, 18 (18.2%) of the respondent had close friends who ever had sex, out of which only 3 (3.0%) have had sex. Furthermore, statistically, there was a significant difference between the respondent who have close friends who have had sex and those who have had sex ($P = 0.00$) [Table V].

Qualitative findings

As the quantitative response of most of the respondents have knowledge of puberty and were also able to mention some changes that takes place in girls during puberty.

“Puberty is a stage whereby a child grows from childhood to adolescent” and “girls begin to develop breast and menstruate.”

In addition, questions were asked who do girls usually meet for advice during puberty; most of the respondents say they usually meet their mothers and teachers.

“Girls meet their mothers and sometimes their teachers for advice.”

Fertility awareness

On fertility, awareness most of the respondents understand menstruation and were able to identify that boys do not menstruate.

“Menstruation is when a girl begins to see her period”

“Boys do not menstruate because they do not have womb.”

Sexual behavior

Many of the respondents affirmed that they have friends who have boyfriends and some said their friends have more than one boyfriend.

Table III: Knowledge of sexually transmitted infections among respondents

Variable	Frequency (%)
Have you heard of the word HIV?	
Yes	95 (96.0)
No	4 (4.0)
If yes what is the full meaning of HIV?	
HIV	83 (87.4)
Human inefficiency virus	1 (1.1)
AIDS	1 (1.1)
Don't know	5 (5.3)
Have you heard of STI?	
Yes	60 (60.6)
No	39 (39.4)
If yes which of the following is a type of STI	
Gonorrhoea	15 (25.0)
Syphilis	17 (28.47)
HIV/AIDS	25 (41.67)
Genital herpes	2 (3.33)
Cancroids	1 (1.53)
Have you heard of contraceptive?	
Yes	4 (4.0)
No	95 (96.0)
Can the use of condom prevent pregnancy and diseases?	
Yes	53 (53.5)
No	46 (46.5)

HIV: Human immune virus, AIDS: Acquired immune deficiency virus, STI: Sexually transmitted infections

Table IV: Sexual behavior and relationship experience

Variables	Frequency (%)
Do you have a boyfriend?	
Yes	12 (12.1)
No	87 (87.9)
Have you ever had sex?	
Yes	3 (3.0)
No	96 (97.0)
If yes when last did you have sex?	
1 week ago	2 (66.7)
>6 months	1 (33.3)
How old where you when you had sex?	
9 years	1 (33.3)
11 years	2 (66.7)
Where you physically forced, rapped or threatened into having sex?	
No	3 (100.0)
Have you been kissed or romanced? before	
Yes	9 (9.1)
No	90 (90.9)
Do you have close friend who ever had sex?	
Yes	18 (18.2)
No	81 (81.8)

“My friends usually have more than one boyfriend”

Furthermore, the respondents reveal what it means to have a boyfriend.

Table V: Relationship among the variables

Variables	Have you ever had sex? (%)		χ^2	df	P
	Yes	No			
Do you have a boyfriend?					
Yes	3 (3.0)	9 (9.1)	22.430	1	0.000
No	0 (0)	87 (87.9)			
Have you been kissed or romanced before?					
Yes	3 (3.0)	6 (6.1)	30.938	1	0.000
No	0 (0)	90 (90.9)			
Do you have close friends who ever had sex?					
Yes	3 (3.0)	15 (15.2)	13.922	1	0.000
No	0 (0)	81 (81.8)			

“Having a boyfriend means sharing a problem with each other”

“They play together by touching each other’s breast”

“They have sex together.”

On issues the respondents would like to be addressed about their sexuality in the school; some suggested discipline from the school authorities as one narrated.

“The other day a teacher saw a boy and girl, having sex in class and they didn’t caution them.”

Similarly, the discussants suggested if the issue of pornography can be addressed,

“I would want the school to address the issue of pornographic pictures and movies.”

DISCUSSION

The study shows most of the respondents 96 (97.0%) have heard of puberty and were able to define puberty 82 (85.40%). Furthermore, majority of the respondents have heard of the word HIV 95 (96.0%) and STI 60 (60.6%), but few 4 (4.0%) have heard of the word contraceptive. In addition, only 12 (12.10%) of the respondents have a boyfriend, out of which only 3 (3.0%) have had sex.

The findings shows most of the respondents have heard of puberty and were able to list signs of puberty in girls. This finding is similar to a study in Calabar where 90% of the students were knowledgeable of puberty¹⁶ and also similar to a study conducted across four African countries of Burkina Faso, Ghana, Malawi and Uganda where adolescents were able to list signs of puberty among boys and girls.⁵⁻⁸ Furthermore, however, the Focus Group Discussions shows most of the respondents could not properly define menstrual cycle and when a woman is most likely to get pregnant during her menstrual cycle. This finding is similar to previous studies.^{7,9,17,18}

In addition, in the National HIV/AIDS and Reproductive Health Survey,¹² 80% of males and 62% of females age (15–49) are aware of condom as a type of contraceptive. However, only

few of the respondents have heard of contraceptive; but more than half believes use of condom can prevent pregnancy and diseases. This is similar to previous study which reported high awareness of condom use among adolescents.^{19,20}

Naturally, girls see parents, mostly mothers as the primary source of information and support during adolescent stage but most parents are not equipped to address issue relating to puberty.⁹ A significant proportion of respondents in the FGD conducted claim to discuss issues of puberty with their mother and friends. This was further corroborated by the quantitative study were almost half and one-fourth of the respondents sources of information on puberty were from school and parents, respectively. This is in line with a study conducted in Pakistan where a small group of female adolescents reported getting information from parents or guardian.²¹ Parent’s communication with their adolescent girls has been reported to be important because sexual activity usually begin at this stage.^{12,22} Thus, parents especially mothers should be empowered and encouraged to communicate with their adolescent girls who may receive inaccurate and contradictory messages about puberty, menstruation and sexual experimentation that can misguide them in the pursuit of better and safer reproductive health.

Furthermore, majority have awareness of the word HIV and STI. This finding is similar to a previous study which reported significant awareness and knowledge of HIV and STI among in-school adolescent girls in Kano, Northern Nigeria.²⁰

Sexual behavior and relationship experience shows some of the respondents have had sex at that young age. This finding is similar to the study in Kano where few sexual activities was reported among female in-school adolescents.²⁰ This relationship of sexual activity and some independent factors was further highlighted as there was a significant association between respondents who had a boyfriend, respondents that have been kissed or romanced before, respondents who have close friends that had sex prior to the study and respondents who had ever had sex ($P = 0.00$). This shows having a boyfriend or being kissed or romanced and having friendship with peers who are already sexually active might influence the sexual activity of adolescents.²³

Limitation of the study

Findings in this cross-sectional study conducted in two schools in Agbor Ika LGA, may not represent the knowledge and sexual behavior of all in-school adolescents nation-wide. Information bias from respondents may not be totally excluded as the authors depended solely on the responses provided by the respondents in both the qualitative and quantitative methods.

CONCLUSION

Respondents demonstrated awareness and knowledge of puberty, HIV, and STIs; however, some are already sexually active; therefore, more intervention programs targeting these group of adolescents in schools should be carried out regularly

as these group marks the beginning of the transition from childhood to adulthood and every choice they make concerning their sexual behavior will go on to affect their lives as adults.

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Conflicts of interest

There are no conflicts of interest.

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