

“Understanding the changes in your body through sex education” among secondary school students in Kofai Ward, Jalingo, Taraba State

Modesta Ifeoma Mbah^{1,*}, Beauty Felix Nyatse², Mohammed Sani Samari³



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ABSTRACT

Introduction: This study was prompted by the eagerness of adolescents to gain information concerning the physical and physiological changes they observe in their bodies and aimed to help adolescents understand these changes. **Methods:** A school-based cross-sectional study was conducted among students in Kofai Government Secondary School in Jalingo between February 2021 and November 2021. Two hundred thirty-three students were selected by stratified and simple random techniques. Data were collected using a self-structured questionnaire and analyzed using the special package for social sciences (SPSS) 23.0 for Windows (SPSS Inc., Chicago II, USA). **Results:** The results obtained were summarized by frequencies and percentages. The demographic characteristics revealed that male students comprised 51.5% of the respondents, while female students comprised 48.5%. Students within the age range of 16-20 formed more than half (52.8%) of the respondents. Additionally, 53.2%, that is, more than half of the respondents, were in junior secondary school. The students had a high (more than 80%) understanding of the changes that take place in their bodies. A moderate (< 80%) understanding of 'what sexual intercourse is' was also revealed in the results, in addition to a high (> 90%) understanding of their sexual emotions/feelings. **Conclusion:** It is therefore recommended that sex education be made a compulsory subject so that the concept of sexuality will be explored fully and to enable students/adolescents to obtain accurate and current information.

Key words: adolescents, age, body changes, educational level, gender, sex education

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INTRODUCTION

Change, both physical and physiological, always accompanies growth and development. Physical and physiological changes are usually more prominent during adolescence. Adolescence is a unique time of physical and psychological growth and, for many, a time when sexual and romantic exploration begins¹, the period between childhood and adulthood. The World Health Organization (WHO) defines an adolescent as anyone between 10 and 19 years. This age range falls within the WHO's definition of young people, which refers to individuals between ages 10 and 24. However, in many societies, the adolescent period is regarded as the puberty period, and the cycle of physical changes climaxes in reproductive maturity². It is necessary for adolescents to know how to protect themselves from HIV/STDs and premature pregnancies³.

According to this study⁴, sexuality education is a lifelong process of acquiring information and forming attitudes, beliefs and values about gender toward building a strong foundation for sexual health. Sexuality education (SE) can also be regarded as a lifelong

process of acquiring information and developing attitudes, perceptions and values about sex, sexual identity and intimacy^{5,6} proposes that sexuality education means teaching about human sexuality, including intimate relationships, human sexual anatomy, sexual reproduction, sexually transmitted infections, sexual activity, sexual orientation, gender identity, abstinence, contraception, and reproductive rights and responsibilities⁶.

Prabhu (2022) showed that comprehensive sexuality education (CSE) programs offered at schools can lead to positive outcomes⁷. The benefits of CSE include a delay in the initiation and reduction in the frequency of sexual intercourse, a reduction in the number of sexual partners, and an increase in condom use. Studies on the effects of sex education in schools show that sex and AIDS education often encourages young people to delay sexual activity and to practice safer sex once they are active⁷. Sex education emphasized to help young people gain the information and skills they need to live and maintain a morally sound lifestyle⁸. Quality sexual health education (SHE) equips students with what it takes to

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help them to be healthy and avoid human immunodeficiency virus (HIV), sexually transmitted diseases (STDs), and unintended pregnancy. It addresses the health and sexual needs of all students. It also teaches students how to cope with their social environment and to live a healthy life⁹.

There is a need to appropriately educate adolescents on their sexual life. Where is the right place? Is it the schools? The home? Religious institutions? Social media? Among these, schools have been acknowledged as sites for sexual health promotion⁵. Schools are an ideal place to strengthen adolescents' sexual knowledge and modify their behavior, guiding them to exercise responsible sexuality¹⁰.

In contrast, some studies on sex education have suggested that exposure to formal sex education appears to have no consistent effect on the subsequent probability that a teenager will begin to have intercourse¹¹. Osadolor *et al.* (2022) reported that most students (54.6%) received initial sex education from schools, while the least (4.9%) was from books and magazines, and recommended that streamlining sex education needs by age and sex characteristics could enhance its effectiveness since the needs of adolescents could vary by demographics¹². Maimunah (2019) reported that to date, the concept of sex education is still considered taboo in the community and therefore rarely receives concern at both home and school¹³. Bada and Adewumi (2019) propounded that "it is important to impact knowledge about sex education on adolescents because it affects the level of morality among youths; it deters them from engaging in pornographic behaviors¹⁴. Akande and Akande (2017) reported a high (72.3%) awareness of sexuality education among students of a rural secondary school in Kwara State, Nigeria, although their knowledge was gained through an informal strategy and many of the respondents would therefore like a formal program included in the post primary school curriculum⁴. Herman *et al.* (2013) reported that "adolescents in Northern Uganda are at risk of teenage pregnancies, unsafe abortions and sexually transmitted infections (STIs) because there was silence on sex both at home and school"¹⁵. According to Kumar *et al.* (2017), "sex education and sexuality is unaccepted in many communities and among some parents, adolescents feel shy and scared to talk about sex education." Sexuality education has been shown to aid in reducing the risks of, and even preventing, adolescent pregnancy, HIV, and sexually transmitted infections for children and adolescents with and without chronic health conditions and disabilities in the United States⁶. Based on the observations from the

review of related literature, it is obvious that there is no known report on the knowledge of physiological and physical changes in the bodies of adolescents as they mature into adults therefore, this study aimed to help students understand the changes that take place in their bodies.

METHODS

A school-based cross-sectional study was conducted among secondary school students in Kofai government secondary school, Jalingo, Taraba state, between February 2021 and November 2021. Two hundred and thirty-three students were selected by simple and stratified random sampling. Data collection was performed using a self-structured questionnaire, while the analyses were performed using Special Package for Social Sciences (SPSS) 23.0 for Windows (SPSS Inc. Chicago, IL, USA). The results are summarized by frequencies and percentages in tables. The association between the knowledge of the students on sex education and age, gender and educational class level were tested using Chi Square at the 0.05 level of significance.

Table 1: Questionnaire Distribution

Questionnaire	Frequency (233)	Percentage (100%)
Administered	233	100
Retrieved	233	100

Table 2: Sociodemographic Information of Respondents

Variable		Frequency (233)	Percentage (%)
Gender	Male	120	51.5
	Female	113	48.5
Age	10 - 15 years	91	39.0
	16 - 20 years	123	52.8
	21 years and above	19	08.2
Class	JSS 1 - 3	124	53.2
	SSS 1 - 3	109	46.8

Table 3: The extent to which Kofai Secondary School Students understand the changes in their bodies

Items	Gender	Response	Frequency	Percent Level of Knowledge		
				(%)	Freq.	(%)
Have you heard about sex education?	Male	Yes	113	94.2	223	95.7
		No	7	5.8		
	Female	Yes	110	97.3		
		No	3	2.7		
Is it normal for an adolescent male have erection?	Male	Yes	113	94.2	208	89.3%
		No	7	5.8		
	Female	Yes	95	84.1		
		No	18	15.9		
Is it normal for an adolescent m male to have nocturnal emission (wet dreams)	Male	Yes	109	90.8	196	84.1
		No	11	9.2		
	Female	Yes	87	77.0		
		No	26	23.0		
Have you heard about ovulation?	Male	Yes	98	81.7	203	87.1
		No	22	8.3		
	Female	Yes	105	92.9		
		No	8	7.1		
Have you heard about safe period?	Male	Yes	99	82.5	201	86.3
		No	21	17.5		
	Female	Yes	102	90.3		
		No	11	9.7		
Have you heard about menstrual	Male	Yes	116	96.7	224	96.1
		No	4	3.3		
	Female	Yes	108	95.6		
		No	5	4.4		
Do you know that a woman is only fertile for about three days in each menstrual cycle?	Male	Yes	110	91.7	215	92.3
		No	10	8.3		
	Female	Yes	105	92.9		
		No	8	7.1		
Do you know that once a female starts ovulating or menstruation she can become pregnant when she has sexual intercourse with a mature	Male	Yes	117	97.5	223	95.7
		No	3	2.5		
	Female	Yes	106	93.8		
		No	7	6.2		
Is it normal for an adolescent female to have an offensive vaginal discharge?	Male	Yes	116	96.7	224	96.1
		No	4	3.3		
	Female	Yes	108	95.6		
		No	5	4.4		

Table 4: The extent to which students of Kofai Secondary School understand “sexual intercourse”

Items	Age group	Response	Frequency	Percent Level of Knowledge		
				(%)	Freq.	(%)
Do you know that having sexual intercourse is not a proof of love for your unmarried partners?	10-15 years	Yes	50	54.9	187	80.1
		No	41	45.1		
	16-20 years	Yes	118	95.9		
		No	5	2.1		
	21 and above years	Yes	19	100.0		
		No	0	0.0		
Do you know that single contraceptives like pills, condom cannot give 100% protection from STI and pregnancy?	10-15 years	Yes	47	51.6	183	78.5
		No	44	48.4		
	16-20 years	Yes	120	97.6		
		No	3	2.4		
	21 and above years	Yes	16	84.2		
		No	3	15.8		
Do you know that abstinence is the best way to prevent unwanted pregnancy and STI?	10-15 years	Yes	81	89.0	218	93.6
		No	10	11.0		
	16-20 years	Yes	119	96.7		
		No	4	3.3		
	21 and above years	Yes	18	94.7		
		No	1	5.3		
Have you ever heard about egg white?	10-15 years	Yes	36	39.6	167	71.7
		No	55	60.4		
	16-20 years	Yes	116	94.3		
		No	7	5.7		
	21 and above years	Yes	15	78.9		
		No	4	21.1		
Do you think sex education should be taught in school?	10-15 years	Yes	87	95.6	227	97.4
		No	4	4.4		
	16-20 years	Yes	121	98.4		
		No	2	1.6		
	21 and above years	Yes	19	100.0		
		No	0	0.0		
Do you have a girl/riend/boyfriend?	10-15 years	Yes	20	22.0	152	65.2
		No	71	78.2		
	16-20 years	Yes	116	94.3		
		No	7	5.7		
	21 and above years	Yes	16	84.2		
		No	3	15.8		
Have you ever had sexual intercourse with him or her?	10-15 years	Yes	10	11.0	137	58.8
		No	81	89.0		
	16-20 years	Yes	111	90.2		
		No	12	9.8		
	21 and above years	Yes	16	84.2		
		No	3	15.8		
How often do you sleep with him/her in a month?		Every week	107	45.9		
		Once	19	8.2		
		Twice	11	4.7		

RESULTS

Two hundred thirty-three questionnaires were administered, and all were properly completed and returned, as presented in **Table 1**.

The respondents included one hundred (51.5%) males and 113 (48.5%) females. The respondents can be categorized into the following groups based on age: 10-15, 16-20 and ≥ 21 years, comprising 91 (39%), 123 (52.8%) and 19 (8.2%) students, respectively. For educational class, 124 (53.2%) students were in JSS 1-3, while 109 (46.86%) students were in SSS 1-3, as shown in **Table 2**.

Two hundred and twenty-three (95.7%) students had heard about sex education, while 208 (89.3%) students knew that it is normal for a male child to have an erection. However, one hundred and ninety-six (84.1%) students knew that it is normal for an adolescent male to experience nocturnal emission (wet dreams). Meanwhile, 203 (87.1%) students had heard about ovulation, while 201 (86.3%) had heard about a safe period. Two hundred and twenty-four (96.1%) students had heard about the menstrual period/women's cycle, while 215 (92.3%) were aware that "a woman is only fertile for about three days in each menstrual cycle". Two hundred and twenty-three (95.7%) students knew that "once a female starts ovulating or menstruation she can become pregnant when she has sexual intercourse with a mature male during her unsafe period", while 224 (96.1%) students thought it is normal for an adolescent female to have an offensive vaginal discharge. This is presented in **Table 3**.

One hundred eighty-seven (80.1%) students knew that "having sexual intercourse is not a proof of love for unmarried partners", while 183 (78.5%) students knew that "single contraceptives like pills, condoms cannot give 100% protection from STI and pregnancy". Additionally, 218 (93.6%) students knew that "abstinence is the best way to prevent unwanted pregnancy and STI", while 167 (71.7%) students had heard about egg white. Two hundred and twenty-seven (97.4%) students agreed that "sex education should be taught in school"; 152 (65.2%) students had a girlfriend/boyfriend, while 137 (58.8%) had sexual intercourse with their partner. One hundred and seven (45.9%) of the students slept with the partner every week in a month, while 19 (8.2%) slept once and 11 (4.7%) twice in a month. Twenty-one (9.0%) students slept with their partner to get favor, 94 (40.3%) could not resist sleeping with their partner, and 12 (5.2%) slept with their partner to prove their love. The remaining 10 (4.3%) slept with their partner because

they were afraid of losing the person. This is presented in **Table 4**.

Two hundred and twenty-four (96.1%) students knew that "a girl can get pregnant by having sexual intercourse with a man just once". Additionally, 120 (95.3%) students knew that "if one does not have sexual intercourse with someone who has sexual feelings for him/her, the person will not be in pain", while 227 (97.4%) students knew that "if you do not make sexual advances to someone of the opposite sex that is close to you that it does not mean you are a homosexual". Two hundred thirty-two (99.6%) students knew that "having sexual feelings for someone is momentary and fades away with time". One hundred ninety-five (83.7%) students knew that "having carnal knowledge of one's friend does not make the relationship last longer", while 229 (98.3%) students knew that abortion is murder. This is presented in **Table 5**.

DISCUSSION

Two hundred thirty-three questionnaires were administered, and all were properly completed and returned (**Table 1**). The respondents included one hundred (51.5%) males and 113 (48.5%) females. The respondents can be categorized into the following groups based on age: 10-15, 16-20 and ≥ 21 years, comprising 91 (39%), 123 (52.8%) and 19 (8.2%) students, respectively. For educational class, 124 (53.2%) students were in JSS 1-3, while 109 (46.86%) students were in SSS 1-3 (**Table 2**).

Two hundred and twenty-three (95.7%) of the students reported having heard about sex education. This is because as adolescents get older, they always notice various changes in their bodies, which usually leads them to source information. The level of knowledge obtained in this study is higher than the 90.8% reported by Osadolor et al. (2022)¹². A higher percentage (97.3%) of female students than male students (94.2%) had heard about sex education (**Table 3**). This is because the changes in a female's body, such as enlargement of the breast and menstruation, as the person matures into adolescence are so pronounced that the individual will be left with no choice than to search for information concerning her observations. Two hundred and eight (89.3%) students knew "it is normal for an adolescent male to have erection." This agrees with an article by the previous publication¹⁶. A higher percentage (94.2%) of the male students than females (84.1%) knew that it is normal for a male child to have an erection (**Table 3**). This is because most of the male students had regularly observed such an occurrence and had also discussed it among themselves. One hundred ninety-six (84.1%)

Table 5: The extent to which students of Kofai Secondary School understand their sexual feelings/hormonal changes

Items	Class	Response	Frequency	Percent Level of Knowledge		
				(%)	Freq.	(%)
Do you know that a girl can get pregnant by having sexual intercourse with a man just once?	JSS1-3	Yes	119	96.0	224	96.1
		No	5	4.0		
	SSS1-3	Yes	105	96.3		
		No	4	3.7		
Do you know that if you do not have sexual intercourse with someone who has sexual feelings for you, the person will not be in pain?	JSS1-3	Yes	113	91.9	222	95.3
		No	11	8.1		
	SSS1-3	Yes	109	100.0		
		No	0	0.0		
Do you know that if you do not make sexual advances to someone of the opposite sex that is close to you it does not mean you are homosexual?	JSS1-3	Yes	118	95.2	227	97.4
		No	6	4.8		
	SSS1-3	Yes	109	100.0		
		No	0	0.0		
Do you know that having sexual feelings for someone is momentary and fades away with time?	JSS1-3	Yes	123	99.2	232	99.6
		No	1	0.8		
	SSS1-3	Yes	109	100		
		No	0	0.0		
Does having carnal knowledge of your friend make the relationship to last longer?	JSS1-3	Yes	102	82.3	195	83.7
		No	22	17.7		
	SSS1-3	Yes	93	90.3		
		No	16	9.7		

students knew “it is normal for a male adolescent to have nocturnal emission”, which agrees with an article (by Physical changes in puberty) ¹⁶. A higher percentage (90.8%) of male students than of female students (77.0%) knew that it is normal for an adolescent male to experience wet dreams (Table 3). Once again, this is because most of the male students had observed and discussed the same among themselves.

Two hundred and three (87.1%) students had heard about ovulation (Table 3). A higher percentage (92.9%) of female students than their male counterparts (81.7%) reported having heard about ovulation (Table 3). This is because once a female has reached the age of puberty, the discharges that she observes in her vagina make her wish to know more about what is happening in her body. Two hundred and one (86.3%) students have heard about safe periods” (Table 3). A female is generally most fertile for a few days in her menstrual cycle ¹⁷. This indicates that

the other times are her safe period. A higher percentage (90.3%) of the female students than the male students (82.5%) had heard about safe periods (Table 3). This is because of the fear of getting unwanted pregnancy. Two hundred and twenty-four (96.1%) students had heard about the menstrual/women’s cycle (Table 3). Surprisingly, a higher percentage of male (116/96.7%) than female (108/95.6%) female students had heard about the menstrual cycle/women’s cycle (Table 3). This is because most traditions in Africa forbade males from having carnal knowledge of the females during their menstrual period. They are therefore always conscious of the women’s cycle. Two hundred and fifteen (92.5%) students knew that “a woman is only fertile for about three days in each menstrual cycle” (Table 3). A woman is most likely to become pregnant during her unsafe period ¹⁸. A higher percentage (92.9%) of the female students than the male (91.7%) students were aware that “a

woman is only fertile for about three days in each menstrual cycle" (Table 3). This is because of the need to avoid unwanted pregnancy. Two hundred twenty-three (95.7%) students knew that "once a female starts ovulating or menstruating, she can become pregnant when she has sexual intercourse with a mature male during her unsafe period" (Table 3). This is because her body is most receptive to sperm during her unsafe period. A higher percentage (97.5%) of the male students knew that "once a female starts ovulating or menstruating, she can become pregnant when she has sexual intercourse with a mature male during her unsafe period" compared to the female students (95.6%). Two hundred and twenty-four (96.1%) students erroneously believed it is normal for an adolescent female to have an offensive vaginal discharge (Table 3). The students did not know the difference between a normal vaginal discharge (such as early pap, late pap, egg white) and an abnormal one.

One hundred eighty-seven (80.1%) students knew that "having sexual intercourse is not a proof of love for unmarried partners" (Table 4). Approximately one-fifth of the students thought that "sleeping with their partner is a way of showing the person who they love him/her." Fifty (54.9%) students within the age range of 10-15 were the least among the three age groups that knew that "having sexual intercourse is not a proof of love for unmarried partners" (Table 4). This is because they were still young and inexperienced. One hundred eighty-three (78.5%) students knew that "single contraceptives like pills, condom cannot give 100% protection from STI and pregnancy" (Table 4). The use of condoms does not guarantee 100% protection from sexually transmitted infections or pregnancy, and to avoid unwanted pregnancy, different methods of family planning must be adopted¹⁹. The percentage of the students who knew that "contraceptives like pills, condoms cannot give 100% protection from STI and pregnancy" was highest (97.6%) among students within the age range of 16-20 years, while the lowest percentage (51.6%) was among students within the age range of 10-15 years (Table 4). This is because most (121; 98.4%) of the students within 16-20 years had slept with someone else (Table 4) and had personal testimonies to provide them with the knowledge. Two hundred and eighteen (93.6%) students knew that "abstinence is the best way to prevent unwanted pregnancy and STI" (Table 4). Abstinence is the only form of birth control that guarantees protection from becoming pregnant and infection with sexually transmitted diseases²⁰. The percentage of the students who knew that "abstinence is the best way to prevent unwanted pregnancy and STI"

was highest (96.7%) among students within the age range of 16-20 years and lowest (89.0%) within the age range of 10-15 years (Table 4). This is because of the personal experiences of the students within this age range (16-20). One hundred sixty-seven (71.7%) students had heard about egg whites (Table 4). The appearance of egg white cervical mucus indicates a step away from ovulation. Gurevich (2022) states that this is the most fertile kind of cervical mucus²¹. The percentage of students who had heard about egg whites was highest (94.3%) among students within the age range of 16-20 years, while the lowest percentage (39.6%) was among students within the age range of 10-15 years (Table 4). However, again, this is connected with their being sexually more active than the other age groups (Table 4). Moreover, the students within the 10-15 age group were often believed to be too young, and much information would be hidden from them.

Two hundred and twenty-seven (97.4%) students agreed that sex education should be taught in school. It is good for sex education to be taught in schools because it ensures that students obtain the right and most current information concerning their sexual life. According to the report by Kumar et al. (2017), 96.1% of the respondents supported the teaching of a comprehensive course on adolescent sexual and reproductive health³. The percentage of students who would like sex education to be taught in schools was highest (100%) among students who were more than 21 years old, while the lowest percentage (95.6%) was among students within the age range of 10-15 years (Table 4). This is because students >20 years are more mature and better understand the importance of accurate and current information. One hundred fifty-two (65.2%) students had a boyfriend/girlfriend (Table 4). This was because of their eagerness to socialize. The percentage of students who had a girlfriend/boyfriend was highest (94.3%) among students who were within the age range of 15-20 years, while it was the lowest (22.0%) among students within the age range of 10-15 years (Table 4). Students of the age range 15-20 had partners more commonly because they believed that having a boy/girl friend is a way of socializing, which they popularly call 'hanging out.' They wanted to be termed "big girl"/"big boy" as the case may be. One hundred thirty-seven (58.8%) students reported that they had sexual relationships with their partner. This may be related to the erroneous information they obtained from peers that sexual intercourse helps to stop menstrual pains. Most of the male students got involved in sexual intercourse because they did not want to be naïve regarding sex,

especially when discussing with peers on such topics. The percentage of students who have had sexual intercourse obtained in this study is higher than the 46% reported by Dawson (1986)¹¹. The percentage of students who had sexual intercourse with a girlfriend/boyfriend was highest (90.2%) among students who were within the age range of 15-20 years, while the lowest percentage (11.0%) was among students within the age range of 10-15 years (Table 4). This was because most of the students between the ages of 15 and 20 wanted to experiment with what they had heard about or watched. For some others, it was as a result of curiosity. One hundred and seven (45.9%) of the students slept with the partner every week in a month, while 19 (8.2%) slept once and 11 (4.7%) twice (Table 4). Some of the students engaged in sexual intimacy in this way because their partners were not available, while for others, it was in a bid to avoid unwanted pregnancy. Twenty-one (9.0%) of the students slept with their partner to get favored, 94 (40.3%) could not resist the urge, and 12 (5.2%) of them slept with their partner to prove their love. The remaining 10 (4.3%) slept with their partners because they were afraid of losing the person (Table 4).

Two hundred and twenty-four (96.1%) students knew that “a girl can get pregnant by having sexual intercourse with a man just once” (Table 5). Once a woman has unprotected sex during or around her ovulation period, there is a high chance of pregnancy occurring²². Eighty-five percent of women who have unprotected sex even only once in a while will become pregnant within one year²³. A higher percentage (96.3%) of the senior secondary school (SSS) students than the junior secondary school (JSS) students (96.0%) knew that “a girl can get pregnant by having sexual intercourse with a man just once” (Table 5). This is because the SSS students accessed more information, especially from television, peers, internet and books, than the JSS students. Two hundred and twenty-two (95.3%) students believed that “if one does not have sexual intercourse with someone who has sexual feelings for him/her, the person will not be in pain” (Table 5). A case study reported in “Can not having sex be harmful to your health?” by John Murphy (2021) involved a 14-year-old male who experienced scrotal pain that started with sexual arousal, which stopped on his own when the person waited for one hour²⁴. All 109 (100%) of the SSS and 113 (91.9%) of the JSS students believed that “if one does not have sexual intercourse with someone who has sexual feelings for him/her, the person will not be in pain” (Table 5). All (100%) of the SSS students were aware of this because they are more mature and

have had more sexual experiences than the junior students. Two hundred and twenty-seven (97.4%) students knew that “if you do not make sexual advances to someone of the opposite sex that is close to you, that it does not mean you are a homosexual” (Table 5). Most medical experts believe that, in general, sexual orientation (being heterosexual and homosexual) is not a matter of choice but an inherent and natural tendency²⁵. One hundred and eighteen (95.2%) of the JSS students and 109 (100%) SSS students knew that “if you do not make sexual advances to someone of the opposite sex that is close to you, it does not mean you are a homosexual” (Table 5). A lower percentage was obtained among JSS because they were more naïve. Two hundred thirty-two (99.6%) students knew that “having sexual feelings for someone is momentary and fades away with time” (Table 5). Boone (2020) proposed that sexual feelings are momentary²⁶. One hundred and twenty-three (99.2%) of the JSS students and 109 (100%) SSS students knew that “having sexual feelings for someone is momentary and fades away with time” (Table 5). Personal experiences made all the SSS students aware of this. One hundred ninety-five (83.7%) students knew that “having carnal knowledge of your friend does not make the relationship last longer” (Table 5). This supports a story narrated by Peterson *et al.* (2012) “about Jessie who slept with most people around her, and yet she could not proudly call any of them her friend”²⁷. A higher percentage (90.3%) of SSS students than JSS students (82.3%) knew that “having carnal knowledge of your friend does not make the relationship last longer” (Table 5). This is because most of them had lost some of their sexual partners within months of sleeping with the person.

CONCLUSION

Most students understood the changes in their own body better than they understood those in the opposite sex. However, a large number of these students, especially those within the age range of 16-20, sleep with their counterpart opposite sex and most engage in this act because they cannot resist the urge. Nevertheless, slightly below half of them slept with their partners once every week. Meanwhile, the students did not know the difference between normal vaginal discharge (such as early pap, late pap, egg white) and abnormal vaginal discharge. It is therefore recommended that both male and female students have equal knowledge of the changes that occur in each other's bodies.

ABBREVIATIONS

None.

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AUTHOR'S CONTRIBUTIONS

All authors contributed sufficiently to the conceptualization, design of the manuscript, editing, and revision.

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AVAILABILITY OF DATA AND MATERIALS

Data and materials used and/or analyzed during the current study are available from the corresponding author on reasonable request.

ETHICS APPROVAL AND CONSENT TO PARTICIPATE

Ethical approval was obtained from the ethical review committee of the Department of Public Health, Taraba State University Jalingo. Also, the approval of the Institution and the informed consent of the participants were obtained.

CONSENT FOR PUBLICATION

Not applicable.

COMPETING INTERESTS

The authors declare that they have no competing interests.

REFERENCES

- Mullinax M, Mathur SS, Santelli J. Adolescent Sexual Health and Sexuality Education. International Handbook on Adolescent Health and Development; 2016.
- Csikszentmihalyi M. "adolescence"Encyclopedia Britannica,InvalidDate, <https://www.britannica.com/science/adolescence>. Accessed 19 October 2022.
- Kumar R. Knowledge Attitude and Perception of Sex Education among School Going Adolescents in Ambala District, Haryana, India: A Cross-Sectional Study. J Clin Diagn Res. 2017;11(3):LC01-LC04. Available from: [10.7860/JCDR/2017/19290.9338](https://doi.org/10.7860/JCDR/2017/19290.9338).
- Akande A, Akande TM. Knowledge and Perception of Sexuality Education among Students of Rural Secondary School in Kwara State, Nigeria. The Nigerian Medical Practitioner. 2007;52(3):55-9. Available from: [10.4314/nmp.v52i3.28893](https://doi.org/10.4314/nmp.v52i3.28893).
- Adogu PO, Nwafulum OS. Knowledge, Attitude and Willingness to Teach Sexuality Education among Secondary School Teachers in Nnewi, Nigeria. British Journal of Education, Society & Behavioral Sciences (Basel, Switzerland). 2015;7(3):184-93.
- Breuner CC, Mattson G, Adelman WP, Alderman EM, Garofalo R, Marcell AV, et al. Sexuality Education for Children and Adolescents. Pediatrics. 2016;138(2):e20161348. Available from: [10.1542/peds.2016-1348](https://doi.org/10.1542/peds.2016-1348).
- Prabhu V. Sex education to adolescents. Health Library; 2022.
- Unknown author. what are the Goals of sex education.. Planned Parenthood Federation of America Inc.2022a.
- CDC.Division of Adolescent and School Health, National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention.2020.
- Ramírez-Villalobos D, Monterubio-Flores EA, Gonzalez-Vazquez TT, Molina-Rodríguez JF, Ruelas-González MG, Alcalde-Rabanal JE. Delaying sexual onset: outcome of a comprehensive sexuality education initiative for adolescents in public schools. BMC Public Health. 2021;21(1):1439. PMID: [34289834](https://pubmed.ncbi.nlm.nih.gov/34289834/). Available from: [10.1186/s12889-021-11388-2](https://doi.org/10.1186/s12889-021-11388-2).
- Dawson DA. The effects of sex education on adolescent behavior. Family Planning Perspectives. 1986;18(4):162-70. PMID: [3792529](https://pubmed.ncbi.nlm.nih.gov/3792529/). Available from: [10.2307/2135325](https://doi.org/10.2307/2135325).
- Osadolor UE, Amoo EO, Azuh DE, Mfonido-Abasi I, Washington CP, Ugbenue O. Exposure to Sex Education and Its Effects on Adolescent Sexual Behavior in Nigeria. Journal of Environmental and Public Health. 2022;2022:3962011. PMID: [35692663](https://pubmed.ncbi.nlm.nih.gov/35692663/). Available from: [10.1155/2022/3962011](https://doi.org/10.1155/2022/3962011).
- Maimunah S. Importance of Sex Education from the Adolescents' Perspective: A Study in Indonesia. Journal for Psychological Research. 2019;3(1):23-30. Available from: [10.32591/coas.ojpr.0301.03023m](https://doi.org/10.32591/coas.ojpr.0301.03023m).
- Bada FO, Adewumi DM. Adolescents knowledge of sex education and moral sexual behaviour in Ado-Ekiti, Ekiti State, Nigeria. European Journal of Education Studies. 2019;9. Available from: [10.46827/ejes.v0i0.2241](https://doi.org/10.46827/ejes.v0i0.2241).
- Herman L, Ovuga E, Mshilla M, Ojara S, Kimbugwe G, Adrawa AP, et al. Knowledge, Perceptions and Acceptability to Strengthening Adolescents' Sexual and Reproductive Health Education among Secondary Schools in Gulu District. International Journal of Social, Behavioral, Educational, Economic, Business and Industrial Engineering. 2013;7(7):2118-2128.
- Raising children network (Australia) Limited (2022) Physical changes in puberty. Raising Children.net.Au. The Australian parenting website.; 2022.
- The children's hospital of Philadelphia. Menstrual cycl: an overview. 2022; 2022.
- Seli E, Aria A. Patient education:Ovulaion induction with Clomiphene (Beyond the Basics). 2022. Uptodate@www.uptodate.com;.
- Lonna P, Gordon LP. Are condoms 100% effective? Teens Health. Adolescent Medicine at Nenours Children's health.2022a.
- Lonna P, Gordon LP. Abstinence Teens Health. Adolescent Medicine at Nenours Children's health. 2022.
- Gurevich R. What is egg white cervical mucus(EWCM)? An article on Verywell family. Dotdash Media,Inc.; 2022.
- Olga A. Birth Control. An article on Flo Health Inc. 2020.
- Unknown author. Can I get pregnant after having sex just once. An article on Community Pregnancy Center. 2022.
- Murphy J. Cannot having sex be harmful to your health? An article on MDLinx; 2021.
- Kids Health Behavioral Health Experts. Sexual attraction and orientation. Nemours children health.
- Boone JK. Heart-racing romantic feelings fade over-time- here's why. An article on Virginia Tech. 2020;.
- Peterson HW. Better Angels. Library of Congress Control. 2012 number_2012905517.