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High School Student's Knowledge, Attitude and Participation in Sexual Health Education in Rural Northern Ghana

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Abstract

Background: In Ghana, sex education has been a part of the post-independence school curriculum, aimed to fill a significant knowledge gap, prepare them to make healthy sexual choices. However, sex education is not apparent in the schools. We aimed to understand senior high school adolescents' knowledge, perspectives on contraceptive use, and attitude towards sexual health education in the Upper East Region of Ghana. **Methods:** This was a descriptive study involving 329 students (from 15 - 19) comprising males (n = 166, 50.5%) and females (n = 163, 49.5%) from a senior high school in the Upper East Region of Ghana. Eighteen-point Likert scale items with four-point responses—strongly agree, agree, disagree, and strongly disagree—were used to measure students' perspectives in the Upper East Region, Ghana. **Results:** The results show that most students (n = 150, 45.6%) strongly disagreed with reporting first developmental changes to parents and teachers. For students who agree (n = 101, 30.7%), more males than females (55.4% versus 44.6%) favoured the recommendation. About 42% strongly disagreed with seeking professional counsel on contraceptive use, with more (52.6%) females in support of non-use of the advice of health personnel. Similarly, most respondents sought information on sex education from peers and were more comfortable associating and sharing adolescent experiences than with parents and teachers. **Conclusion:** There is inadequate knowledge of the adolescent youth on sexual health issues. Therefore, we recommend that qualitative studies be conducted to understand the students' views on sexual and reproductive health knowledge and access to services.

Keywords

Adolescent Health, Sex Education, Contraception, Health Education, Ghana

1. Background

Adolescents worldwide are sexually active and tend to engage in potentially unhealthy sexual behavior. For example, the 2014 Ghana Demographic and Health Survey [1] indicates Adolescents aged 10 - 19 and young adults aged 20 - 24 together constitute 29.3% of Ghana's population and face particular challenges related to sexual and reproductive health, risks and vulnerabilities [2]. It is estimated that about 15 million adolescents aged 15 - 19 years give birth yearly, 4 million obtain an abortion, and about 100 million become infected with sexually transmitted diseases (STDs) annually [3] [4] [5]. Globally, about 40% of all HIV/AIDS cases involve adolescents aged 15 - 20 years; an estimated 7000 youth are infected daily [6] [7] [8]. The 2011 UN Millennium Development Goals Report [9] has shown that nearly 23%of people living with HIV, globally, are under the age of 25. Young people aged 15 to 20 accounts for 41% of new infections among those aged 15 and older, and women represent a slight majority (about 60%) of people living with HIV in 2017 [8].

There are many reasons for the growing attention to the health of adolescents in Ghana. Adolescent sexual health education has transitioned from the National Adolescent Health and Development Programme in 2001 to the current medium-term Adolescent Health Service Policy and Strategy (2016-2020) [10]. Previous policy frameworks have engineered the reduction of HIV infections among adolescents aged 15 - 20 years decreased from 50% to 30% in 2015. Another achievement was realised in respect of about72% of females, aged below 20 years who reported having used skilled assistance during birth [2] [10]. In terms of family planning, only 5% and 17% of females aged 15 - 19 and 20 - 24, respectively received messages when they visited a health facility in 2015 [10]. All of these interventions aim to prepare the future generations for responsible living and ensure youth actively participate in the development discourse, provide them with information, education, and communication on reproductive and sexual health, prevention of early pregnancy, family planning, sexually transmitted infections prevention [11], achieving a decline in age at first sex, reducing rates of unsafe abortion, and education about sexual identities and relationships within the social context of the society, responsible sexual attitudes and behavior [12] [13].

Ghana has experienced a high growth rate of the youth population over the last two decades [14]. The early sexual maturation among females and males, together with a tendency for sexual activity to begin at younger ages than later, has increasingly placed adolescents at risk of sexually transmitted infections (STIs) such as HIV/AIDS [15] [16]. As is the case in many African communities, this early maturation occurs in the context of rapid social change that disrupts family life [5]

[17] [18]. Hence, social and religious institutions, such as the extended family, the church, and mosques, which once governed values and rites of passage such as marriage, have been largely replaced by secular institutions [19] [20]. Notwithstanding the literature has shown that sexual matters are among popular topics for conversation and gossip [14], research also shows that a confluence of cultural, religious, and geographical factors creates a sensitive environment where issues of sexual and reproductive health have remained a taboo for decades [21] [22] [23]. For example, in Ghana, it is also culturally unwelcome to discuss sex and sexual issues with adolescents outside the family [24], including teachers and health professionals [18] [19] [22] [23]. Considering this, exposure of young adults to unsafe sex, drugs, and alcohol abuse seems to be on the increase [2] [10]. These practices constitute risky sexual behaviours accounting for the incidence of STIs among a more significant number of the youth [12] [16].

Sex education since post-independence in Ghana (1980) has always been dealt with in Ghana's educational system by integrating it into other subject areas within the framework of the School Health Programme (SHEP) [10] [25]. Relative to improving sexual behaviour, all schools, including senior High Schools (SHS), are supposed to have lessons related to sex and safe sex practices and encourage students to translate such lessons into practice.

Although Ghana has implemented adolescent sexual health education after independence, it appears few understand, respond to behavioural changes, and apply the relevant knowledge in their lives. Aside from this, little is known about the impacts of high school sexual health education on adolescents. Therefore, this study aimed to understand students' knowledge, attitude, and participation in sex education, as delivered in one secondary high school in Ghana; in so doing, it addresses the following questions:

Study Objectives

The study sought to:

1) Examine the knowledge level of students at a Senior High School on sex education.

2) Determine the usage of family planning methods/practices among students at the senior high school.

3) Assess the attitude of students at the senior high school towards sex education.

2. Methods

2.1. Design

The study was an exploratory, descriptive survey to assess the sexual behaviour of students of Zuarungu Senior High School. The descriptive design attempts to conclude findings to cover the target population and explaining what happens at a point in time.

2.2. Study Setting

This study was carried out in a Senior High School. The School is in a Bolgatanga East District in the Upper East region of Ghana and lies along the Bolgatanga-Bawku highway (**Figure 1**). This senior high school was chosen for the study through a random balloting procedure. The district has a population of about 28,641 [26] [27]. In terms of occupation, the residents of the locality were predominantly peasant farmers. The district shares boundaries with Tongo district to the South, Bolgatanga Municipal to the West, Nabdam district to the East, and Bongo District to the North [27].

2.3. Study Population

The target population for the study was all students in a Senior High school in the Upper East Region, Ghana. Participants in the study ranged from 14 - 19 years in age and spanned through all classes in the school.

2.4. Sampling and Sample Size

Total enrolment in the school during the time of the study between August to December 2019 was 2081 students comprising 946 (45.5%) males and 1135 (54.5%) females. From the total enrolment, a proportionate sample of 329 was chosen using Krejcie and Morgan's [28] published tables for determining sample size.

A systematic random selection procedure was employed in selecting participants. The school had a total of 27 classrooms. Given the total number of students and gender disaggregation, a list of all students present at school during the survey was obtained from the school authorities, and after exclusion of thirty-one students who refused consent to participate in the study. From the list of all students who gave voluntary verbal consent to participate, a systematic but random selection of every k^{th} student was considered. Thus, from the normal-row seating

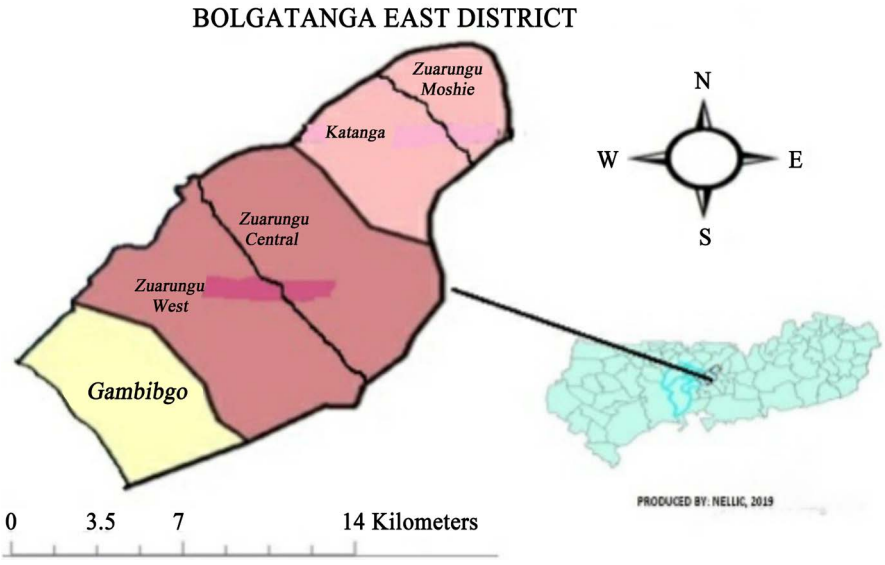

Figure 1. Map of Bolgatanga East District.

arrangement in each class, every 6th student was selected, until the final person in the 27th class was considered. The procedure generated a total sample of 329 students, comprising 166 (50.5%) males and 163 (49.5%) females. Only 87 students were first-year students.

2.5. Instrumentation

A structured questionnaire was used in this study. These questions were developed from knowledge of current literature and the study contexts. The instruments were pilot tested with a sample of 57 students in a different senior high school in the same region. Questions were structured into six sections: socio-demographic information, sexuality education at home, sex education in the school, knowledge of students on sex education, contraceptive use among students, and the attitude of students towards sex education.

2.6. Data Processing, Management, and Analysis

All questionnaires were manually examined for completeness, then hand-coded and entered IBM SPSS (version 20) statistical software. Two research assistants double entered the data. Each member of the research team then independently compared the two data entries. Data completeness and correctness were ensured by running and comparing frequencies on each variable from the two data sets. This helped check incorrectly coded or entered data. All incorrectly coded/entered data were double-checked with raw data from the questionnaires, and all errors were discussed and resolved. A single database was then created and agreed upon before the data analysis commenced. Descriptive statistics were used to describe the crucial characteristics of participants. All variables were summarised into frequencies and proportions.

2.7. Quality Control

Three research assistants with a minimum undergraduate degree in the social sciences and public health fields who were proficient in the English Language were recruited and trained by the research team for a week on ethics in research, questionnaire administration, data integrity, and confidentiality issues of participants. The training also included interpretation of survey questions and data management. The research team comprised experts in quantitative research who ensured data collection followed the study design and that integrity processes were observed. The questionnaire was checked each day for completeness, and any uncompleted questionnaire was followed-up with the appropriate respondent before leaving the school.

2.8. Ethical Issues

Ethical approval was sought and obtained from the Navrongo Health Research Center's Review Board and Charles Sturt University Ethics Committee before the study began.

Participant recruitment

The recruitment of participants was done entirely by the research team. This was to avoid participants feeling intimidated by teacher or instructor involvement in the selection and recruitment process. The purpose of the research was explained to the participants before asking for their consent to participate in the study. Ample opportunity was given to the participants to ask questions related to the procedures of the study. Written informed consent, signed or thumbprint was obtained from all participants, and participation was entirely voluntary. There were no direct benefits to participants. Participants were free to withdraw from the study at any time. The research participants were not required to provide information that was harmful to their studentship and academic work. The anonymity of the participants and school were protected during data analysis and publications by ensuring that no names and other identifying features are included.

3. Results

3.1. Background Characteristics of Respondents

Table 1 presents the sex disaggregation of participants. Out of the 329, males and females comprised of 50.5% (n = 166) and 49.5% (n = 163), respectively. Similarly, 191 respondents (58.1%) were within the age group of 17 - 18 years, 138 respondents (41.9%) were within the age bracket of 15 - 16 years, and no respondent was in the age group of 19-above years (Table 1). The senior high school educational systems are a three-year cycle that typically runs three terms per academic year. In terms of the year of study, the majority were in year two (n = 237, 72%), followed by year ones (n = 87, 26.00%). At the same time, just a few of the students consented to participate in the final year class due to preparations for final and external examinations (Table 1). Most participants were from the Business classes (n = 127, 38.20), and Home Economics class (n = 69, 21.00%).

3.2. Students' Sources of Knowledge and Action Related to Knowledge

Table 2 contains a Likert scale item on students' knowledge of sex education. Taking the results from individual item measures, many respondents (n = 197, 60.00%) strongly disagreed that parents satisfactorily answer questions on their sexuality, with only 2% (n = 7), who strongly agreed that parents answer the questions of adolescents, thoroughly. Males to female' differences in those who strongly opposed this assertion were insignificant (50.3% versus 49.7%).

Table 1. Sex distribution of respondents.

Sex and age (n = 329)	Frequency (n)	Percent (%)
Males	166	50.50
Females	163	49.50
15 - 16	138	41.90
17 - 18	191	58.10

Table 2. Students' sources of knowledge and action related to knowledge.

Statement	n (%)[1]	Males, n (%)[2]	Females, n (%)[2]	Total, n (%)[2]
Parents answer the questions of their wards on their sexuality satisfactorily				
Strongly disagree	197 (59.9)	99 (50.3)	98 (49.7)	197 (100)
Disagree	65 (19.8)	30 (46.2)	35 (53.8)	65 (100)
Agree	60 (18.2)	37 (61.7)	23 (38.3)	60 (100)
Strongly agree	7 (2.1)	0	7 (100.0)	7 (100)
Staying at home with my parents always gives me education on my sexuality				
Strongly disagree	87 (26.4)	35 (40.2)	52 (59.8)	87 (100)
disagree	49 (14.9)	19 (38.8)	30 (61.2)	49 (100)
Agree	143 (43.5)	83 (53.0)	60 (42.0)	143 (100)
Strongly agree	50 (15.2)	29 (58.0)	21 (42.0)	50 (100)
Issues of my sexuality should be discussed at home with my parents at early stages				
Strongly disagree	171 (52.0)	79 (46.2)	92 (53.8)	171 (100)
Disagree	51 (15.5)	22 (43.1)	29 (56.9)	51 (100)
Agree	84 (25.5)	47 (56.0)	37 (44.0)	84 (100)
Strongly agree	23 (7.0)	18 (78.3)	5 (21.7)	23 (100)
Knowledge of my parents on my relationship guides me to make better decisions				
Strongly disagree	143 (43.5)	53 (37.1)	90 (62.9)	143 (100)
Disagree	80 (24.3)	49 (61.2)	31 (38.8)	80 (100)
Agree	73 (22.2)	44 (60.3)	29 (39.7)	73 (100)
Strongly agree	33 (10.0)	20 (60.6)	13 (39.4)	33 (100)
Developmental changes in my body shows that I am getting mature				
Strongly disagree	103 (31.3)	53 (51.5)	50 (48.5)	103 (100)
Disagree	87 (26.4)	42 (48.3)	45 (51.7)	87 (100)
Agree	108 (32.8)	57 (52.8)	51 (47.2)	108 (100)
Strongly agree	31 (9.4)	14 (45.2)	17 (54.8)	31 (100)
My first developmental changes should be made known to my parents				
Strongly disagree	96 (29.2)	35 (36.5)	61 (63.5)	96 (100)
Disagree	29 (8.8)	13 (44.8)	16 (55.2)	29 (100)
Agree	155 (47.1)	88 (56.8)	67 (43.2)	155 (100)
Strongly agree	49 (14.9)	30 (61.2)	19 (38.8)	49 (100)
My parents teach me how to guide myself against sexual pressures from the opposite sexes				
Strongly disagree	126 (38.3)	64 (50.8)	62 (49.2)	126 (100)
Disagree	46 (14.0)	21 (45.7)	25 (54.3)	46 (100)
Agree	136 (41.3)	76 (55.9)	60 (44.1)	136 (100)
Strongly agree	21 (6.4)	5 (23.8)	16 (76.2)	21 (100)
Friends/peers can give better advice with regards my sexuality				
Strongly disagree	105 (31.9)	42 (60.0)	63 (60.0)	105 (100)
Disagree	64 (19.5)	34 (53.1)	30 (46.9)	64 (100)
Agree	107 (32.5)	62 (57.9)	45 (42.1)	107 (100)
Strongly agree	53 (16.1)	28 (52.8)	25 (47.2)	53 (100)

Continued

I practice abstinence in my past and present relationships				
Strongly disagree	114 (34.7)	47 (41.2)	67 (58.8)	114 (100)
Disagree	81 (24.6)	43 (53.1)	38 (46.9)	81 (100)
Agree	105 (31.9)	59 (56.2)	46 (43.8)	105 (100)
Strongly agree	29 (8.8)	17 (58.6)	12 (41.4)	29 (100)
I prefer to discuss issues about my sexuality at school with my teacher				
Strongly disagree	161 (48.9)	68 (42.2)	93 (57.8)	161 (100)
Disagree	57 (17.3)	34 (59.6)	23 (40.4)	57 (100)
Agree	85 (25.8)	52 (61.2)	33 (38.8)	85 (100)
Strongly agree	26 (7.9)	12 (46.2)	14 (53.8)	26 (100)
There are sex education programs in my school				
Strongly disagree	136 (41.3)	63 (46.3)	73 (53.7)	136 (100)
Disagree	22 (6.7)	14 (63.6)	8 (36.4)	22 (100)
Agree	148 (45.0)	78 (52.7)	70 (47.3)	148 (100)
Strongly agree	23 (7.0)	11 (47.8)	12 (52.2)	23 (100)
Sex education programs should be organized every term in my school				
Strongly disagree	162 (49.2)	97 (59.9)	65 (40.1)	162 (100)
Disagree	44 (13.4)	12 (27.3)	32 (72.7)	44 (100)
Agree	88 (26.7)	43 (48.9)	45 (51.1)	88 (100)
Strongly agree	35 (10.6)	14 (40.0)	21 (60.0)	35 (100)
I understand issues about sexuality taught in school better than at home				
Strongly disagree	154 (46.8)	72 (46.8)	82 (53.2)	154 (100)
Disagree	49 (14.9)	19 (38.8)	30 (61.2)	49 (100)
Agree	98 (29.8)	55 (56.1)	43 (43.9)	98 (100)
Strongly agree	28 (8.5)	20 (71.4)	8 (28.6)	28 (100)
I sometimes visit my peers in school for some advices on issues about my relationships and sexual problems				
Strongly disagree	131 (39.8)	57 (43.5)	74 (56.5)	131 (100)
Disagree	86 (26.1)	48 (55.8)	38 (44.2)	86 (100)
Agree	95 (28.9)	49 (51.6)	46 (48.4)	95 (100)
Strongly agree	17 (5.2)	12 (70.6)	5 (29.4)	17 (100)
Relationship and courtship are taught in other subjects in school				
Strongly disagree	125 (38.0)	68 (54.4)	57 (45.6)	125 (100)
Disagree	88 (26.7)	40 (45.5)	48 (54.5)	88 (100)
Agree	99 (30.1)	52 (52.5)	47 (47.5)	99 (100)
Strongly agree	17 (5.2)	6 (35.3)	11 (64.7)	17 (100)
I understand what the teachers teach in school safe sex life				
Strongly disagree	161 (48.9)	91 (56.5)	70 (43.5)	161 (100)
Disagree	49 (14.9)	21 (42.9)	28 (57.1)	49 (100)
Agree	93 (28.3)	41 (44.1)	52 (55.9)	93 (100)
Strongly agree	26 (7.9)	13 (50.0)	13 (50.0)	26 (100)

Continued

I get the opportunity to talk to my teachers every time about my sex life				
Strongly disagree	132 (40.1)	61 (46.2)	71 (53.8)	132 (100)
Disagree	55 (16.7)	22 (40.0)	33 (60.0)	55 (100)
Agree	123 (37.4)	66 (53.7)	57 (46.3)	123 (100)
Strongly agree	19 (5.8)	17 (89.5)	2 (10.5)	19 (100)

[1]Column percentages; [2]Row percentages.

It was shown that the majority (n = 176, 53.5%) strongly disagree with the notion that early sex can lead to unwanted pregnancies, with only 6.4% actively supporting the statement. Females were more strongly opposed to this assertion, although gender disparities were insignificant (49.4% versus 50.6%).

On answers concerning "parents answer the questions of their wards on their sexuality satisfactorily," most of the respondents (n = 197, 59.9%) strongly disagreed with getting satisfactory responses. More females than males strongly agreed that parents satisfactorily addressed their concerns on sexuality.

Males more strongly agreed to this assertion that females (58.0% versus 42.0%). Most students (n = 155, 47.1%) agreed that their first developmental changes (also known as puberty signs) should be disclosed to parents. However, more males than females agreed to let parents know about developmental changes (56.8% versus 43.2%). More than half of the students (n = 171, 52%) strongly disagreed that "issues of my sexuality should be discussed at home with my parents at early stages." In contrast, only 7% strongly agreed that issues about their sexuality should be discussed at home with their parents.

Approximately 30% (n = 99) agreed that they receive the counsel of their peers on sexuality while the majority (n = 125, 38%) strongly disagreed with obtaining the advice of peers on sexuality.

In the instructional design, students are often entreated by the educational management and parents to discuss issues of sexuality with teachers. The results show that the vast majority strongly disagree (n = 161, 48.9%) to this recommendation/policy, with more males than females strongly disagreeing with this perspective (57.8% versus 42.2%). On "I understand issues about sexuality taught in school better than at home," just a small proportion strongly agree to the relevance of the lessons for their understanding (8.5%). While the majority strongly disagree, more females (53.2%) than males (46.8%) strongly disagree that sexuality education taught in school gives them the required understanding. In terms of students who discussed issues of sexuality with teachers, 37.4% (n = 123) agree that they received the opportunity anytime they desired to talk to their teachers about sexuality issues bordering on them (Table 2).

3.3. Contraceptives Use among Students

A series of questions sought to elicit students' views about contraceptive use among students in the school (Table 3). Specifically, most students (n = 136, 41.3%) strongly disagreed that they had heard about contraceptives. More females than males strongly agreed to ever hearing about contraceptives (62.2 versus 37.8%).

Table 3. Contraceptive use among students.

Statement	n (%)[1]	Males, n (%)[2]	Females, n (%)[2]	Total n (%)[2]
I have heard about contraceptives				
Strongly disagree	136 (41.3)	82 (60.3)	54 (39.7)	136 (100)
Disagree	42 (12.8)	20 (47.6)	22 (52.4)	42 (100)
Agree	114 (34.7)	50 (43.9)	64 (56.1)	114 (100)
Strongly agree	37 (11.2)	14 (37.8)	23 (62.2)	37 (100)
I have used contraceptives before				
Strongly disagree	144 (43.8)	79 (54.9)	65 (45.1)	144 (100)
Disagree	57 (17.3)	21 (36.8)	36 (63.2)	57 (100)
Agree	90 (27.4)	43 (47.8)	47 (52.2)	90 (100)
Strongly agree	38 (11.6)	23 (60.5)	15 (39.5)	38 (100)
I know that coitus interruptus method is a contraceptive method				
Strongly disagree	120 (36.5)	68 (56.7)	52 (43.3)	120 (100)
Disagree	48 (14.6)	28 (58.3)	20 (41.7)	48 (100)
Agree	105 (31.9)	43 (41.0)	62 (59.0)	105 (100)
Strongly agree	56 (17.0)	27 (48.2)	29 (51.8)	56 (100)
I seek advice from peers on contraceptive use				
Strongly disagree	117 (35.6)	55 (47.0)	62 (53.0)	117 (100)
Disagree	43 (13.1)	19 (44.2)	24 (55.8)	43 (100)
Agree	135 (41.0)	77 (57.0)	58 (43.0)	135 (100)
Strongly agree	34 (10.3)	15 (44.1)	19 (55.9)	34 (100)
I know condom as the most commonly used contraceptive among my peers				
Strongly disagree	139 (42.2)	80 (57.6)	59 (42.4)	139 (100)
Disagree	54 (16.4)	20 (37.0)	34 (63.0)	54 (100)
Agree	106 (32.2)	49 (46.2)	57 (53.8)	106 (100)
Strongly agree	30 (9.1)	17 (56.7)	13 (43.3)	30 (100)
I know that sperm can live in a woman's body for up to three days				
Strongly disagree	68 (20.7)	50 (73.5)	18 (26.5)	68 (100)
Disagree	69 (21.0)	25 (36.2)	44 (63.8)	69 (100)
Agree	123 (37.4)	65 (52.8)	58 (47.2)	123 (100)
Strongly agree	69 (21.0)	26 (37.7)	43 (62.3)	69 (100)
A female urinating immediately after sex can sometimes prevent pregnancy				
Strongly disagree	106 (32.2)	56 (52.8)	50 (47.2)	106 (100)
Disagree	50 (15.2)	26 (52.0)	24 (48.0)	50 (100)
Agree	140 (42.6)	69 (49.3)	71 (50.7)	140 (100)
Strongly agree	33 (10.0)	15 (45.5)	18 (54.5)	33 (100)
A female who has sex only occasionally does not need any birth control method				
Strongly disagree	123 (37.4)	76 (61.8)	47 (38.2)	123 (100)
Disagree	39 (11.9)	9 (23.1)	30 (76.9)	39 (100)
Agree	101 (30.7)	53 (52.5)	48 (47.5)	101 (100)
Strongly agree	66 (20.1)	28 (42.4)	38 (57.6)	66 (100)

[1]Column percentages; [2]Row percentages.

In terms of contraceptive usage, many of the students (n = 144, 43.8%) said they had never used contraceptives, compared to the much smaller number who strongly agreed that they had used contraception in the past (n = 37, 11.2%). Among students (n = 38, 11.6%) who agreed that they had used contraceptives, the proportion of males to females was 11.6% and 39.5%, respectively.

Approximately 41.0% (n = 135) of the students agreed that they sought the counsel of their peers regarding contraceptive use. This was more common with males than females; 57.0% versus 43.0%. A significant majority of participants (n = 140, 42.6%) agreed (n = 140, 42.6%) or strongly agreed (10%) that a female urinating immediately after sexual intercourse can sometimes prevent pregnancy. It was found that many females (50.7%) agreed to this assertion.

The statement that "a female who has sex only once in a while does not need any birth control method" was strongly disagreed with by a large proportion of students (n = 123, 37.4%). Among the students who strongly agree with this perception among students (n = 60, 20.1%), more females strongly agreed to this assertion than males (57.6% versus 42.4%). Similarly, about 42% (n = 139) of participants strongly disagree that condom is the most commonly used contraceptive commodity among the student population. In contrast, a small proportion (n = 30, 9.1%) strongly agree that condom was the most widely used contraceptive among their peers.

3.4. Participant Actions Regarding Sexuality

We also sought to understand the attitude of students towards sex education (**Table 4**). The results have shown that reporting "my first developmental changes to my parents and teachers" was strongly disagreed with by most of the respondents (n = 150, 45.6%). However, quite a significant proportion also agreed (n = 101, 30.7%). For students who agreed with this statement, more males were in support of it than females (55.4% versus 44.6%).

The statement "seek advice on contraceptive use from health personnel" was strongly disagreed with by a large proportion (41.6%). Females were more likely to strongly oppose the recommendation (52.6% versus 47.4% of males). However, a significant proportion of participants agreed that advice on contraceptive use should be sought from health personnel (n = 126, 38.3%). More males (51.6%) agreed to the assertion than females (48.4%). We also observed that many students (n = 151, 45.9%) strongly agreed that "my partner should use a contraceptive during sexual intercourse." Males to females' dichotomy was 47.7% to 52.3%, respectively. However, only 10.6% (n = 35) strongly agreed to contraceptive use during sexual intercourse.

Most students (n = 134, 40.7%) strongly disagreed with the statement, "teachers can give the best of counseling about issues of my sexuality." More males (n = 71, 53.0%) than females (n = 63, 47.0%) strongly oppose that assertion. Among the few students who agreed (n = 95, 28.9%) or strongly agreed (n = 23, 7.0%), females were more receptive to that perspective than males (60.0% versus 40.0%) (**Table 4**).

Table 4. Attitude of adolescent students towards their sexuality.

Statement	n (%)[1]	Males, n (%)[2]	Females, n (%)[2]	Total n (%)[2]
Report my first developmental changes to my parents and teachers				
Strongly disagree	150 (45.6)	68 (45.3)	82 (54.7)	150 (100)
Disagree	52 (15.8)	24 (46.2)	28 (53.8)	52 (100)
Agree	101 (30.7)	56 (55.4)	45 (44.6)	101 (100)
Strongly agree	26 (7.9)	18 (69.2)	8 (30.8)	26 (100)
Seek advice on contraceptive use from health personnel				
Strongly disagree	137 (41.6)	65 (47.4)	72 (52.6)	137 (100)
Disagree	33 (10.0)	20 (60.6)	13 (39.4)	33 (100)
Agree	126 (38.3)	65 (51.6)	61 (48.4)	126 (100)
Strongly agree	33 (10.0)	16 (48.5)	17 (51.5)	33 (100)
My partner should use contraceptive during sexual intercourse				
Strongly disagree	151 (45.9)	72 (47.7)	79 (52.3)	151 (100)
Disagree	45 (13.7)	32 (71.1)	13 (28.9)	45 (100)
Agree	98 (29.8)	49 (50.0)	49 (50.0)	98 (100)
Strongly agree	35 (10.6)	13 (37.1)	22 (62.9)	35 (100)
Early sex can lead one to get unwanted pregnancies				
Strongly disagree	176 (53.5)	87 (49.4)	89 (50.6)	176 (100)
Disagree	54 (16.4)	37 (68.5)	17 (31.5)	54 (100)
Agree	78 (23.7)	36 (46.2)	42 (53.8)	78 (100)
Strongly agree	21 (6.4)	6 (28.6)	15 (71.4)	21 (100)
Discussing issues of my sexuality with my friends keeps me up to date				
Strongly disagree	141 (42.9)	69 (48.9)	72 (51.1)	141 (100)
Disagree	46 (14.0)	22 (47.8)	24 (52.2)	46 (100)
Agree	110 (33.4)	60 (54.5)	50 (45.5)	110 (100)
Strongly agree	32 (9.7)	15 (46.9)	17 (53.1)	32 (100)
Teachers can give the best of counselling about issues of my sexuality				
Strongly disagree	134 (40.7)	71 (53.0)	63 (47.0)	134 (100)
Disagree	77 (23.4)	43 (55.8)	34 (44.2)	77 (100)
Agree	95 (28.9)	38 (40.0)	57 (60.0)	95 (100)
Strongly agree	23 (7.0)	14 (60.9)	9 (39.1)	23 (100)
Parents should be aware of their ward's relationships				
Strongly disagree	115 (35.0)	54 (47.0)	61 (53.0)	115 (100)
Disagree	83 (25.2)	42 (50.6)	41 (49.4)	83 (100)
Agree	107 (32.5)	57 (53.3)	50 (46.7)	107 (100)
Strongly agree	24 (7.3)	13 (54.2)	11 (45.8)	24 (100)
Abstinence is the best in avoiding unwanted pregnancies				
Strongly disagree	142 (43.2)	72 (50.7)	70 (49.3)	142 (100)
Disagree	49 (14.9)	22 (44.9)	27 (55.1)	49 (100)
Agree	108 (32.8)	61 (56.5)	47 (43.5)	108 (100)
Strongly agree	30 (9.1)	11 (36.7)	19 (63.3)	30 (100)

Continued

It is good not to indulge in pre-marital sex				
Strongly disagree	135 (41.0)	72 (53.3)	63 (46.7)	135 (100)
Disagree	50 (15.2)	24 (48.0)	26 (52.0)	50 (100)
Agree	111 (33.7)	53 (47.7)	58 (52.3)	111 (100)
Strongly agree	33 (10.0)	17 (51.5)	16 (48.5)	33 (100)

[1]Column percentages; [2]Row percentages.

4. Discussion

Three critical perspectives on sex education were described: knowledge, contraception, and attitude towards sex education.

4.1. Sex Education at School and Home

From the four-point scale responses, it was found that most students do not believe that early sex can lead to unwanted pregnancies. Also, we found that considerable variation in students' preferred sources of information about sexual health information, thus, from peers, parents, teachers or health professionals, and the perceived value of each of these sources. Arguably, parents generally are more knowledgeable and more experienced in issues regarding sexuality than their adolescent. However, the findings demonstrate that most students still prefer to discuss related sexual matters with their peers rather than with their parents and teachers. This is reflected in the results showing that most students felt more secure in the company of their peers concerning issues about their sexuality (49%) compared to their parents, with 80% of respondents who strongly felt that their parents did not give their questions satisfactory explanations. It is not surprising that the participants rely more on their peers for information and advice once parents would not be candid enough and answer their questions satisfactorily. Literature suggests that for adolescents to gain adequate knowledge of sexuality, it is ideal that parents respond to questions posed by their children satisfactorily [29]. These findings are consistent with previous studies in Ghana and similar locations [12] [14]. The adolescent literature has shown that most adolescents feel comfortable to share issues about their sexuality with their peers rather than with their parents [14] [25], in addition to sourcing information from the internet [6] [9] [24].

Participants' preferences for obtaining information and advice regarding sexuality from peers is also reflected in their views regarding the sharing of signs of puberty with parents, and parents' lack of willingness to offer guidance concerning sexual pressure within relationships. In most instances, when adolescent sees any change with regards to their morphology, reporting to parents, peers, teachers, and health personnel have shown to help reduce overall adverse outcomes and stigma [5] [18] [20]. Reporting these changes to the parents are mostly recommended [25]. The study found that 47% of adolescents agree that their first developmental change should be reported to their parents, whereas 29% indicated that they do not actively agree to sharing early puberty signs with parents. In the recent past, parents, especially mothers, were significantly involved in guiding

their adolescent females through puberty [3] [17] [18] [30]. Females will naturally resort to their mothers while the males will resort to their father.

In this study, 41% of the participants agreed, 38% strongly disagreed, and only 6% agreed that their parents' guide them against sexual pressures from the opposite sexes. The lack of information and support from parents regarding sexuality is common in most African settings talking about sex, and its related topics are seen by most parents to be against their personal and community moral values, so they will always shy away [2] [10]. Tendencies are that children will not enjoy responsible parenting to prepare wards against sexual pressures from the opposite sex adequately [10].

Similarly, about 49% strongly opposed the suggestion to share issues of school children's sexuality matters with schoolteachers. From the literature in Ghana, it has shown that adolescents who are pressured by the opposite sex to engage in sexual activity may not inform teachers to prevent being tagged "bad" [20]. However, this finding contrasts with those of previous studies in Ghana, Zambia and other African nations [4] [14] [18] which suggests that a large proportion of adolescents (about 77%) were "rather comfortable" disclosing and discussing matters of their sexuality with teachers [4] [18] in comparison to parents.

Both the teachers and students alike make do with subjects that have relevant education on the sex they can get from reproductive health topics in the reproductive system in biology and selected Family Life topics in the "Social Studies" subject [14] [31]. However, we found that about 41% of our participants strongly disagree that there are no sex education programs in the schools, which confirms previous findings in Ghana [31]. Previous researchers have observed that there were no explicit sex education programs in the Ghanaian school system, which has significant implications for Ghanaians in a globalised environment [14] [31].

It is apparent that even if sex education is being provided in schools, the content (assuming it is accurate) is not being understood by students. On students' views on the fact that early sexual intercourse can lead to unwanted pregnancies, approximately 11% and 22% strongly agree and agree, respectively. The majority (41%) strongly disagree that early sexual intercourse was the risk of unwanted pregnancies. This belief is potentially one of the main reasons adolescent/teenage pregnancy is at an all-time in Ghana, with, on average, one in ten adolescents from 15 - 19 years beginning childbearing in the urban areas, and two in ten adolescents in the rural communities [18] [32]. This may be attributable to inadequate education on sexual activities and ways of preventing such behaviours. Recent adolescent literature has widely shown that providing inadequate information about sexuality is one means of facilitating the sexual exploitation of children and adolescents [16] [18] [33] [34].

4.2. Understanding and Use of Contraceptives and Other Means of Pregnancy Prevention

Lack of accurate information (or misunderstanding of the information given) about contraceptives and misperceptions about other ways to prevent pregnancies

is apparent in participant responses. This has resulted in risky sexual behaviours, significant numbers of teenage pregnancies and terminations, and transmission of diseases.

On contraceptive use by students, the vast majority (44%) strongly disagree with using it, while just about 12% strongly agree to the use of contraceptive during sexual intercourse. When participants were asked if a condom was the most commonly used contraceptive among their peers, 42% strongly disagreed, while 9% strongly agreed that condom is the most frequently used contraceptive. The contraceptive acceptance rate among adolescent students in this study is lower than those reported in a previous study in Central Ghana [35]. The study reported that 24.0% among females and 39.0% among males was reported for married adolescents while 18.0% and 27.0% of adolescent males and females, respectively, used contraceptives (particularly condoms) during sexual encounters [35]. Previous research in the Upper West Region of Ghana has shown that even adult men, including opinion leaders, resisted women's use of contraceptives [36] [37]. Religious beliefs and cultural pervasion in Ghana portray access to contraceptives among unmarried adolescents, including school children, as "bad" boy or girl practices. Similarly, a previous study in the Upper West Region of Ghana involving adolescents and non-adolescent mothers and a host of community members, showed that contraceptive use in adult women was also strongly discouraged in some locations and indeed by some men [36] [37].

Inadequate/inaccurate information from peers and lack of information from parents, teachers, and health professionals contributes to the non-usage of contraceptives. The findings agree with the existing knowledge. Previous studies have reported myths on preventing pregnancy including the woman shaking herself and jumping up seven times; urinating immediately after the sexual encounter: having sex in water, drinking two liters of Mountain Dew before sex to lower sperm count, and females being on top during sexual encounters [22] [38].

The results showed significant misconceptions about contraceptive efficacy. After sexual intercourse, the sperms can stay in the fallopian tube for up to a maximum of 72 hours. This can fertilize the ovum when it is released [35]. Knowledge of this helps the adolescent to understand the menstrual cycle better and hence take precautionary measures.

In this study, the finding revealed most respondents held perceptions concerning adolescent sexual health service utilisation which corroborates with previous studies [37]. This was indicated in 43% of respondents agreed, 32% strongly disagreed, 15% disagree, and only 10% strongly agree to this perspective. The finding could be attributed to the cultural background of the majority of the respondents who were from the Northern parts of Ghana, where illiteracy is still on the rise. About 37% of respondents strongly disagree that having sex once in a while does not need any birth control method suggesting that these young adolescents can indulge in very dangerous sexual behaviours without having any protection based on the perception that sex once in a while does not need any contraceptive method(s).

The finding suggests a change among adolescents, which corroborates previous findings in Ghana and similar low and middle-income countries [4] [22] [35]. Consequently, we discovered that about 41.6% of respondents strongly agree to seek peers' counsel on the use of contraceptives.

These misunderstandings and use of peers as primary sources of information regarding the prevention of pregnancy have persisted over the years among senior high school students in Ghana [19] [20] [23], showing a significant gap in knowledge, relevant sensitization needs and access to contraceptive services by the school youth. This is contrary to the long-established principle that knowledge about an issue presents a higher chance of making an informed decision [12] [33]. Further, contrary to previous research in Ghana, Mozambique and Zambia found that students desired education on contraceptives as well as more general discussions on sexual matters from health personnel [4] [23] [25]**.** In Tanzania, it was reported that 44.8% of adolescents receive information on their sexuality from their friends and peers [39].

4.3. Implications and Contribution of the Manuscript

The Ghana Health Service and School management committees have school health clubs and "adolescent corners," some of which were formed and resourced by non-governmental organizations. The clubs could be revamped and resourced with relevant personnel to educate students on sexuality, sexually transmitted diseases, and contraception, which could positively reflect students' sexual life.

4.4. Limitations of the Study

We acknowledge that the findings may not reflect the views of all students in the geographical area. However, given that students were randomly chosen for the study, adolescent perspectives found in the study would be reliable in addressing and designing adolescent sexual health education campaigns.

Further, religious pluralism in Ghana may account for students' perspectives on some statements, especially on contraceptive use and sexual practices is a potential limitation of the study. Thus, it is possible that more adolescents are using contraceptives but did not want to share this information in the survey because of the religious and other cultural beliefs attached to contraceptive use.

5. Conclusions

Peer influence has been a significant disruptor of sex education among adolescents. These adolescents are young individuals who would always want to experiment with everything they have learned from their peers or would receive pressure from their peers to experiment with what they have tested and experienced.

Peers from this study, are not disrupting sex education. Sex education is limited or non-existent from other "ideal" sources, so they are alternatively filling the gap for themselves. The future concerns are how adolescents would likely listen to and follow the advice of their parents, even if the parents are willing to

discuss sexuality openly. Perhaps there are specific cultural reasons (e.g., respect for persons older than them) why they are likely to follow the advice of parents. The adequacy and relevance of information received from peers cannot be guaranteed; the chances are that wrong information may be provided these adolescents with huge implications on indulgence on risky reproductive and sexual health choices. Therefore, there is a call for the government and parents to intervene by helping educational educations develop holistic and friendly packages to increase children's sexual and reproductive health lifestyles.

From the perspectives of students, the institutional and family approach may potentially account for the information deficit. In most families in Ghana, the majority of parents and teachers feel that sexual issues should not be too openly discussed with these students because they would learn to become promiscuous sooner than later. Given the number of adolescents who are sexually active and who lack understanding of some of the basic facts related to contraception, based on the results of the survey, the contemporary adolescent sexual health education approach is failing. Thus, we suggest that an alternative approach be developed, not only focused on traditional potential sources of information (family and teachers) but also sources of information favoured by adolescents—their peers and online, and teachers.

The home as a unit of socialization must step-up to its mandate of helping the future generation understand the concerns embedded in sexual life by equipping them with the required understanding of sexuality so they could harmoniously exist in the global community.

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Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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