

# Sources of Adolescent Reproductive Health Education and Its Influence on Sex Choices Among Senior High School Students

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## Abstract

The purpose of the study was to assess whether students' knowledge in Adolescent Reproductive Health Education (ARHE) in the Agona East District has influence on their sex choices. The study employed exploratory-descriptive survey design with mixed method approach and used questionnaire and interview for data collection. Out of the population of 4852 students, a sample of 485 students was used. Four hundred and two students (retention rate of 82.9%) completed and returned the questionnaire. Descriptive, regression analyses were used in analysing the quantitative data, while thematic analysis was used for the qualitative data on factors influencing sexual choices. The study revealed that students scored high in all ARHE knowledge areas tested in the questionnaire. Some students were coerced to make sex choices. There was significantly positive relationship ( $r=.100$ ,  $p < .05$ ) between Biology and sexual choices. Again, a positive effect existed between parental control and sexual choices. More so, mass media had positive effect ( $r=.216$ ,  $p < .05$ ) on sexual choices. Based on the findings, it was recommended that the government of Ghana should consider looking beyond the use of school subjects as a way of shaping behaviours of adolescents and resort to the use of encouraging all adult to take up the task of educating adolescent on ARHE and sex choices. It was also recommended that parents should be encouraged to seek comprehensive knowledge in Adolescent Reproductive Health Education to beef up parental guidance to adolescents within the district to address issues such as sexual relationship and early debut in sex practices. Further, with respect to mass media predicting sex practices, government through National Media Commission should be strict on ensuring censorship in airing prohibited contents.

## Keywords

Adolescents, Adolescent Reproductive Health Education, Ghana, Senior High School, Sex Choices, Students

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## 1. Introduction

The development of any nation is stuck on education. Through education the manpower needed to develop a nation is supplied. The school is therefore, the 'factory' that figuratively manufactures the human resource of a nation. In line with this, Osei-Mensah noted that the educational system is to prepare its products with knowledge, skills, the right attitudes to earn a living and also to be worthy citizens to contribute towards the development of the community [1]. This idea was reiterated by

Amoako-Essien that by any standards, formal education can be considered as an appropriate and crucial tool in national development. Its contribution to national development can therefore not be ruled out as far as private and social benefits of education are concerned [2]. It is upon this premise that the World Education Conference held in 1990 in Jomtien, Thailand, set out a vision for the International Community to collectively pursue a strategy for ensuring that the basic learning needs of everyone is met through the provision of education for all [3].

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Several national policies and interventions have been embarked upon under the Ghana's Plan of Action towards Education for All (EFA) to ensure: equitable access to education, educational quality and educational planning and management. The need for implementation of interventional policies to boost progression from primary to secondary education in Ghana to produce the requisite human resources for socio-economic development is far overdue in that the more formal education one attains, the better their chance of contributing to national development. There has been a great deal of strategic interventions implemented to enhance access to Senior High School (SHS) in Ghana. Among these interventions are Girls' Clubs (GC), Campaign for Female Education (Camfed), and Strategies for Advancing Girls Education (SAGE), and scholarship programming. Each of the aforementioned projects was strategically planned to boost female progression from primary to secondary education in Ghana. Lewin asserts that secondary education has been identified to be a major contributor to national development not only in Ghana but in all other low-income developing countries in Sub-Sahara Africa (SSA). It has the ability of offering knowledge, skills and competencies associated with abstract reasoning, analysis, language and communication skills and the application of science and technology to foster greater economic growth and development [4]. Obviously, the secondary school students make crucial decisions that determine their ability to serve as national assets due to decisions they make on whether to engage in pre-marital sex and its attendant risks or not. It was in this light and other related issues that world leaders agreed on the then Millennium Development Goal (MDG) Six: Combat HIV/AIDS, Malaria and other diseases. This was linked to the Education for All (EFA) programme to address sex education and sex related risks in schools by the year 2015. Subsequently, achievements of Sustainable Development Goals (SDGs) 1, 3, 4, 5, 8 and 10 largely depend on outcomes of formal education at the secondary level [5].

The problem statement of the SHS Social Studies syllabus indicates, as and when adolescents mature and become sexually active, they face serious health risks. Many adolescents face these risks with too little factual information, too little guidance about sexual responsibility and too little access to health care. There is consequently rampant wave of adolescent pregnancies, adolescent denial of paternity of pregnancies, child abandonment and irresponsible sexual behaviours [6]. Kyereme, Awusabo-Asare, Kofuor, and Darteh assert that parents in Ghana are handicapped in deliberating reproductive health matters and sexuality with their teen-agers as it is culturally undesirable to discuss sex and sexual issues in our society [7].

Dillard believe that in a world radically changed by the HIV/AIDS epidemic, many teens nevertheless choose to initiate sexual intercourse. Adolescents' decisions whether to have sex and whether to protect themselves from pregnancy and sexually transmitted infections (STIs) are influenced by many factors [8]. Most of these factors, including reproductive health education are beyond the control of the adolescent students.

The need for effective reproductive health education to influence sex choices in secondary education and for preparation of the labour force in Ghana cannot be underestimated. Lewin and Verspoor suggested that secondary education will produce considerable private and social returns needed to create a better environment for social and economic growth, in developing countries such as Ghana [4, 9]. The provision of sex education can go a long way to exhibit well informed life choices. Under the 1987 Education Reform and EFA, national policies and interventions have tried to boost the level of student sex education by integrating the topic Adolescent Reproductive Health into two core and two elective subjects. Aside that, Government decision to have disciplinary committees in SHS to address among others, sex related indiscipline issues, has made some students stay away from such activities but for the fear of punishment [3]

Despite these efforts made to influence student sex choices, it appears the expected gains have not been met. Globally, between 2006 - 2010 and 2011 - 2013, there were significant declines in adolescent females' receipt of formal instruction about birth control; saying no to sex; sexually transmitted disease; and HIV/AIDS [10]. Further, there has been significant decline in males' receipt of instruction about birth control, and declines had concentrated among adolescents living in non-metropolitan areas [10]. The proportion of adolescents talking with their parents about sex education topics did not change significantly [10].

Despite the threat the problems could further pose to educational and health outcomes, not much research-based investigation has been carried out in the Agona East District especially relating to the SHS students' knowledge of Adolescent Reproductive Health issues they have been exposed to in the school environment and how it influences their sex choices. Most studies done in the area of adolescent sexuality centres on sex education in schools and information of contraceptive methods [11-13]. In view of this situation, the current study aims at providing a research-based evidence of examining how the teaching of Adolescent Reproductive Health is influencing the sex choices of students in SHS.

The focus of this study is to examine the Adolescent Reproductive Health related programmes available in the

Senior High School curriculum using the Senior High schools in the Agona East District as a case study and how it has influenced the type of sexual choices that exist among students. This study is essential in the light of increased occurrence of teenage pregnancy and high sexual activities recorded amongst adolescents in the country.

The following research questions guided the study: (1) What are the main sources of information available for students to acquire knowledge on sexual and reproductive health issues in SHS in the Agona East District? (2) What are the factors that influence sexual choices among the SHS students in the Agona East District? Hypotheses were also formulated to guide the study. These were:  $H_1$  (1): Students' knowledge in Adolescent Reproductive Health education has influence on their sex choices in the Agona East District, or  $H_0$  (1): Students' knowledge in Adolescent Reproductive Health education has no influence on their sex choices in the Agona East District.

The study was carried out in senior high schools in the Agona East District of Central Region of Ghana. All public SHSs were selected for the study because of the diverse socio-economic characteristics in the Agona area which bring on board different views and concerns bordering on nature and nurture factors in student's upbringing. Regarding its content and scope, the study investigates whether students' knowledge in Adolescent Reproductive Health education has some influence on their sex choices. The work dwelt on public senior high schools. Private senior high schools were not included.

## 2. Literature, Conceptual and Theoretical Perspectives

The researchers adopted Cognitive Naturalistic Decision-making theory and Social learning theory for the study. The Cognitive Naturalistic Decision-making theory explains sex education and sexual decision-making in this research. Building on the above theory of adolescent cognitive development, a growing body of research is focusing on the role of cognition in the decision-making processes of individuals [14]. Patel, Kaufman and Arocha reviewed new directions in decision-making research, including a naturalistic method that enables researchers to investigate cognition in real world environments [14]. A naturalistic approach encompasses the ability to synthesize multiple sources of information and the ability to reason theoretically and abstractly to consider future outcomes in a thoughtful manner. For this approach, the researchers used realistic settings and acknowledge that decision-making cannot be studied in isolation from other processes, thereby necessitating an extended cognitive science framework that

included modulating variables such as age, stress, fatigue and communication skills. It is important to consider decision-making in relation to the evolving process of adolescent thinking. Since this process is not fully developed during adolescence, decision-making outcomes may adversely affect the adolescent.

The Cognitive Naturalistic Decision-Making theory acknowledge that decision-making cannot be studied in isolation from other processes, thereby necessitating an extended cognitive science framework that includes modulating variables such as age, stress, fatigue and communication skills. This is because adolescence is an unusually stressful stage. Multiple sources of adolescent stress arise from developmental changes, complex and evolving social contexts, and the progression toward increasing independence. In addition to identifiable sources of stress, the perception of events as stressful is increased in adolescence relative to adulthood [15]. In lieu of this, the researchers used this prospective theory because they believe that increased levels of stress and emotion, limited life experiences, concrete thinking, and immature cognition all intersect to interfere with the decision-making process.

Several sources of sex education have been identified. Among these include home and school. Well-timed provision of correct and broad information and life skills teaching regarding adolescent sexual and reproductive health and rights is critical for adolescents to achieve sexual health and rights and avoid negative health consequences. Reproductive health education is supposed to provide the points of reference for adolescents exploring their sexuality and sex decisions. School-based reproductive health education is deliberate inclusion curriculum to help students to be exposed to information about contraceptives and sexually transmitted infections (STIs). It provides a designed opportunity for adolescents to gain skills, attitudes and knowledge towards exploring their values and to practise the decision-making and other life skills necessary for making healthy informed choices about their sexual lives so that they will be more likely to protect themselves when engaging in sexual behaviours [11], [16]. Aside the school-based, adolescents consciously and unconsciously acquire reproductive health information from peers, parents, mass media and internet.

Sex education has long been considered a phase of instruction which ideally should be given in the home. Changing social and cultural circumstances (for example, a greater openness about sex; a collapse in the power to motivate for chaste conduct by instilling fears of possible premarital pregnancy, venereal infection, or community censure; cross-cultural exchanges; changing sex roles; a mounting body of research which has exposed new facets of sex) have combined to topple these insular views. No sex education programme can be

effective today without taking these developments and others into account [17]. This implies that there should be diverse strategies promoting comprehensive communication to improve adolescents' SRH outcomes.

With parents, Aquilino and Bragadottir demonstrated that adolescents frequently want parental guidance for sexual decision-making [18]. Due to the fact that most parents do not want their children to be sexually active prior to adulthood, these parents tend to assume their children are not involved in sexual behaviour and delay communicating important information to them [19]. Also, the perception of the adolescent is important. Younger adolescents who have less life experiences may view parents as an important source of information compared to older adolescents who have access to larger sources of information and broader social context. More so, in Ghana, Awusabo-Asare, Stillman, Keogh, Doku, Kumi-Kyereme, Esia-Donkoh, Leong, Amo-Adjei and Bankole found parents to be key source of ARHE information for adolescents as 80–86% of students said they received information from friends, mothers or other family members [11]. In Ghana, euphemisms are commonly used as a comfortable way of presenting culturally sensitive concepts, such as those related to ARHE. Such techniques created fear but avoid the real and critical issues in ARHE [11]. This avoidance technique, while perhaps culturally appropriate, might have missed the intention and purpose of communicating important information about ARHE issues.

With school based reproductive health education, evidence is accumulating which suggests that complex heterosexual interests and interaction are now developing at younger ages than formerly. Broderick advanced theoretical and historical considerations and linked these with Kinsey, Pomeroy, Martin and Gebhard's data to support his view [20], [21]. He argued that the common question, at what age should sex education begin? Should really be, how can persons best be helped to cope with their sexual experiences and potential at any age? Yet the well-known reluctance of adults to acknowledge children's sexual interests and behaviour means that childhood investigations and experiences usually precede formal instruction in home or school. Abakah indicated that both school and home-based information were not enough, therefore adolescents needed more education and she recommended for more sex education programmes in and out of school [22]. There is therefore the need for more studies to be conducted to confirm or refute the actual adolescent information needs in Agona East and Ghana as a whole.

School based sexual education in Ghana is heavily focused on abstinence only information, but much of this information is considered inadequate, incomplete, and/or misleading [23].

However, abstinence only education programmes have shown little evidence of improving sexual and adolescent reproductive health outcomes. In contrast, comprehensive education programmes that recognize that the sexual activity that occur during adolescence and seek to ensure the safety of such behaviour is ensured and equip students with the knowledge and ability to make well informed choices. It also focusses on human rights, gender equality and empowerment to have impact in several areas, such as improving knowledge, self-confidence; positively changing attitudes and gender and strengthening decision-making and increasing contraceptives use [11].

Although the study focus is on the senior high school level, exposure of students to ARHE starts in primary school. Adolescent reproductive health education is not explicitly included as a stand-alone, examinable subject in the Ghana national curriculum. Instead, the Ghana education system has adopted a cross-curricular approach, in which some topics related to ARHE are included in specified school subjects. Basic sex and reproductive health education topics are introduced in the fourth year of primary school, a level at which all subjects, including those that cover SRH topics, are compulsory [11]. In senior high school, however, the topics are integrated into compulsory subjects as Social Studies and Integrated Science; and two elective subjects as Biology and Management in Living [11]. There are also two main co-curricular programmes that offer additional activities outside of the regular curriculum, either during or after school. First, the School Health Education Programme (SHEP), and second, the HIV Alert programme. Both programmes operate in all schools in Ghana [11]. All of the curricula and programmes are targeted at students in primary and junior high schools in particular, but are also offered in senior high schools with support from the Ministry of Health and the Ghana Health Service [11]. The cross-curricular and co-curricular approach makes it possible to spread the coverage of ARHE topics across selected subjects, yet it precludes the opportunity to have a focused programme that covers all aspects of a comprehensive ARHE programme.

Among the topics for ARHE are definitions and explanations of adolescence, sexual and reproductive health and rights, and biological changes in the body to gender relations and contributions of youth, but there is a strong emphasis on negative and irresponsible behaviours of adolescents. Focus is also on the benefits of abstinence [11].

As Social Studies includes a broad range of topics, Integrated Science and Biology include more basic topics. The Management in Living curriculum addresses the most extensive list of ARHE topics, such as abortion (in the context of how illegal abortion affects adolescents), family planning,

STIs and decision-making [11]. However, Management in Living is not a compulsory subject. It is offered as part of the Home Economics elective programme, which is generally attended by only a small group of students, and mainly females [11]. The number of academic units allotted to each of the subjects over the three senior high school years varies and is lowest for Social Studies, and highest for Biology. Although Biology and Integrated Science are prominent in the curricula, they have the fewest units dedicated to ARHE-related topics. Each lesson could span one or two periods, and each period typically lasts 30–35 minutes [11].

There is also question as to the effectiveness of these programmes. Researchers studying sex education programmes have produced conflicting results about programme success. Pledges to remain abstinent until marriage are a typical component of abstinence-based education. While adolescents who pledge to abstain from sexual activity appear to delay intercourse, numerous researchers have shown this effect to be only temporary. Most adolescents still engage in sexual activity prior to marriage [24], [25]. Additionally, when pledgers do become sexually active, they are less likely to use condoms [24]. Sather and Zinn posit that, abstinence-based programmes have not been shown to significantly decrease risk-taking behaviour [26]. Of particular concern is that in the south-eastern United States for instance, where abstinence education is emphasized, the rates of adolescent sexual activity, pregnancy, and STIs are among the highest in the country [19]. Although school based sexual information has been shown to increase adolescent knowledge regarding pregnancy and STIs, this has not translated into improved sexual negotiation skills, communication, and decreased risk behaviour [27].

This calls for the need to research into adolescent reproductive health education and sex choices. Most adolescents might be first timers and naive when it comes to sex decisions that results in sexual activities. They probably need to make well informed decisions about sex. Knowledge base in reproductive health is supposed to shape such sex decisions. In an attempt to assess reproductive health knowledge, sexual partners, contraceptive use, and motives for premarital sex among female sub-urban Nigerian secondary students, Moronkola and Fakeye conducted a cross-sectional study involving 500 senior secondary female sub-urban students [28]. They found that more than 70.0% of the adolescent respondents had knowledge of all reproductive health items; male and female condoms were popular contraceptives. Again, at least 53.4% were sexually active and a majority (49.6%) had boyfriends as sex partners. Peer pressure (31.6%) and fun/pleasure (29.2%) were major motives for engaging in premarital sex. Majority (40.3%) terminated pregnancies through self-medication. Though

respondents had knowledge of reproductive health through some programmes, there was need for introduction of reproductive health education as a core subject in schools as well as provision of youth-friendly health facilities.

Furthermore, Bamidele, Abodunrin and Adebimpe conducted cross-sectional survey of 521 students in eight randomly selected public secondary schools to identify the sexual behaviours and risk of HIV among public secondary schools students in Nigeria [29]. They found that most adolescent respondents knew the consequences of premarital sex as unplanned pregnancy, STI/HIV/AIDS, incomplete schooling, and guilt feelings. Again, about 40% of the respondents had been involved in sexual activities with partners who were classmates, neighbours, 'sugar daddies', teachers, or strangers (party-mates or prostitutes). Heterosexual, oral, and anal forms of sex were practised respectively by 78.1%, 13.3%, and 12.4% of those who were sexually active. Sexual debut was 15.2 +/- 1.62 years. About 36% of those sexually active had more than one partner, and about 14.8% were aware that their partners had other partners. Only 8.6% used a condom on a consistent basis, whereas 41.9% had never used a condom at all. More than half the sexual activities were not pre-planned. The reasons given for engaging in such practices were peer influence, financial reward, drug influence, fun, or experimentation. It was then concluded that even though adolescents were well knowledgeable in the consequences, they were still involved in risky sexual behaviours. Behavioural change communications should be intensified among these adolescents. The awareness of the RHE and dangers associated with unprotected sex did not influence the decisions of the adolescents.

For the factors responsible for sex choices, Madise, Zulu and Ciera studied the conflicting evidence on the link between poverty and risky sexual behaviour by examining the effect of wealth status on age at first sex, condom use, and multiple partners using nationally representative adolescents' data from Burkina Faso, Ghana, Malawi and Uganda [30]. They found that the wealthiest girls in Burkina Faso, Ghana and Malawi had later sexual debut compared with their poorer counterparts but this association was not significant for Uganda. Wealth status was weaker among males and significant only in Malawi, where those in the middle age had earlier sexual introduction. Wealthier adolescents were most likely to use condoms at the last sexual act, but wealth status was not associated with number of sexual partners. Although the link between wealth status and sexual behaviour is not consistent, there was evidence that poor females are vulnerable to infection because of earlier sexual introduction and non-use of condoms.

In this study, the researchers used Bandura's (1986) Social-Learning Theory as the underlying theoretical

perspective [31]. In the Social-Learning Theory, Bandura declared that behaviour is a result of cognitive and environmental factors interplaying with each other [31]. Albert Bandura named this kind of interplay “reciprocal determinism” which focus on the connection between cognition and the environment. Learning theories attempt to explain how people think and what factors determine their behaviour. Social Learning Theory is a category of learning theories which is grounded in the belief that human behaviour is determined by a three-way relationship between cognitive factors, environmental influences, and behaviour. The major concepts of social learning theory rest on a series of assumptions about humans and human behaviour. Mostly, theorists and researchers assume that people are social beings in that they pay attention to the environment around them. An important addition to this assumption is that people react to the environment or respond to stimuli in the environment. This vital assumption means that sexual behaviours can be taught.

The social learning theory is concerned with ways in which mental representations of social events, societal and cultural norms, and personal characteristics influence behaviour, reasoning, emotion and motivation. Specifically, the approach addresses acknowledgment of self and social goals, mental representations of self and the role of social facilitation in decision-making, memory and judgment [31], [32]. According to the social learning theory, complex cognitive functioning involved in coping with everyday problem-solving and decision-making in health as well as in social situations depend on basic cognitive methods. Furthermore, it depends on the organization of existing knowledge structures and socially-derived emotional and motivational influences on performance. The environment in which people find themselves, influences their behaviour the same way their behaviour influences the environment. People adapt their behaviour and/or attitudes to what is going on around them, and they have a tendency of imitating what they see being done by those people who have the power to influence them [31].

The Social-Learning Theory does not only focus on an individual’s egoistic tendencies but also takes into account those environmental factors that influence an individual’s behaviour.

Adolescents live in a highly technological world where there are, amongst other things, the television, radio, print media, computers, etc. Adolescents are exposed to a number of influences, attitudes and behaviours that they later imitate. From the media, a lot of emphasis is made on sexuality and sexual matters. The main reason for situating this research in this theory is that, this theoretical perspective predicts that adolescents learn sexual behaviours from their peers, from the environment in which they live and the likely consequences of watching television. Adolescents acquire favourable beliefs about sex and confidence in their own sexual abilities as a result of viewing sexual content on television they become more likely to attempt the modelled behaviours.

Adolescence is a stage characterized by many changes, and it is during this stage that an individual tries to find his/her purpose in life. Hamachek evaluated the Erikson’s psychosocial theory where adolescents are in the identity versus identity confusion stage [33]. Adolescents must determine their own sense of self or experience confusion about roles. It is also a stage whereby adolescents are prone to multitudes of influences as they are still trying to define themselves, who they really are, and what they stand for. If these are some of the processes that take place during adolescents, then it means that what they see or hear around them easily persuades them. Sexual decision-making is among the most complex and challenging experience for the adolescent. The Social-Learning Theory states that adolescents imitate things they see and hear around them [31]. Some of the things they imitate is fighting over sex partners, which the researchers deem students have been exhibiting in a school in the study area. Figure 1 provides the conceptual framework of the study. This framework is based on the Bandura’s (1986) theory of social learning. It explains how learners interact with their environment [31]. Learning is said to have taken place when learners exhibit behaviours as a result of their interaction with the environment. It summarizes the relationship between the dependent variable, which is sex choices, and the independent variables which are the elements within students' environment.

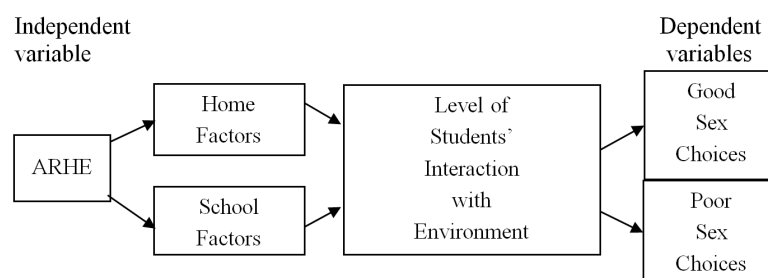


Figure 1. Researchers-developed model showing the effect of ARHE on students' sex choices.

Figure 1, illustrates ARHE as being ‘home’ or ‘school’ in nature. Home factor interaction may involve parents, siblings,

friends and mass media. School factor interactions on the other hand, may involve subjects taught in school like Social Studies, Management in Living, Integrated Science and Biology; guidance and counselling programmes; teachers; students; disciplinary measures.

The level of interaction which are the combination of various components of both home and school independent variables lead to retention and application of knowledge acquired and good student sex choices. The descriptors of sex choices include chastity, premarital sex with or without contraceptive use, and involving in sexual related activities such as masturbation and kissing. A high amount of ARHE from the blend of the various components of the sources of knowledge (independent variables) should result in a safe sex choice of students and vice versa, all other things being constant.

### 3. Methodology

This research employed exploratory-descriptive survey design with mixed method approach to enable measuring of relationships among variables (knowledge in sex education as against sex decisions) through the quantitative procedures, while qualitative procedures are followed to examine uninformed sex decisions and their impact on SHS students in the study area [34], [35]. This design was used to involve students from three different SHSs (one urban and two other semi-urban) in the study.

The study was carried out among students in all the three public senior high schools in the Agona East District. There are 4852 students who were in the three public SHSs. Inclusive were 1,457 students from Nsaba SHS, 1,529 from Kwanyako and 1,863 from Swedru SHS. The target population were SHS 1 and SHS 2 students in all three schools, this is because the SHS 3 students had finished writing final-year examinations and they were out of school at the time of data collection.

The study employed a multi-state sampling where 10% of student population were selected from each school to represent that school. Within each school, simple random selection was used to purposively draw the students from SHS 1 and SHS 2 groups who have already been taken through sex education under Social Studies. The sample size was estimated to be 485 students. Within this number, six students (two from each school) who were identified as outliers per their responses in the questionnaire, were drawn for interview purposes.

Two sets of instruments were employed in this study. First, sets of questionnaires were used. It comprised both closed and open-ended questions. The questionnaire items centred on knowledge base on sex education, perceptions and sex

decisions which were the key variables as far as this research is concerned. The questionnaire was structured to help the researchers gather quantifiable data regarding the variables in the study area [36]. Secondly, an interview guide was used for the interview session. The semi-structured interview guide had themes drawn in line with the research questions.

The questionnaire data from the field were entered into SPSS analytical tool for the various appropriate statistical test for the research questions and the hypotheses for the study. First and foremost, descriptive data analysis was conducted to give the demographic picture of the statistical tests for the respective research questions and the hypotheses as well as analysis of qualitative data were done as indicated. (RQ 1) What are the main sources of information available to students to acquire knowledge on sexual and ARHE issues in the SHS in Agona East District? (Percentages, Mean and Standard Deviation). (RQ 2) What are the factors that influence sexual choices among SHS students in the Agona East District? (Thematic analysis from interview data).  $H_0$  (1): Students' knowledge in Adolescent Reproductive Health education has no influence on their sex choices in the Agona East District (Regression Analysis).

## 4. Results and Discussions

In analyzing the data, the researchers made use of the SPSS software to run series of statistical tests and Nvivo software for thematic analysis. The data are presented using tables. Four hundred and eighty-five (485) sets of questionnaires were administered to senior high school students in public schools in the Agona East District, comprising Swedru SHS, Kwanyako SHS and Nsaba SHS. SHS 1 and SHS 2 students, who had been in school for a minimum of one year were included in the study. Four hundred and two (82.9%) students completed and returned the questionnaire. Six students were also interviewed. The data were presented in two sections. Section "A" presents the bio-data, while Section "B" presents the issues relating to the research questions.

### 4.1. Background Characteristics of the Respondents

The preliminary data collected on respondents comprised data on their age, gender, sex partner status, and course of study. The 402 respondents were distributed among the three SHSs. Kwanyako SHS had 135 (33.6%) respondents, Swedru SHS had 133 (33.1%) respondents, and Nsaba SHS had 134 (33.3%) respondents.

#### 4.1.1. Age

Previous studies have proved that age to some extent,

determine the sexual engagement of adolescents. Table 1 depicts age distributions of the respondents. Table 1 shows that out of the 402 respondents, nine (2.24%) were between ages 14-15 years. A majority 242 (60.20%) belonged to the age range of 16-17 years. Then 151 (37.56%) of the

respondents were in the age group 17 years and above. The 242 respondents of the age range with majority were dominated by the two schools as Swedru SHS 94 (70.7%), Nsaba SHS 95 (70.90%).

**Table 1.** Age distribution of student respondents.

Age (years)	Kwanyako SHS		Swedru SHS.		Nsaba SHS	
	No.	%	No.	%	No.	%
14 - 15	0	0	9	6.8	0	0
16 - 17	53	39.3	94	70.7	95	70.9
Above 17	82	60.7	30	22.6	39	29.1
Total	135	100	133	100	134	100

However, the age group with the least number of respondents was 14-15 years with nine (2.24%). In sum, irrespective of the varied age distribution, all the members of the sample fell within the adolescent bracket of 10 years to 19 years.

#### 4.1.2. Gender

The gender of a student informed the way and manner in which they received and processed ARHE in their schools and at home. Females are more likely than males to receive information from their mothers, other family members, friends, peers, outreach workers, or health or youth centres [11]. Table 2 presents data on gender distributions of the respondents.

**Table 2.** Gender distribution of student respondents.

Gender	Kwanyako SHS		Swedru SHS.		Nsaba SHS	
	No.	%	No.	%	No.	%
Male	64	47.4	44	33.1	33	24.6
Female	71	52.6	89	66.9	101	75.4
Total	135	100	133	100	134	100

Table 2 depicts the gender of respondents. Kwanyako SHS female respondents were 71 (52.6%) females; Swedru SHS with 89 (66.9%); Nsaba with 101 (75.4%) females; and a sum up for a total of 261 (64.93%), as majority of the respondents. The minority were the male student counterparts who were 141 (35.07%) of the total respondents. It comprises 64 (47.4%) from Kwanyako; 44 (33.1%) from Swedru SHS; and 33 (24.6%) from Nsaba SHS. Among the schools, Nsaba SHS tend to have most females and least males. It can be inferred from Table 2 that the sample was a female dominated one. Per the assertion of Awusabo-Asare et al., having more females implies having more people with

ARHE from varied sources for this study [11]. The females were 29.86% more than the males. Having more females on the sample is very appropriate for such a study.

#### 4.1.3. Sex Partner Status of Student Respondents

Nationally, many adolescents have had sexual intercourse and are currently sexually active [11]. Having sex partner can serve as grounds for sexual activeness and perception towards ARHE and sex choices. Data depicting the distributions of sex relationship status of respondents are shown in Table 3.

**Table 3.** Sex partner.

Sex Partner	Kwanyako SHS		Swedru SHS.		Nsaba SHS	
	No.	%	No.	%	No.	%
Yes	103	76.3	54	40.6	68	50.7
No	32	23.7	79	59.4	66	49.3
Total	135	100	133	100	134	100

Table 3 shows that majority 225 (55.97%) of students of the total sample have ever had sex partner before. Out of the 225 students, Kwanyako SHS had 103 (76.3%), Swedru SHS also had 54 (40.6%), and Nsaba had 68 (50.77%) out of their various school samples. However, 32 (23.7%) Kwanyako SHS students, 79 (59.4%) Swedru SHS students and 66 (49.3%) gave a total number of 177 (44.03%) out of the 402 students who filled the questionnaire had not had sex

partners. The picture of the sample in the study area is likened to a typical Ghanaian situation indicated by Awusabo-Asare, et al [11]. Adolescents start sexual activities very early.

#### 4.1.4. Course of Study

The departments in the schools give a clue of the sets of subjects that a student is likely to offer. Table 4 presents distribution of respondents by course of study.



Table 4. Courses of study offered.

Course of study	Kwanyako SHS		Swedru SHS.		Nsaba SHS	
	No.	%	No.	%	No.	%
Agric. Sci.	8	5.9	3	2.3	0	0
Business	33	24.4	24	18.0	0	0
Home Econs.	31	23.0	31	23.2	42	31.3
Science	6	4.4	40	30.1	36	26.9
Gen Arts	42	31.1	18	13.5	56	41.8
Visual Arts	15	11.1	17	12.8	0	0
Total	135	100	133	100	134	100

Out of the 402 respondents, 11 (2.74%) were pursuing Agriculture Science, 57 (14.18%) belonged to the Business Department, 104 (25.87%) were offering Home Economics whilst 82 (20.40%) were in the Science Department. Again, 116 (28.86%) respondents belonged to the General Arts Department and 13 (7.96%) studied Visual Arts. None of the student respondents in Nsaba SHS offered Agriculture Science, Business and Visual Arts. Further, majority (116; 28.86%) of the respondents offered General Arts. Out of this majority, 56, 42, and 18 represented Nsaba, Kwanyako and Swedru respectively. On the other hand, Agriculture Science is the department that was least represented with 11 (2.74%) students.

In sum, it can be inferred from the data that all programmes of study were represented in the sample of the study.

#### 4.1.5. Knowledge Acquired in Adolescence Reproductive Health

Student knowledge level informs what they process in their minds as well as their choices as far as ARHE is concerned. Distribution of the respondents are as shown in Table 5. These were carefully selected areas to cover all major areas in ARHE in the school curricula. All four subjects offering ARHE were considered in the selection of the themes.

Table 5. Adolescence reproductive health knowledge base.

Knowledge	SD		D		A		SA		M	SDv
	No.	%	No.	%	No.	%	No.	%		
Physical changes in puberty	0	0	7	1.7	150	37.3	245	60.9	3.6	.5
Psychological changes in puberty	4	1.0	32	8.0	168	41.8	198	49.3	3.4	.7
Effects of ones' inability to use contraceptives	29	7.2	41	10.2	171	42.5	161	40.0	3.2	.9
Effects of multiple sex partners	46	11.4	31	7.7	153	38.1	172	42.8	3.3	2.8
Enough knowledge about STIs	16	4.0	13	3.2	134	33.3	239	59.5	3.5	.7
Issues in unplanned pregnancy	15	3.7	39	9.7	148	36.8	200	49.8	3.3	.8
ARHE leads to sexual choices	64	15.9	95	23.6	141	35.1	102	25.4	2.7	1.0
Abstinence is good for females	30	7.5	33	8.2	116	28.9	223	55.5	3.3	.9
Abstinence is good for males	36	9.0	51	12.7	151	37.6	164	40.8	3.1	.9

Table 5 shows that students scored high in all nine areas of knowledge tested in the questionnaire. Knowledge in changes in puberty scored 395 (98.3%) with at least 'Agree'. Only seven (1.7%) disagreed with the item. Knowledge in whether ARHE leads to sex choices was poorly rated by respondents. Although a majority of 243 (60.4%) reported 'Agree' the number that disagreed 159 (39.5%) was the highest among all knowledge areas. It can be inferred from the results that the overall knowledge base of the sample was above average in all the nine knowledge areas. The sample was knowledgeable in ARHE. Having such knowledge in itself does not give a guarantee that behaviours will be shaped as previous studies have shown that the school-based ARHE is geared towards abstinence [11], [12].

In summary, across the schools, all of the respondents were within the adolescent age (14 – 19 years of age) and also had attained sufficient knowledge in ARHE both in school and at home. Coupled with that, majority of them were females, thus only 35.07 percent of them were males. Also, a greater

number of them (55.97%) had ever had sex partners. These characteristics give the indication that the respondents were homogeneous and appropriate sample of students who knew their left from right and as such were knowledgeable in what and how they interact or make informed choices as adolescents.

#### 4.2. Sources of Adolescent Reproductive Health Information

Analysis of data on sources of adolescent reproductive health information was addressed by this research question 1: *What are the main sources of information available to students to acquire knowledge on sexual and adolescence reproductive health issues in SHS in the Agona East District?* This question sought to determine the sources of information on adolescent reproductive health that were within the reach of the students. The question identified accessible sources of adolescent reproductive health information for SHS students within the Agona East District. In the environment of the students, key sources of information emerge from home, school and outside. Students learn their

lessons as they interact with home factors, school factors and other factors outside school and home such as mass media.

Table 6 presents the accessible sources that were utilised by students as sources of information.

**Table 6.** Sources of information (n=402).

Source	Mean	Standard deviation	Mean Interpretation	Rank
Social Studies Lessons	3.29	.713	A	1
Teachers in school	3.18	.809	A	2
Integrated Science Lessons	3.16	.706	A	3
Mass Media	3.06	.880	A	4
Biology Lessons	2.88	.850	A	5
Female guardian	2.80	1.06	A	6
Peers	2.69	1.00	A	7
Management in Living Lessons	2.63	.970	A	8
Internet Material	2.16	.979	D	9
Male guardian	1.98	1.06	D	10

(Standard dev. - Standard deviation).

Key for Mean interpretation (Mean Interpretation): 3.50 - 4 for Strongly Agree (SA); 2.50 - 3.49 for Agree (A); 1.50 - 2.49 for Disagree (D); 0 - 1.49 for Strongly Disagree (SD). The mean of the means was 2.78 and overall standard deviation was .903.

Table 6 shows the mean, standard deviation and rank of the various sources of accessible information that influence the students' knowledge acquisition. The results show that the highly rated sources were Social Studies lesson (Mean=3.29; sd=.713); teachers (mean = 3.18; sd = .809) and Integrated Science lesson (mean = 3.16; sd = .706), respectively. It implies that the students attached more importance to Social Studies lessons to be comprehensive and addressing their needs when it comes to acquisition of adolescent reproductive health information. Aside that, students identified teachers in general (not necessarily referring to teachers of the four subjects mentioned) to help them to acquire adolescent reproductive health information. Teachers acting in capacities as form-masters, house-masters and counsellors advised and guided students on issues related to sex and adolescent reproductive health issues. In most cases, disciplinary matters for students who have misbehaved, created opportunity for teachers to talk to students on adolescent reproductive health, sex behaviours and their consequences. Peers as sources of information include sex partners, classmates and all friends in school and at home. This may be a crucial source of information because they see themselves as having common characteristics. Peer influence among adolescents may be strong.

Table 6 further shows that, the students were also informed by sources such as peers (mean = 2.678; sd = 1.00) and Management in Living lesson (mean = 2.632; sd = .970), Internet materials (mean = 2.16; sd = .979), and male guardians (mean = 1.98; sd = 1.057), were items that received low rating indicating that those items were not considered as key sources of information to respondents. Accessing Internet material is the order of the day in the 21<sup>st</sup>

century. Apart from deliberate search for information, masses of information are shared among people through social media. However, respondents were of the view that they did not receive a lot of information in ARHE. Management in living as a subject in school, has well-planned syllabus in the school curriculum to educate students on adolescent reproductive health. It covers more ARHE related topics in its syllabus (see Appendix III) than any other subjects in school. It was also rated high (mean = 2.63; sd = .970), however, it came eighth in the ranking giving indication that seven other sources were doing better than the subject in terms of usefulness as sources of information. It was noted that the subject was an elective subject for only Home Economics hence the other students do not know the content of the subject. Male guardians are supposed to inform their wards at home. However, these were comparatively rated very low among those sources that did not inform the student adolescence reproductive health. It can be deduced from Table 6 that, in a ranking order, the first three information sources were school-based factors of which two are subjects of study. In other words, the students can be described as learning more from their school environment. They learn sex and adolescence reproductive health better in school because they are free and confident to discuss such matters in school than home. Contrary to the home factors, the table depicted that the home sources were comparatively lowly perceived by the students.

Further, among the home factors, mothers and for that matter female guardians are more supportive than the male counterparts in terms of ARHE. It is therefore in line with the findings of Awusabo-Asare et al., that Mothers were identified as the most-used source outside of school (42%), and females were more likely than males to report this (53% vs. 26%) [11]. The second-most-used source was fathers (19%), and males were more likely than females to turn to their fathers (23% vs. 16%). This situation shows a perfect contradiction of Stidham-Hall, Moreau and Trussel's

assertion that home-based factors were more effective [37].

In summary, Internet materials and male guardian, which were low rated and came last among them, were not entirely ruled out as sources of information for adolescents as none of these least factors scored below mean of 1.50. It means none of them chalked "strongly disagree". Students' difficulties in accessing internet because of cost, and interruption in electricity can be the causes of the low rating. Although, the students showed some satisfaction with home-based sources, they were more interested in school-based sources of information.

### 4.3. Factors That Influence Sexual Choices Among Students

Factors that influence sexual choices among the students were addressed by research question 2: *What are the factors that influence sexual choices among the students in the Agona East District?*

This question sought to find out the forces that are responsible for sex choices of students in the Agona East District. The question explored the various factors that led students to make sex choices irrespective of their knowledge in ARHE within the Agona East District. Five themes that emerged from the interview data included desire for money, peer influence, duress, loneliness, and being loved.

#### 4.3.1. Desire for Money

Desire for money on the part of the girls emerged to be one major factor that influence students into accepting and having sexual intercourse. Irrespective of their economic background, some girls accepted sexual friendships with students and non-students. A participant stated, "I accepted a relationship in order to get money and gifts from my guy" (Participant One). She explained that financial support was so crucial for her life on campus. In addition, Participant Two was of the view that due to financial problems her boyfriend has been taking care of her. "I am even staying in the same hostel room with my boyfriend, who takes care of my basic needs", (Participant Two). These assertions suggest that desire for money to make ends meet has been influencing students' sex choices irrespective of their awareness of risky sex choices and the possible dangers involved. Madise, Zulu and Ciera's report that poverty or wealth are drivers for risky sexual behaviours was evident in the study area [30].

#### 4.3.2. Peer Influence

All participants admitted that their peers induced their decisions in one way or the other. The influence takes the form of convincing one about the juicy benefits in keeping a sex partner; and mockery by peers that one will turn dull if they do not engage in sexual behaviours. Participant 5 stated

that a female classmate told our tutor in class that '*ne ho nni hɔ*'. *I am not potent enough to be afraid of*. Although ARHE is set to address such issues, peer pressures were so strong that students yielded to such deceptions. Although this study found no significant effect of friends on sexual choices, participants interviewed ascertained that, that influence was so strong. However, Abakah found in other parts of Ghana that peer pressure increased sexual behaviours among adolescents [22]. The phenomenon in the study area was in agreement with Gardner and Steinberg's finding that peer influence was responsible for risky sex decisions among adolescents [38].

#### 4.3.3. Duress

Duress has to do with the students having sex against their will as a result of being submissive to a higher authority. It can take place where there is senior-junior-student relationship, teacher-student relationship and even parent-ward relationship. Although all participants admitted that none of them had ever suffered duress, they claimed some of their colleagues in school did suffer it. '*SE woangow wo hoa, wo bE tan wo*'. If you do not give in, they will hate you. This implies you will suffer all forms of punishments. This is because some students had unnecessarily suffered various forms of punishment and get yield to the duress.

#### 4.3.4. Loneliness

Some students have an opinion that hanging out with a partner and if possible, having sex is a great source of dealing with loneliness. With the exception of Participant one, they believe that one must hang-out in the dark with partner after preps. When students are out of home, the absence of their family and friends make them feel lonely. Also, the participants indicated that weekends were the best times to stay glued to one's partner for companionship. In their view, a girl stands the risk of suffering boredom and boyfriend snatch if one does not stay close and have fun with the partner. Participant Six stated: "*I needed somebody to keep me company for chatting especially after class hours that I have to rest and my guy has been in to fill that gap*". This assertion gives indication that students make risky sex decisions to satisfy their partners in order to maintain their company.

#### 4.3.5. Being Loved

Students were of the view that love reciprocate. They need to give back love to those who extend love to them. Some students extend affection to others and received in different forms similar gesture. Participant Four stated that "*Obi dɔ woa, dɔ no bi, He loves me so I must give him whatever he asks from me*". This is translated as love must be reciprocal. In an attempt to give-back love to that partner, she would give

anything that her partner desired. Participant Two also shared similar view that her partner had been there for her, assisting in class assignment and presenting her with gifts. For this reason, Participant Two did not see any excuse in denying desires (which include sexual intercourse) of such a good boyfriend.

In sum, the factors that influenced sex choices among the students were so many. However, all of them were categorized into two main areas such as intrinsic and extrinsic factors. The intrinsic were factors emanated from within the participants. They included desire for money, loneliness and feeling loved. On the other hand, extrinsic were those forces generated from outside such as peer

pressure and duress. These factors were reported to have influenced sex choices of students in the study area.

#### 4.4. Triangulation of Results and Discussion from Hypotheses

Analysis of the hypothesis also indicated that more SHS students in the Agona East District are influenced by ARHE. In an attempt to ascertain the causes and effects of the various aspects of ARHE, multiple regression analysis was computed for aspects (predictors) on sex choices of students (dependent variable) and the results are shown in Table 7.

Table 7. Multiple regression for Arhe aspects on sex choices.

Model	Unstd. Coeff		Std. Coeff		
	B	Std. Error	Beta	t	Sig.
(Constant)	16.166	1.542	.	10.481	.000
Parents	1.072	.245	.221	4.374	.000
Friends	-.237	.270	-.044	-.878	.381
Teachers	.586	.313	.095	1.873	.062
Mass Media	1.228	.294	.216	4.176	.000

Note  $R^2 = .117$ ,  $\Delta R^2 = .106$ .  $p < .05$

From Table 7, the first predictor, parents, comprising knowledge, information and training received from parents and guardians, showed significant prediction for students' sex choices,  $b = 1.072$ ,  $t(401) = 4.374$ ,  $p = .000$ . It implies that a change in parental guidance of approximately 22% to change in sex choices of the students was significant. This situation, to some extent agrees with Abakah who asserts that parents, especially mothers through advice and guidance, have more influence on the sexual choices of their adolescents [22].

Again, Table 7 shows that the fourth predictor, Mass media, comprising all information from radio, television, newspapers and Internet, showed significant prediction for students' sex choices,  $b = 1.228$ ,  $t(401) = 4.176$ ,  $p = .000$ . It implies that a change in mass media predicts approximately 22% change in sex choices of the students. On the other hand, ARHE obtained from friends and teachers did not have significant influence on sex choices. This finding suggests that earlier studies conducted by Abakah that mass media

informed sex decision of adolescent can be true in the study area [22].

In the model, the variables made some prediction as  $R^2 = .117$  (about 11%) and Change in  $R^2 = .106$  (about 6%). The overall contribution to change in sex choices (11%) is a weak prediction.

$H_1$  (1): Students' knowledge in Adolescent Reproductive Health education has influence on their sex choices in the Agona East District.

$H_0$  (1): Students' knowledge in Adolescent Reproductive Health education has no influence on their sex choices in the Agona East District.

These hypotheses sought to confirm or otherwise whether the overall ARHE (both school and home factors) influence sex choices of students in the Agona East District. To test this null hypothesis, Linear Regression was run, and the results are presented in Table 8.

Table 8. Regression for ARHE on sex choices

Model	Unstd. Coeff		Std. Coeff		
	B	Std. Error	Beta	t	Sig.
(Constant)	19.556	1.675	.	11.677	.000
Agg Knowledge	.101	.051	.098	1.962	.050

Note  $R^2 = .010$ ,  $\Delta R^2 = .007$ .  $p < .05$

From Table 8, the null hypothesis ( $H_0$ ) is rejected due to the fact that p-value (.05) is not less than the significance level of .05. In other words, Aggregate knowledge, comprising knowledge, information and training received from home and

school, showed significant prediction for students' sex choices,  $b = .101$ ,  $t(401) = 1.962$ ,  $p = .05$ . It implies that although the change in ARHE (01%) is low, it has a positive significant influence on sex choices of the students.

## 5. Implications, Conclusions and Recommendations

The finding of this study establishes the importance of the overall state of students' knowledge in ARHE as it is currently in the Agona East was above average and satisfying even though there were a few key areas of ARHE which were deliberately considered and tested in the study. Out of the few areas tested, students proved to have enough knowledge in ARHE as pertain in the school curricula.

School-based sources of information on ARHE are useful evidenced by knowledge obtained from Social Studies lesson, teacher guidance, Integrated Science and Biology. Desire for money, duress, peer influence and feeling loved were major factors influencing adolescents into risky sex decisions. However, a significant positive relationship existed between Biology and sex choices ( $r = .100$ ,  $p < .05$ ). Again, school factors are effective sources of information even though they do not prove to have any significant causal effect on sexual behaviour as parents can significantly induce sex decisions by approximately 22 percent. Lastly, mass media also predicted sex decisions by 22 percent, all other factors constant. It implies that a change in sex decision is as result of 22 percent cause of parental guidance and 22 percent mass media influence. More adolescent students in Agona East District are influenced by mass media on ARHE than school programmes.

The overall knowledge base of students on ARHE was above average with knowledge on changes in puberty, STI's and abstinence dominating the knowledge students acquired. School-based factors such Social Studies, teacher guidance and Integrated Science constitute the major sources of ARHE. Desire for money, peer influence, duress, loneliness, and being loved are factors that influence sexual choices of SHS students in Agona East District.

The implication of all these is that through careful planning and proper implementation of ARHE programmes, policy makers can work through educational institutions and consider concerns raised to make best out of ARHE towards national social development. This is one sure means to achieve well-informed sex decisions among the youth towards reduction of social vices. It should be noted that although school-based ARHE alone may not be exclusively appropriate to correct problems associated with unplanned birth and spread of STDs. Additional training may be needed to augment improvement in students' whole life development, knowledge and skills in entrepreneurship and improvement in cordial relationships.

In light of the findings, the following recommendations are made on ARHE programmes for adolescents in the Agona East District. The Ghana Education Service should run regular programmes for schools to shape attitudes of students towards

sexual matters. This will provide fertile grounds for students to employ the knowledge acquired on reproductive health. Besides, school-based sources of information, Social Studies, teacher guidance, Integrated Science, Biology, were useful sources to students for ARHE, hence the government of Ghana should consider looking beyond the use of school subjects as a way of shaping behaviours of adolescents and intensify the home base education on ARH through the mass media and also resort to the use of encouraging male guardians to take up the task of educating their adolescent wards on ARH. Social workers should be encouraged by Ghana Education Service to work in schools to encourage victims to report such cases for appropriate sanctions to be meted to culprits, be it seniors or tutors. The government of Ghana should institute special fund to give cost of living allowance to cushion students and prevent them from making riskier decisions out of desire for money. The Ghana Education Service, through school managers, should encourage students to join school-based social and academic groups on campus to keep students' company to curtail loneliness because it can lead students into risky sex decisions. The school authorities, through Parent-Teacher-Association, should encourage parents to visit their wards in boarding frequently to keep them company and give advice during such visits.

There is also the need for teachers to diversify ARHE content in school curricula to extend beyond abstinence. A broad spectrum including more safe sex practices will be a great deal of help as majority of students (55.97%) had ever had sex partners.

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