

Socio-Demographic Inequalities in the Prevalence of Sexual Intercourse among School Going Adolescents in the Central Region of Ghana

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Received: February 16, 2018; **Published:** April 10, 2018

Abstract

Background and Purpose: Given that adolescents' sexual behaviours have brought increasing burden on the development agenda of the Central Region of Ghana, it is remarkable that research on related issues such as the adolescents' onset of sexual debut and its associated consequences is limited. The purpose of this study was to examine the relative influence of socio-demographic determinants and prevailing inequalities of sexual intercourse engagement among adolescents in selected junior high schools.

Methods and Results: Descriptive cross-sectional design was employed with multistage sampling procedures to sample 1,400 school going adolescents in junior high schools. Simple percentages and binary logistic regression results revealed that 26% (n = 342) of school adolescents were sexually active, of which majority 63% (n = 215) had their first sexual intercourse between 14-15 years while 37% (n = 127) had theirs between 11-13 years when they were in the primary school, with sexual intercourse being attributed to forced experience, 21% (n = 75). Other findings showed multiple sexual relationships, with 31% (n = 106) having sexual intercourse with more than two persons whereas the rest 69% (n = 236) had sexual relations with one partner. High prevalence 61% (n = 207) of unprotected sexual intercourse was also found among the school going adolescents, with 39% (n = 135) using condom. Additionally, age (OR = 1.483, 95% CI = 1.07-2.05, p = .017), gender (OR = 0.65, 95% CI = 0.50-0.84, p = .001), parental communication (OR = 0.69, 95% CI = 0.54-0.90, p = .006), and academic performance (OR = 0.67, 95% CI = 0.46-0.97, p = .035) significantly explained causal relationship with lifetime sexual intercourse.

Conclusion: These findings suggest that older boys with difficult parental communication and below average academic performance were at a higher risk of having sexual intercourse. School based sex education should be gender sensitive with parental involvement in the process within the region. Condom usage and perhaps abstinence should be vigorously promoted among the high risk group to prevent the occurrence of teenage pregnancy, sexually transmitted infections and other related consequences.

Keywords: Sexual Intercourse; Prevalence; Socio-Demographic Predictors; Ghana; Central Region

Introduction

Societal shifts and behavioural patterns all over the world have exacerbated unique developmental vulnerabilities for adolescents, hence creating a confluence of factors that place adolescents at heightened risks for poor health outcomes. The wellbeing of school going

adolescents is therefore affected by psychosocial factors at personal, familial, community, national and global levels [1]. Over the past two decades, theorists have argued that understanding and enhancing the health of young ones need serious attention, from an individual's risk or protective factors to the psychosocial patterns (e.g. norms, values, attitudes) and structures (e.g. management system) that shape people's chances to a healthy childhood [2]. The onset of adolescence is a crucial stage in life that sets the foundation for the formation of behaviours that transcend from childhood to adulthood, whether health promoting (e.g., regular exercise or physical activity) or health compromising (e.g. unprotected or casual sex). This stage of life represents a great share of the formation of future health and health behaviour patterns biologically, psychologically and behaviourally [3].

Sexuality and reproductive health related issues are considered taboo and are not to be discussed in homes as well as in public with adolescents across most parts of Africa [4,5]. This makes adolescents in Ghana lack information, resulting in inequalities in knowledge levels on sexual and reproductive health issues [5,6]. Such health inequalities emerge and even worsen during adolescence, and may translate into lasting inequalities in adulthood [1]. In addition, health-compromising behaviours (e.g. unprotected sex, multiple sexual partners, abortions etc.) increase during this stage through adventure and experimentations of certain lifestyles, particularly in relation to sexual intercourse [5]. Early sexual activity is an important marker or index for poor sexual health in adulthood, as well as other risk behaviours in adolescence. HBSC [2] reported that on the average, 26% of 15-year-olds in England, Finland, Norway and sub-Saharan Africa are sexually active.

The emergence of sexual health inequalities exacerbates the health status of adolescents [7]. Hence, sexual health and wellbeing of adolescents need to be well explored for evidence based policies and approaches or interventions toward improving their health [8]. The health and wellbeing of adolescents are influenced positively and negatively by many factors which pose physical and psychological (e.g. emotional) health risks with serious implications for public [9]. Studies have reported many risky health behaviours associated with adolescence; including smoking, illicit drug use, alcohol drinking [4] casual sex [10] bullying and negative peer influences [1]. These behaviours occur through adolescents' interaction with psychosocial environment of the school and neighbourhood, family background not excluding socioeconomic status and the complication of relationships [11].

In Ghana, most adolescents are involved in diverse poor health-related behaviours such as early and casual sex [12,13]. These behaviours are formed through environmental interactions. The health compromising behaviours interact with both proximal (e.g. parental communication, religious affiliation, peer influence etc.) and distal factors (e.g. geographical location, urbanization, policies etc.), leading to new sets of behaviours and capabilities that enable adolescents' transitions across a wide range of risky behaviours developed from family, peers, and educational domains [11]. A previous study on substance use and risky sexual behaviours among sexually experienced Ghanaian youth showed that early sexual intercourse was relatively high among adolescents in Ghana particularly those from Eastern, Greater Accra and Volta regions [14]. Protective sexual intercourse was low and age at first sexual intercourse was positively associated with the number of sexual partners, with older children having more multiple partners than younger ones [14].

West Africa has seen the emergence of high prevalence of sexual debut before age 15 compared to similar trends on 15-year-olds in thirty European countries and other eight countries in Eastern and Central Africa [15]. Nico Gabhainn and associates [15] found that older aged males with rural residency have increased likelihood of sexual debut and have one or multiple sexual partners among adolescents. Doku [4] reiterated that the variance in sexual debut and number of sexual partners between rural and urban adolescents is comparatively higher among rural than their urban peers. This trend was attributed to the generally poor education and health services in the rural compared to urban settings. Therefore, more adolescent boys were sexually experienced, had frequent engagement in sexual intercourse and heterosexual partners than their female counterparts [16]. Similarly, gender has been found as a significant predictor of sexual behaviours in university students, with males reported to have engaged in more sexual behaviours including sexual fantasy, heterosexual intercourse, masturbation, viewing pornography, and talking about sex with friends [17]. However, Chi, Yu and Winter [17] reported age as not a significant predictor of sexual behaviour among school adolescents. Further, relationship satisfaction with parents has been associated with a lower probability of engaging in sex. Specifically, parents serve as buffers for adolescents by lessening the impact of peer

pressure and environmental influences on sexual activity [18,19]. According to Whitaker and Miller [19], girls who speak to parents about when they should have sex are less influenced by whether they thought their peers had initiated sex early or later. Comparatively, parents who never deliberate on sexual initiation with their adolescents' children toward age at sexual debut were significantly lower in girls who thought their peers started early. Therefore, the notion that parents have significant influence on the sexual and reproductive health of their children cannot be overemphasized [20].

Adolescents' sexual engagement in sexual risk behaviours early in life mean there is the need for regular checking of trends of their sexual behaviours for planning and development of intervention programmes. The World Health Organisation [21] has reiterated that since the adolescent stage is characterized by many turmoils and uncertainties leading to health compromising behaviours, there is an urgent need for regular profiling of health behaviours among adolescents. Although several studies have been conducted in Ghana on health related behaviours involving adolescents [4,22,23], little is known about prevalence of sexual intercourse and factors associated with behaviours of school going adolescents in the Central Region of Ghana. The purpose of this study was to examine the prevalence of sexual intercourse and the relative influence of socio-demographic factors that may account for the engagement in sexual intercourse among school going adolescents. It was hypothesized that all the socio-demographic factors would predict sexual intercourse among the school going adolescents.

Materials and Methods

Participants' selection criteria

Using a cross-sectional design, school going adolescents whose ages ranged between 10 - 15 years in some selected schools in the Central Region of Ghana were chosen. These ages were further categorized into three groups: 10 - 11, 12 - 13 and 14 - 15 years [2]. A sample size of 1,400 participants was obtained using Cohen 'G' power with effect size of .40, confidence level of 95% and confidence interval of .05. A multistage sampling technique comprising a cluster, simple random and convenience methods were used to sample 1,400 school going adolescents in the Junior High Schools (JHS) in the Region. Stage one involved clustering the districts in the Region into three geographical zones (i.e. southern, central and northern). The purposive sampling method was employed to select two districts from each of the zones at the second stage. At the third stage, proportionate simple random sampling was used to select 10% of schools from each of the two districts selected from each of the zones. The final (fifth) stage involved the use of convenient sampling to select averagely 40 students from each of the 34 schools, with equal representation of boys and girls. The selected students had earlier signed the inform consent form after being assured of their anonymity and confidentiality at all stages of the data collection process and that information collected were solely for research reasons. Ethical clearance was obtained from the Institutional Review Board of University of Cape Coast, Ghana [UCCIRB/CES/2016/04].

Instrumentation

The Global School Health Survey ([GSHS, 24]) questionnaire was adapted and modified to suit the rational of this study. Seventeen (17) items on the inventory consisted of objective questions that asked information on socio-demographic variables (9) on age, gender, religion, academic performance, parental communication, socioeconomic status, geographical location, and eight objective items on sexual intercourse. Sexual intercourse behaviour was measured by age of onset of sexual intercourse, protected sexual intercourse, multiple sexual partners etc. The items were measured on nominal scale. The instrument used for data collection yielded a reliability coefficient of Kuder-Richardson [KR20] formula 0.84. This reliability showed that the instrument actually measured what it was intended to measure.

Procedure

The questionnaire was administered by one of the researchers and a team of trained research assistants at pre-arranged sessions with the school authorities. In order to minimize disruptions in the schools' academic work, these pre-arranged sessions were staggered across all the selected schools chosen within the sampled Districts over a period of three months. To avoid any contextual influence, an introduc-

tory session was organized to brief study participants on the purpose of the study and the standard instructions needed for completion of the instrument. Emphasis was on the need for honesty and confidentiality of their responses, where each item on the instrument ought to be considered on its own merit. These precautions were taken in an attempt to minimize social desirability related issues that are commonly associated with self-reporting.

Data analysis

Data analysis was conducted in different stages. Data pre-screening procedures were initially done to examine the accuracy of the data and related statistical assumptions. Afterwards, simple frequencies and percentages were used to report on the proportion of prevalence of sexual intercourse among school going adolescents in the region. Logistic regression analysis was further employed to determine causal relationship between the socio-demographic factors and sexual intercourse among the students in the region. These statistical procedures were performed using the Statistical Package for Social Sciences ([SPSS] version 22.0 for Windows).

Results

The distribution of the data met all the statistical assumptions. Additionally, no missing cases and outliers on the variables were identified. The assumptions of normality, linearity, multicollinearity, and singularity were all deemed appropriate.

Prevalence of sexual intercourse

Prevalence of sexual intercourse among school going adolescents in the Central Region was assessed and the response is presented in figure 1. The result in figure 1 revealed a lifetime sexual intercourse prevalence of 26% (n = 342) among school going adolescents in the region. The result also showed that the age of first sexual intercourse is between 11 - 13 years where 37% (n = 127) of the participants were in primary school. However, 63% (n = 215) of school going adolescents initiated sexual intercourse in the JHS at age 14 - 15 years. Those who had sex encounters in the primary school level were either by rape or forced into sex. These were given as reasons for their first sexual intercourse, with 21% (n = 75) responding that they were forced into making sex from their partners. The results further revealed that a sizeable number of school going adolescents were engaging in multiple sexual relationships as 31% (n = 106) engaged in sexual intercourse with more than two persons while the rest 69% (n = 236) had sexual relations with one partner. Again, 61% (n = 207) of school going adolescents engaged in unprotected sex, with only 39% (n = 135) practicing condom protection.

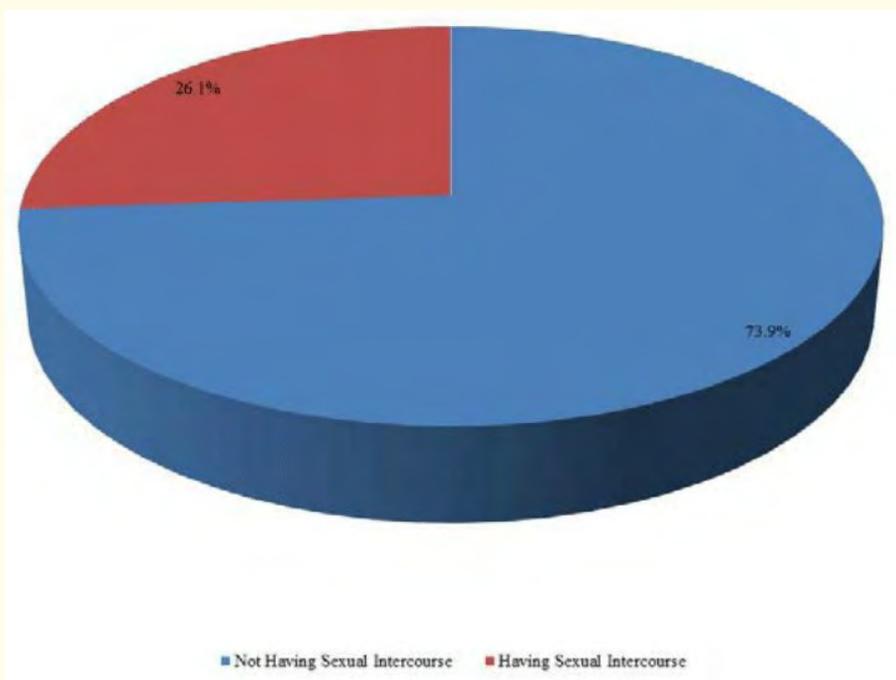


Figure 1: Prevalence of sexual intercourse behaviour.

Socio-demographic predictors of sexual intercourse

Results indicated that the overall logistic regression model significantly predicted sexual intercourse among school going adolescents in the region (-2LogL =1458.8, $\chi^2 = 6.877$, $p = .001$). The predictors explained 5.1% of the variance in sexual intercourse among school going adolescents in the Central Region of Ghana.

The results in table 1 showed that the socio-demographic variables that were the most reliable predictors of sexual intercourse among school going adolescents in the region were age, gender, parental communication and academic performance. Age significantly predicted sexual intercourse with older school going adolescents (14 - 15 years) 1.5 times more likely to have initiated sexual intercourse than the younger ones aged 12 - 13 years (OR = 1.48, 95% CI = 1.07 - 2.05, $p = .017$).

Predictors	N	%	Beta	Wald	OR	p-value
Age						
12 - 13 years (ref)	59	17.3				
14 - 15 years	283	82.7	.394	5.690	1.483	.017*
Gender						
Boys (ref)	193	56.4				
Girls	149	43.6	-.433	11.299	.649	.001*
Religious Affiliation						
Christians (ref)	292	85.4				
Muslims	50	14.6	.353	3.414	1.423	.065
Parental Communication						
Difficult (ref)	149	43.7				
Easy	193	56.3	-.360	7.463	.698	.006*
Socioeconomic Status						
Low (ref)	239	85.7				
High	103	14.3	-.204	2.073	.816	.150
Academic Performance						
Below average (ref)	82	24.0		4.641		.098
Average	173	50.6	-.167	.992	.847	.319
Above average	87	25.4	-.402	4.432	.669	.035*
Geographical Location						
Southern (ref)	126	36.8		2.709		.258
Central	126	36.8	-.032	.043	.968	.835
Northern	90	26.4	-.032	2.709	.968	.835
Constant			-.609	6.877	.544	.009

Table 1: Binary Logistic Regression of Socio-Demographic Predictors of Sexual Intercourse among School Going Adolescents. *Significant results

Similarly, gender statistically predicted sexual intercourse with girls less likely to have sexual intercourse than boys (OR = .65, 95% CI = 0.50 - 0.84, $p = .001$). Furthermore, school going adolescents’ parental communication status was also found to significantly predict sexual intercourse (OR = .69, 95% CI = 0.54 - 0.90, $p = .006$). Again, students whose academic performance was above average were less

likely to engage in sexual intercourse than those with below average academic performances (OR = .67, 95% CI = 0.46 - 0.97, $p = .035$). But adolescents with average and below average academic performance were found to be at equal risk of having sexual intercourse (OR = .84, 95% CI = 0.61 - 1.18, $p = .319$). However, no statistically significant variations were found in the odds of initiating sexual intercourse within religious affiliation (OR = 1.42, 95% CI = 0.98 - 2.07, $p = .065$), socioeconomic status (OR = .82, 95% CI = 0.62 - 1.08, $p = .150$) and geographical location (OR = .97, 95% CI = 0.72 - 1.31, $p = .835$). These variables did not significantly predict sexual intercourse among school going adolescents in the Central Region of Ghana.

Discussion

The central focus of this study was to examine the prevalence of sexual intercourse and the relative impact of selected socio-demographic factors that may account for the engagement of sexual intercourse among school going adolescents in the Central Region of Ghana. The study found 26% lifetime sexual intercourse prevalence among school going adolescents in the region. This prevalence was consistent with 25% sexual intercourse prevalence reported by Doku [14]. The possible reason that may have accounted for this finding was perhaps the shared similarities in behavioural characteristics of the sample population used for the two studies.

However, the current prevalence could be described as low compared to sexual intercourse prevalence reported from previous studies in other Regions of the country. For example, Abruquah and Bio [25] reported 33.9% sexual intercourse prevalence among school adolescents in Kwaebibrem District of the Eastern Region. Ghana Statistical Services [GSS], Ghana Health Service [GHS], and ICF Macro [26] and GSHS [24] also found 37% and 32% of sexual intercourse prevalence among school going adolescent in different regions in the country. Other studies (e.g. [16]) found similar findings on sexual intercourse prevalence (33%) among adolescents in Brong Ahafo and Greater Accra Regions. Although, the prevalence in the current study might seem low, the number of school going adolescents engaging in early sexual intercourse is detrimental to their educational attainment of this category of adolescent students. This outcome places school going adolescents in the region at risk of contracting and transmitting STIs including HIV. The outcome could also be responsible for high prevalence of teenage pregnancy, abortions and teenage births in the region particularly among BECE candidates [5,16,27,28]. Risky sexual behaviours and early sexual debut among school going adolescents in the Central Region had psychosocial, health and economic consequences for the region and country [29]. These behaviours could be preventable through the coordinated efforts of schools, health and education ministries, agencies, and community organizations [30].

The findings of this research further revealed age, gender, state of parental communication and academic performance of students as significant predictors of lifetime sexual intercourse among school going adolescents in the Central region of Ghana. These findings are consistent with previous research findings of [14,16,17,20,31,32]. Researching on substance use and risky sexual behaviours among sexually experienced Ghanaian youth aged 12 - 15 years, Doku [2] found gender, age and rural residency as predictors of sexual intercourse among school adolescents in Ghana where older male adolescents have increased likelihood of sexual intercourse. However, the age current finding contravened Chi., *et al.* [17] finding of age as not a significant predictor of sexual behaviours among adolescents, with less number of young adolescents having sexual intercourse in the current study than the previous study. Even though this finding might be encouraging, there is still the need for public and school health interventions (e.g., consistent advocacy, mentoring programmes) that place much emphasis on abstinence and protective use of condoms in the region so as to shield those adolescents who are having sexual intercourse in the region against the psychosocial (e.g., rejection, guilt) and health (e.g. depression, pre-mature death) consequences of engaging in unprotected and pre-marital sex.

Previous research findings [12,17,31,33,34] also found gender as a significant predictor of sexual behaviours among students, where males reported more sexual behaviours including sexual fantasy, heterosexual intercourse [31,33,34], masturbation, viewing pornography and talking about sex with friends [12,15]. From a cultural perspective, boys are expected to be heterosexually active while girls

and women are expected to keep their virginity until marriage in most sub-Saharan societies [14]. Another plausible explanation for the similarities in the findings could be that, in developing regions, like the Central Region of Ghana, societal sexual expectation for boys and girls are viewed differently where in most cases, society is more tolerant towards boys' sexual debut even during adolescence. Another potential reason for boys' engagement in sexual intercourse compared to their girl counterparts could be attributed to the physiological changes that occur in boys, where early morning erection and nocturnal emissions could influence male adolescents' early sexual experimentation [35].

The study also found school going adolescents with below average and average academic performances are at greater risks of having sexual intercourse than peers with above average academic performance [28,30]. Other research conducted among high school teenagers in Europe, Africa and China revealed that academic performance was a significant predictor of sexual activity among teenagers, with teenagers with poor school achievements more likely to have already lost their virginity and engaged in more sexual activities than those who achieved high academic success. A similar study in Europe also suggested students with lower grades, compared to those with higher grades, were more likely to have sexual intercourse experience in high school [36,37]. These similarities suggest that students with high academic performance may have better plans for the future and concentrate more on their educational commitments. Adolescents' who specifically focus on their education are more likely to delay their sexual debut [14]. There is the need to increase reproductive health education and health counselling in schools, especially among adolescents with low academic performance in order to reduce the health risks (e.g. teenage pregnancies, births, abortions, school dropouts) associated with early unprotected sexual engagement.

Parental communication also emerged as a significant predictor of lifetime sexual intercourse among school going adolescents in the current study, with adolescents having limited and difficult parental communication at higher risk to initiate sexual intercourse than those with easy and frequent parental communication. The finding is consistent with previous research [20,34,36]. For instance, relationship satisfaction with parents through effective communication was associated with a lower probability of engaging in sex. Ironically, sex and other reproductive health issues are not openly discussed between parents and their children in Ghana and perhaps elsewhere in the sub-Saharan region. Hence, adolescents are left on their own to discover issues related to their sexual life. Findings from this study and other previous ones suggest that this notion ought to be changed in order to reduce the risk of sexual exposure because adolescents' closeness to parents is postulated to influence less sexual activity. Adolescent-parent connectedness is suggested to act as a protective mechanism against emotional distress and young age at sexual debut [38]. It must be emphasized that parent-child closeness increases the opportunities for prosocial development [39]. Scholarly evidence suggests that parent-adolescent communication about sex plays an important role in predicting adolescent sexual behaviours [40]. In order to reduce the impact of changing societies on sexual escapees of school going adolescents in the region, there is an urgent need to increase parental sex education, supervision, monitoring and school reproduction health education as postulated by Bandura's [41] Social Cognitive Theory as well as Ajzen and Fishbein's [42] Theory of Reasoned Action. Insight and skill-based sex education that would equip adolescents is essential for healthy sexual behaviours [43]. Adolescents' programmes should target building competence and self-confidence by promoting supportive relationships with peers and mentors. The mentor-mentee initiatives could help strengthen issues on educational commitments, decision making skills, developing independence as well as providing access to community service. These interventions are suggested to be effective ways of controlling adolescents' sexual behaviours [44-46]. The period of adolescence is characterized by shifts in influence, where peers become more influential than parents [8]. Hence, mentor-mentee programmes involving school going adolescents could be significant. Additionally, proper and efficient parental guidance and education can suppress peer influence and mediate future adolescents' risky behaviours.

Socioeconomic status did not significantly predict sexual intercourse among school going adolescents in the region. This finding contradicts previous research findings that posited socioeconomic status of adolescents as a significant determinant of their sexual intercourse [17,20,32,36]. The possible reason for this difference could be that modern lifestyles of adolescents' social engagement do not necessarily operate on the monetary gains for sexual intercourse but rather curiosity and experimentation could be the driving force

behind adolescents' sexual engagements in the region. Geographical location also did not significantly predict sexual intercourse among school going adolescents in the region, a finding that is consistent with previous research [17]. Similarly, religion was not a significant determinant of sexual intercourse among the school going adolescents. The finding was in contrast with McIntosh and Spilka [47] and Awusabo, *et al.* [7] findings that religiosity and regular church attendance could prevent social pressures of risky behaviours such as early sexual intercourse. Awusabo and co-workers further opined that religious system may influence delay in sexual intercourse because religion cherished virginity before marriage. Taking the three non-significant predictions together, psychosocial unconventional perspective (problem-behaviour theory, see Jessor, Donovan, and Costa [49] for details) suggests that some of the adolescents in the current study may still object to conventional societal norms and values and be susceptible to engaging in non-conforming behaviours regardless of their geographical endowments (e.g. perceived environment system) and religious standings (e.g. behaviour system).

Practical Implications

School sex and reproductive health education should focus on mediating the gender, age, parental and academic influences on sexual intercourse through classroom teachings, parent teacher association meetings and public health education, because effective implementation of prosocial sex education in schools and communities could delay sexual intercourse debut among adolescents, and increase safer sexual behaviour. Consistent educational campaigns, guidelines for the future and communal socialisation could also delay engagement in early sexual intercourse. Therefore mentoring and modelling by successful people (e.g., past students) from these schools and the communities could be used to arrest early sexual intercourse among school going adolescents. Programmes must therefore address the multiple risks and protective factors to prevent the onset of sexual intercourse and mitigate the problems associated with it among school going adolescents in the region.

Limitations

There are few limitations that may bias findings in the current study. Sexual intercourse was measured by self-reporting, therefore it is very likely that school going adolescents sexual experiences were either under or over-reported due to measurement challenges such as memory distortions, social desirability bias, and concerns about confidentiality [5]. Sexual issues are very sensitive, hence may have limited free expression on some matters. This under-reporting or over-reporting could lead to underestimation or overestimation of the strength of association between selected predictors and adolescents sexual behaviours. The cross-sectional design of the study prevents inference of causality among the studied variables. Lastly, although the generalizability of current findings is restricted to the cohort group of adolescents, the sensitive nature of sexually related behaviours warranted this examination.

Conclusion

The study found 26% prevalence of sexual intercourse among school going adolescents in the region. The age of onset was 11 - 13 years with increased prevalence at age 14 - 15. The predisposing factors for early sexual intercourse were forced sexual intercourse, drunkenness and as a proof of love among adolescents in the region. High prevalence (61%) of unprotected sexual intercourse was found in the region with increased prevalence of multiple sexual relationships among school going adolescents. The study also found age to significantly predict sexual intercourse among school going adolescents in the Central Region of Ghana, with older adolescents (14 - 15 years) more likely to have sexual intercourse than the younger ones (12 - 13 years). Similarly, gender was significantly associated with sexual intercourse among school going adolescents, with boys more likely to have sexual intercourse than girls. Parental communication was also found to be highly associated with sexual intercourse among school going adolescents in the region, where adolescents with easy parental communication less likely to have sexual intercourse than adolescents who find it difficult to communicate with their parent. In addition, academic performance of the students was also found to have causal relationship with sexual intercourse, with adolescents whose academic performances were above average less likely to have engaged in the sexual intercourse than those whose academic performances were average and below average. Nevertheless, religious affiliation, socioeconomic status, and geographical locations of the students had no causal relationship with sexual intercourse among school going adolescents in the region.

Although, sexual intercourse is relatively low among selected school going adolescents in the Central Region, compared to other regions in Ghana, there is still high prevalence of unprotected sexual intercourse among school going adolescents in the region as well as multiple sexual relationships. The implications are that high rates of teenage pregnancies, abortions, teenage births and other consequences associated with early sexual intercourse in the region could be present.

Declaration

The authors declare no conflict of interest in the conduct of this research.

Acknowledgement

To all heads of selected schools and their students for making this research possible, the authors would like say thank you. The authors also wish to thank University of Cape Coast, Ghana, the Neurocognition and Action- Biomechanics and Center of Excellence, Cognitive Interaction Technology (CITEC), Bielefeld University, Germany for ably supporting this research.

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Volume 7 Issue 5 May 2018

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