

ADOLESCENTS' KNOWLEDGE LEVEL IN SEX EDUCATION: DOES GENDER AND AGE DIFFERENCE MATTER?

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ABSTRACT: The study investigated gender and age difference on knowledge level in sex education among adolescent students in the Wa Municipality. The researchers adopted descriptive survey design with a quantitative approach. The researchers used a sample of 390 out of 8,101 population through the probability and non-probability sampling procedures. Descriptive and inferential statistical tools were used for the analyses. The study revealed that adolescent students' knowledge level about sex education was above average with a mean score of 24.82, which was above the criterion mean score of 20.0. The study also revealed that adolescent students do not differ in their knowledge levels about sex education by either age or gender. It was recommended that adolescent students be guided against indiscriminate sexual activities as they might be exposed to sexual related problems such as HIV/AIDS, unplanned pregnancies and abortions.

I. INTRODUCTION

Human as an entity created by God has always being characterised with growth and development that is necessary for everyone. As being characterised with growth and development, there is one particular growth and developmental mark that is of interest to growth experts and as such, adolescence is the case. Adolescence per definition offered by Lewin (1939) is a human developmental period where an individual transit from childhood to adulthood. Synonymously, it is about leaving behind activities that are child-like and taking actions that are adult-like in life. Adolescence is regarded as a "golden moment" in the life of the growing child because it is a period that is believed to create opportunities for smooth growth and as well, setbacks that can make one regret in life. During the period of adolescence, it is observable to note that adolescents are challenged because they find themselves in a crossroad between childhood activities and adulthood activities and prominent among such challenges include issues-related to sex and its education.

Sex education, generally, is defined as the process of acquiring knowledge about human development and forming positive mind-set towards sexuality among men and women. Sex education is an instruction on issues relating to human sexuality, including emotional relationships, responsibilities, human sexual anatomy, sexual activity, sexual reproduction, reproductive health, reproductive rights, safe sex, birth control and sexual abstinence (Tupper, 2013).

Kearney (2008) was of the view that sex education involves an inclusive course of action by school, planned to bring about the socially desirable attitudes, practices and personal conduct on the part of adolescents and adults, where these will best protect the individual as a human and the family as a social institution. Thus, sex education may also be described as a programme that encompasses education about all aspects of human sexuality, including information about family planning and reproduction. Sex education also covers aspects of an individual's body image, sexual orientation, sexual pleasure, values, decision making, communication, dating, relationships, sexually transmitted infections (STIs) prevention, and birth control methods. It is understood that various aspects of sex education are considered appropriate in school, depending on the age of the students or what the children can understand at a particular period of time.

Scholars such as Burt (2009); WHO (2004) are of the view that, sex education that covers all aspects of human sexual development is known as "comprehensive sex education" and the most common perceived avenues (agents and agencies) for sex education are parents or caregivers, formal school programme and public health campaigns. Rubin and Kindendall (2001), noted that sex education is not merely a unit in reproduction and teaching how babies are conceived and born, rather, it has a far richer scope and goal of helping adolescents incorporate it most meaningfully into their present and future life, to provide them with some basic understanding of virtually every aspect of sex by the time they reach full maturity.

It is touted that sex education for adolescence is relevant to the extent that it has the potential to protect and project the adolescent for a better relationship and an understandable sexual life. SIECUS (2008) survey reported that adults surveyed in a study supported sex education because it has what it takes to control the teeming curious adolescents in the 21st Century. In a related study in the United States, conducted among parents of junior high school students and of parents of secondary school students believed that sex education makes it flexible for them to talk to their adolescents' about sex (Kaiser Family Foundation, 2004).

Guided by the sensational praises on sex education with its possibilities in making adolescence more easy in terms of sexuality, it is however bleak to understand that there seem to be lack or inadequate knowledge in sex education for adolescents of today. According to WHO/UNFPA (2007), there exist a large number of adolescents who have less knowledge about sex education globally, and this is not different in many other jurisdictions and Ghana is not an exception. To WHO/UNFPA (2007), many people do not receive adequate, comprehensive education on sex and this lack or inadequacy potentially exposes them to vulnerabilities of sexual coercion, sexual abuse, sexual exploitation, unintended pregnancy and sexually transmitted infections (STIs). The assertions are that the lack of education could be as a result of the negative tags that are aligned to it in most countries and especially Ghana. It is noted long ago that the issue of sex education for young people within the African sub-region was tagged as a taboo which seems to partly contribute to the knowledge gap and this trend is not different in Ghana as part of Sub-Saharan Africa (WHO/UNFPA, 2007).

According to WHO/UNFPA (2007), many young people approach adulthood challenged with contradictory and unclear information about human sexuality and gender role due to the lack of knowledge in sex education. Oyeboode, Sagay, Shambe, Ebonyi, Isichei, Toma, Embu, Daru, and Ujah (2015), opine that the inadequacy of sex education place adolescents at risk of sexual-related diseases including HIV/AIDS and unprepared pregnancies that may force them to resort to abortion, which is actually illegal in some countries, but are only allowed except to save a woman's life (Bankole, Adewole, Hussain, Awolude, Singh & Akinyemi, 2015). If all these assertions hold, is it conclusive to state that the increase in teenage pregnancy and other related adolescent sexual problems may be caused by knowledge inadequacy in sex education? Again, is it also possible that the knowledge level in sex education could be differentiated in terms of gender and age? It is based on these prompting questions that the researchers set out to investigate adolescents' knowledge level about sex education and how they differ based on gender and age in the Wa Municipality.

Purpose of the Study

The study sought to investigate adolescent students' knowledge level about sex education and differences based on gender and age in the Wa Municipality in the Upper West Region of Ghana. Specifically, the study sought to:

1. Find out the knowledge level of adolescent students on sex education in the Wa Municipality,
2. Investigate the differences in knowledge level on sex education between male and female adolescent students in the Wa Municipality, and
3. Investigate age differences in knowledge level about sex education among adolescent students.

Research Question

1. What is the knowledge level of adolescent students about sex education in the Wa Municipality?

Research Hypotheses

1. **H₀**: There is no statistical significant difference in gender and knowledge level about sex education by adolescent students in the Wa Municipality.
H₁: There is a statistical significant difference in gender and knowledge level about sex education among adolescent students in the Wa Municipality.
2. **H₀**: There is no statistical significant difference in age and knowledge level about sex education among adolescent students in the Wa Municipality.
H₁: There is a statistical significant difference in age and knowledge level about sex education among adolescent students in the Wa Municipality.

II. REVIEW OF LITERATURE

Knowledge level of adolescents about sex education

The knowledge and understanding of what constitutes sex education is very vital to the developing adolescent and the accurate knowledge regarding sex education is important for all, especially, adolescents. Adolescents are susceptible to adopt negative behaviours if not guided properly and at the right age (WHO, 2012). However, it is reported that many studies conducted worldwide are based on sexual health behaviour of adolescents rather than knowledge of sex education (Koyama, Corliss & Santelli, 2009). The knowledge possessed by adolescents about sex education can help them to understand what entails their stage of development in relation to sex issues and the deficit may be detrimental to their social lives. It is understood that, the psychological and sociocultural influences in the delivery of sex education can increase the likelihood

of effectiveness. Principally, during adolescence, sex education provision is a crucial precautionary tool, as it is the opportune time when young people experience developmental changes in their physiology and behaviour as they progress to adulthood (WHO, 2011). According to Shajahan, Sathyanarayana and Wylie (2015), the intricate emotional state in which adolescents find themselves in, the dishonour surrounding matters of a sexual nature in society and the prevalent gender inequality faced by these adolescents make it progressively challenging for them to achieve the knowledge needed about sex education.

According to Andrew, Patel and Ramakrishna (as cited in Shajahan, Sathyanarayana & Wylie, 2015), the skills adolescents develop from sex education are related to more general life-skills, such as communication, listening, decision-making, negotiation and learning to ask for, and identify sources of help and advice from people such as parents, care givers, and professionals through the family, community, and health and welfare services.

It is noted that there are a lot of factors that contribute to adolescents' knowledge and behaviour on sex education across the globe (Koyama, Corliss & Santelli, 2009). These factors may range from gender differences, parental supervision, role of community, peer influence, school environment, economic concerns, and neighbourhood surroundings to ethnicity (Crisanti, Frueh, Gundaya, Salvail, & Triffleman, 2011; Brooks, Magnusson, Spencer, & Morgan, 2012; Cubbin, Brindis, Jain, Santelli, & Braveman, 2010). It is believed that, improper information on sex education may lead to various types of health risks and social problems among adolescents. Health risks may include acquiring sexually transmitted diseases such as HIV infection, early pregnancies, unsafe abortions, adverse birth outcomes due to unplanned marriages, maternal morbidity and mortality (Neal, Matthews, Frost, Fogstad, Camacho & Laski; Molina & Gonzalez; Hamamy as cited in AlQuaiz, Kazi & AlMuneef, 2013).

A study by Shajahan, Sathyanarayana and Wylie (2015) with a sample of 5250 in India revealed that, 33% respondents aged between 15-24 years lacked sex education due to the lack of adequate reliable source to receive proper and correct information in a positive manner. It was suggested that, the curriculum in India imposed beliefs and values on young people that prevent them from clarifying their own beliefs and values and discourage them from making their own decisions. It seemed to them that subjects related to sex education are ill-addressed by the current curriculum on puberty and the body, conception and contraception, healthy relationships and communication, gender identity, body image, and HIV prevention.

A study conducted in Saudi Arabia in 2013 with a sample of 400 adolescent girls in a categorized age bracket of below 15 years and above 15 years revealed that, 54.1% of the respondents had poor sex education knowledge and this reflects that, for a long time, no concrete measures were taken to impart important and basic information on sexual health to adolescents or to other age groups (Roudi-Fahimi, & El Feki, 2011; Al Muneef, AlQuaiz, & Kazi, 2013).

Age-related Differences in Knowledge Level About Sex Education Among Adolescent Students

It is agreeable the adolescence period is not confined to one particular age bracket; rather, it is subdivided into three components (early adolescence from 12-15, middle adolescence from age 16-18 and late adolescence from age 19-22) so that people can have a comprehensive understanding of this precious period in the development of the younger ones (American Academy of Child and Adolescent, 2008). As such, there is likelihood that there may be age-related differences among adolescent students about issues concerning sex education spanning through early adolescence, middle adolescence and late adolescence period and this comes with age with different maturity levels among adolescent's knowledge levels.

Studies conducted in the United States by Santelli, Lowry, Brener and Robin (2000) and Somers and Paulson (2000), found that older adolescents reported more frequent sexual behaviours and more sexual knowledge than younger adolescents. Somers and Paulson (2000), summarized that researches continually produce findings that age is the primary associate of sexual behaviour, including commencement of sexual intercourse, frequency of sexual behaviour, and use of contraception. It is therefore agreed that age directly correlates with adolescents' sexual behaviours which include information about sex education and other developmentally appropriate information that go in line with the adolescence period.

Gender-related Differences in Knowledge Levels about Sex Education Among Adolescent Students

Adolescence is not to be a single sex affair. As it holds, there may be differences in knowledge level about sex education by male and female adolescents'. Some studies indicate that adolescent boy's knowledge about sex education is better than adolescent girl's own. Keller (1959) in a study with 400 adolescent students in the United States indicated that male adolescent students were more knowledgeable about human sexuality than female adolescent students. Further studies equally supported female adolescents to be more knowledgeable about sex education than male adolescents.

Gunderson and McCary (1980) found out in a study in the United States among college students that female adolescent students were more knowledgeable than male adolescent students. A study conducted in North Carolina, United States among 2522 college students by Marin, Kirby, Hudes, Coyle and Gomez (2006),

indicated that adolescent girls who experienced early onset of menarche were considerably more likely to have had sex than were younger or less mature students.

III. RESEARCH METHODS

Research Design

A descriptive survey design was employed in this study. According to Amedahe (2002), a descriptive survey allows for accurate description of activities, objects, processes and persons. According to Burns and Grove (2003), descriptive survey is designed to provide a picture of a situation as it naturally happens or occurs. Thus, it may be used to make informed decisions with regard to current practices and theories. To Bernard (2002), descriptive survey method allows the researcher to obtain the opinion of representative sample of the target population so that the investigation can infer the perception of the population. Shaughnessy, Zechmeister and Jeanne (2011) posited that descriptive surveys employ the use of questionnaire and interview and these are essential tools for descriptive research. Descriptive survey can provide information about naturally-occurring health status, behaviours, attitudes or other characteristics of a particular group. Furthermore, descriptive surveys are conducted to demonstrate associations or relationships between things in the world and they allow for multifaceted approach to data collection.

However, descriptive survey is noted for having some weaknesses as well despite its significance. According to Gravetter and Forzano (2011), this design is time-consuming when it comes to administration of instruments. Furthermore, it is understood that confidentiality is equally a primary weakness of descriptive survey. Often, respondents are not truthful as they may feel the need to tell the researcher what they think the researcher wants to hear and this is aligned particularly to interviews. Participants may also refuse to provide answers to questions they view to be personal.

Descriptive survey design presents the possibility for error and subjectivity in the sense that the researcher may in one way or the other record what he or she wants to hear and ignore data that does not conform to the researcher's hypothesis or questions. The researchers' choice of descriptive survey was informed by the nature of the research problem, the purpose of the study, nature of the research questions and hypothesis guiding the research study and the possibility of high response rate.

As a survey, the study espoused the quantitative approach or method that goes in line with the positivists' paradigm/perspective. According to Given (2008), a quantitative approach to research is the systematic empirical investigation of observable phenomena via statistical, mathematical or computational techniques.

Quantitative approach to research is aimed at producing data that can be examined using statistics and the results expressed numerically or mathematically. The objective of quantitative research is to develop and employ mathematical models, theories and hypotheses pertaining to phenomena. Cohen, Manion, and Morison (2000) were of the view that quantitative approach in research is a positivist paradigm and is essentially about collecting numerical data to explain a particular phenomenon, particular questions seem immediately suited to being answered using quantitative methods. Many researchers take this pragmatic approach to research, and use quantitative methods when they are looking for breadth, want to test a hypothesis, or want to study something quantitative. The choice of this approach in the study is based on the fact that I used questionnaire as an instrument to collect data and the analysis were done using descriptive and inferential statistics that reported results in the numerical format.

IV. POPULATION

The population was all senior high school students in the Wa Municipality, with an estimated population of 8,101 adolescent students comprising 4948 male adolescent students and 3153 female adolescent students. All these came from schools believed to be running courses such as Social Studies and Biology where some aspects of sex education are mentioned but limited with regards to content. The schools were Wa Senior High School, Wa Senior High Technical School, Wa T.I. Ahmadiyya Senior High School, Wa Technical Institute, Wa Islamic Senior High School, Wa Islamic Girls Senior High School and S^t Francis Xavier Boys Senior High School. Table 1 presents the demographic information of the population for the study:

Table 1: Population of the Senior High Schools in the Wa Municipality

School Name	School Population
Wa Senior High School	2467
Wa Islamic Senior High School	1782
Wa T.I. Ahmadiyya Senior High	1814
Wa Technical Institute	529
Wa Islamic Girls Senior High	137
Wa Secondary Technical S.H.S.	1174
St Francis Xavier S.H.S.	198
Total	8101

Source: Field Survey (2019)

Sampling Procedure

A sample of 390 adolescent students was used for the study based on Krejcie and Morgan's (1970) sample size determination table, with its appropriate confidence level and confidence interval. The study used the multistage sampling procedure. According to Agresti and Finlay (2008), a multistage sampling is the procedure where the larger population is divided into smaller clusters in several stages in order to make primary data collection more manageable and easy.

Three (3) mixed schools were randomly sampled for the study. These were Wa Senior High School, Wa Islamic Senior High School and T.I Ahmadiyya Senior High School. The sampled schools made up the accessible population of 6063 adolescent students. No single sex school was included because they wilfully declined to be part of the study despite meeting the inclusion criteria. These single sex schools were St. Francis Xavier Senior High School and Islamic Girls Senior High School and the excuse was that the study topic is sensitive and could get students exposed to information that is not appropriate in their settings. According to Yates, David and Daren (2008), a simple random sample is a subgroup of individuals chosen from a larger group where each individual is chosen randomly and entirely by chance, such that each individual has the same probability of being chosen at any stage during the sampling process, and each subset of k individuals has the same probability of being chosen for the sample as any other subset of k individuals.

Proportional sampling procedure was used based on the differences in terms of population among the selected schools. Proportional sampling is noted to be a sampling procedure that is used when a known population comprise several subgroups that are greatly different in number (Van Dalen, 1979). According to Van Dalen, proportional sampling provides the researcher a way to achieve even greater representativeness in the sample of the population. In doing this, the total population of each school was divided by the total population of the three sampled schools and multiplied by 100 to get the proportion and the proportions were extracted from the total sample size. The formula and the Table 2 are shown below:

$$s = \frac{n}{N} \times 100, \text{ where}$$

s = individual school sample

n = individual school population

N = total population of all schools

Table 2: Sample Size Proportions for the Selected Schools in the Wa Municipality

Schools Name	Schools Population	Sample Size %
Wa S.H.S	2467	41
Wa I.S.H.S	1782	29
Wa AMASS	1814	30
Total	6063	100

Source: Field Survey (2019); Ghana Education Service Data/ (2017/2018)

Table 2 presented information on the proportions for the sampled schools. Wa S.H.S had a sample proportion of 41%, Wa I.S.H.S. had a sample proportion of 29% and Wa AMASS had a sample proportion of 30% with all making 100%.

Quota sampling procedure was also used in assigning participants to each class level, thus, form two (2) and form three (3) without form (1) within the participating schools. The form (1) students were not included because they were reporting to school for the first time and their data in terms of population was not ready for the study. Combining the sample for all schools, each class level was assigned a quota of 195 respondents generally. The composite class level quota was sub-divided according to individual school populations. By definition, quota sampling is a non-probability sampling technique where the assembled sample has the same proportions of individuals as the entire population with respect to known characteristics, traits or focused phenomenon (Explorable.com, 2009). Table 3 shows the quotas:

Table 3: Sample Size Quota for the Various Class Levels in the Selected Schools in the Wa Municipality

Schools	Population	Form 2	Form 3
Wa S.H.S	2467	80 (1246)	80 (1221)
Wa I.S.H.S	1782	56 (882)	57 (897)
Wa AMASS	1814	59 (921)	58 (893)
Total	6063	195 (3049)	195 (3014)

Source: Field Survey (2019); Ghana Education Service Data (2017/2018)

Systematic sampling procedure was also employed at the final stage in selecting cases for the study through the use of class seating patterns. According to Black (2004), systematic sampling is a statistical method involving the selection of cases from a methodical sampling frame. The selection begins by randomly selecting a 1st kth and then every kth case in the frame is selected, where k becomes the sampling interval. The kth case was every 16th student in a roll in the various class rooms. The sampling interval was obtained by dividing the total population (6063) by the sample size (390).

Data Collection Instruments

The instrument used in collecting data for the study was a questionnaire developed by the researchers, which had a four (4) point Likert Scale arranged according to agreement level (Strongly Agree=4, Agree=3, Disagree=2 and Strongly Disagree=1). In this, respondents who indicate agreement represent positive while respondents who indicate disagreement represent negative. According to Pierce (2009), a research instrument is a survey, questionnaire, test, scale, rating, or tool designed to measure the variable, characteristic, or information of interest, often a behavioural or psychological characteristic. Also, a research instrument is defined as a measurement tool that is carefully designed to obtain or collect data or information on a topic or problem of interest from research subjects. The choice of questionnaire as my instrument was informed based on the nature of this study.

According to McLeod (2014), questionnaire provides cheap, quick and efficient way of obtaining large amounts of information from a large sample of people. The items on the questionnaire were the close-ended type and structured to measure the perceptions of adolescents about sex education. The questionnaire comprised eleven (11) items. Section A questions solicited demographic information from the respondents and Section B questions were for determining adolescent students' knowledge level about sex education. According to McLeod (2014), the use of close-ended questionnaire is economical as data can be quickly obtained as closed questions are easy to answer and questions are considered standardized. However, it is noted that close-ended questionnaires lack detail and do not give room for respondents to make their personal views apart from the fixed items (McLeod, 2014).

Validation of the Instrument

To ensure the accuracy of the construct, the questionnaire developed by the researcher was subjected to expert views. The questionnaire was pre-tested in selected senior high schools in the Cape Coast Metropolis, namely University Practice Senior High School and Sammy Otoo Senior High School to test for the strength of the instrument. Geographically, the pre-test schools and the study schools are different, however, the researchers used these schools for the pre-testing because the students are adolescents and as such, they share common characteristics with those of the study participants in terms of sex education and human sexuality issues. The instrument yielded a reliability coefficient of 0.67. According to McLeod (2007), reliability refers to the consistency of a research study or measuring test. Cronbach alpha with values close to 1.00 was used. According to Ritter (2010), Cronbach alpha values ranging from the positive direction are trusted to indicate high level of consistency and are considered to be practical and can make sense.

Data Collection Procedures

Permission was sought from authorities of the various schools through the Municipal and Regional Education Offices after presenting to them letters from the Faculty of Educational Foundations and Institutional Review Board to address the ethical concerns of the research work and to show confirmation that protocols were followed. The purpose and significance of the study were clearly explained to the participants and the various school authorities. Participants were made aware that their participation was voluntary and that they had the will to withdraw freely along the study period. The participants were assured of the confidentiality of information they provided and some were equally guided in completing the questionnaire.

Data Processing and Analysis

The data was analysed after categorization and coding through the use of the Statistical Package for Service Solution (IBM-SPSS) version 22. The research question data was analysed using means and standard deviations as well as one samples t-test to establish adolescent students' knowledge level about sex education. Research hypothesis 1 was tested using independent samples t-test to find out if there is statically significance difference in knowledge level about sex education between male and female adolescent students'. Research hypothesis 2 was tested using independent samples t-test to find out if there is statically significance difference in knowledge level about sex education between adolescent students' aged 16 and below and 17 and above.

V. ANALYSIS

In all, 390 questionnaires were administered to adolescent senior high students. The researchers had a return rate of 100%. The views of the respondents are presented in the sections that follow:

Demographic Data of the Respondents

This section of the questionnaire was designed to seek information about the background of the adolescent students involved in the study. This includes gender, age and class level of respondents.

Gender distribution of the respondents

Table 4 presents that both male and female adolescent students participated in the study. It was indicative that male participants were more than female participants where male participants had a frequency of 238 representing 61.0% while the female respondents were 152, representing 39.0%.

Gender/Sex	Frequency	Percentage
Male	238	61
Female	152	39
Total	390	100

Source: Field Survey (2019)

Age Distribution of the Respondents

In this study, the age groups were operationally categorized in two ranges; 16 years and below and 17 years and above where parts of middle adolescence were merged into both early and late adolescence due to the demographic characteristics of the age variable. In the sample, two age categories; 16 years and below and 17 years and above were indicated. Participants who were 16 years and below were 40 with a percentage of 10.3 while those 17 years and above were 350 participants with a percentage of 89.7. It is clear that most respondents were in the middle to late adolescence, where their age range 17 years and above had 350 with 89.7% as against 16 years and below with 40 respondents with 10.3%. Table 5 presents the information:

Age	Frequency	Percentage
16 years and below	40	10.3
17 years and above	350	89.7
Total	390	100

Source: Field Survey (2019)

Class level distribution of the respondents

The study used Form 2 and Form 3 students because the Form 1 population data was not available as of the time of data collection because they were now reporting for school for the first time and this was due to the fact that the academic year started not long ago. From Table 6, there was a balanced population for the class levels of the respondents. In total there was 390 respondents where each class level was assigned a 50.0% quota of the sample. Therefore, each class level had a total of 195 respondents. The Table 6 presents the information.

Class Level	Frequency	Percentage
Form 2	195	50
Form 3	195	50
Total	390	100

Source: Field Survey (2019)

Research Question 1: What is the knowledge level of adolescent students about sex education in the Wa Municipality?

In analysing data from this research question, items 4 to 11 under Section B on the questionnaire were used. This research question sought to elicit from the adolescent students their knowledge level about sex education. The responses were coded as Strongly Agree=4, Agree=3, Disagree=2 and Strongly Disagree=1. Means and standard deviations as well as one sample t-test at $p < 0.05$ (2-tailed) were used for the analysis. A cut-off point of 2.50 was used to serve as criterion. In that light, a mean of 2.50 and above represents above average, while a mean below 2.50 represents below average. In finding the criterion value, scores on the four-point Likert were considered. The scores were summed and divided by the scale value, thus $4+3+2+1=10/4=2.50$. Table 7 presents the results of the means and standard deviations:

Table 7: Knowledge Level of Adolescents Students about Sex Education

Sn	Statement	t-Value= 2.50	
		Mean	SD
4	Sex education is about taking care of my sexual health (physical, emotional, mental and social well-being in relation to sexuality).	3.54	.750
5	Sex education is about protecting the self from sexual related infections/diseases like HIV/AIDS.	3.47	.767
6	Sex education is about taking right decisions about my sexual life and sexual health.	3.26	.784
7	Sex education is about preventing unwanted teenage pregnancy.	3.25	.895
8	Sex education is about understanding my sexual life throughout lifespan.	3.07	.986
9	Sex education is about taking care of my reproductive life (menstruation and wet dreams).	2.90	1.061
10	Sex education is the provision of information about my bodily changes towards adulthood.	2.71	.987
11	Sex education is about knowing my gender/sex role.	2.62	1.044

Source: Field Survey (2019)

The results of Table 7 indicate that majority of the respondents agreed that sex education is about taking care of adolescents' sexual health with ($M=3.54$, $SD=.750$) above the average mean score of 2.50. The view that sex education is about protecting the self from sexual related infections/diseases like HIV/AIDS had respondents with ($M=3.47$, $SD=.767$) above 2.50 agreeing while respondents with ($M=3.26$, $SD=.784$) above criterion score of 2.50 agreed that sex education is about taking the right decisions about respondents' sexual life and sexual health.

On the issue of sex education being about preventing unwanted teenage pregnancy, respondents with ($M=3.25$, $SD=.895$) above average mean of 2.50 agreed and respondents with ($M=3.07$, $SD=.986$) above the t-value of 2.50 agreed that sex education is about understanding their sexual life throughout lifespan while respondents with ($M=2.90$, $SD=1.061$) above the average mean score 2.50 agreed that sex education is about taking care of adolescents reproductive lives (menstruation and nocturnal emissions/wet dreams).

The view that sex education is the provision of information about adolescents' bodily changes towards adulthood had respondents with ($M=2.71$, $SD=.987$) above average criterion value of 2.50. Again, the issue that sex education is about knowing one's gender or sex role, respondents with ($M=2.62$, $SD=1.044$) little above the criterion value of 2.50 agreed.

To authenticate whether scores of adolescent students' knowledge about sex education was either below or high, a one sample t-test was conducted. This was done based on a cumulative criterion value of 20.0 ($t=2.50 \times 8$). Table 8 presents the results of the one sample t-test:

Table 8: One sample t-test results for Knowledge Level of Sex Education

		Test Value =20.0		
Mean	SD	T	df	Sig-Value
24.82	3.97	23.98	389	.000

Source: Field Survey (2019) * Significant at $p=0.05$ (2-tailed)

The test result was found to be significant, where the sample mean of 24.82 with $SD= 3.97$ was significantly above the test-value of 20.0, $t(388) = 23.98$, $p < 0.000$. It is therefore concluded that, majority of the respondents' knowledge level about sex education with a mean of 24.82 was above average. This therefore means that adolescent students in the Wa Municipality knowledge level about sex education was high.

Research Hypothesis 1: There is no statistically significant difference between male and female adolescent students in their knowledge level about sex education in the Wa Municipality. An independent samples t-test was conducted to compare knowledge levels between male and female adolescent students. Results from the independent samples t-test shows that there was no statistical significance difference between male and female adolescent students, $t(388) = -1.353$, $p > 0.168$ (2-tailed). The result suggests that, male adolescent students' knowledge level about sex education ($M= 24.57$, $SD = 3.82$) was not different from female adolescent students ($M= 25.12$, $SD= 4.13$) at .05 level of significance. Although there seemed to be a small difference, however, the difference might have occurred by chance. In that sense, the researchers fail to reject the null hypothesis that "There is no significant gender difference in knowledge level of adolescent students about sex education".

Research Hypothesis 2: There is no statistically significant age difference among between adolescent students aged 16 years below and 17 years above in their knowledge level about sex education in the Wa Municipality. An independent samples t-test was performed comparing mean consistency scores between 16 years below and 17 years above ages of adolescent students. Results from the independent samples t-test, $t(388) = 0.362$, $p = 0.694$ shows that there was no statistical significance difference observed. The result suggests that adolescent students aged 16 years below knowledge level about sex education ($M = 25.03$, $SD = 3.28$) was not different from adolescent students aged 17 years above ($M = 24.77$, $SD = 4.02$) at .05 level of significance. There was no statistical significance difference in knowledge level about sex education between adolescent students 16 years below and 17 years above. The mean scores show that 16 years and below adolescent students have little more knowledge about sex education than 17 years and above adolescent students. However, the difference observed might be as a result of error or by chance. In that sense, the researchers failed to reject the hypothesis that "There is no significant age difference in knowledge level about sex education between adolescents aged 16 years below and 17 years above".

VI. DISCUSSION

Knowledge Level about Sex Education

The knowledge level of adolescent students about sex education was quite encouraging with grand mean score of 24.82 above criterion mean score of 20.0. The revelation might have occurred as a result of the adolescents' exposure about sex education information avenue. This revelation refutes the assertion by WHO/UNFPA (2007) that there exists a large number of adolescents who have less knowledge about sex education globally. Further analysis of sex education knowledge indicated that 63.6% of the respondents agreed that sex education is about taking care of my reproductive life.

On the view that sex education is about knowing my gender/sex role, 61.2% of the respondents agreed. This confirms Erikson (as cited in McLeod, 2013) view that adolescents are believed to examine their identity by finding out who they are in the society through sex education. This will enable adolescents to be able to differentiate between boy or girl and what that particular differentiation stands for in relation to the society they may find themselves in.

The assertion that sex education is about understanding adolescents' sexual life throughout lifespan (day-to-day sexuality issues) had 81.8% of the respondents agreeing. This re-affirmed the view held by Andersen (1994), that sex education helps adolescents to make sense and organize their sexual experiences so that they understand the structures and underlying motivations for their sexual behaviours and the development of self-concept. Andersen alluding to the Social Learning Theory posited that, sexual self-concept helps adolescents to organize their past experiences, and also give them information to draw on for their current and future sexual thoughts and experiences. To him, sexual self-concept affects sexual behaviour of men and women and affects relationship development as well. Again, to confirm whether sex education is about taking right decisions about my sexual life and sexual health or not, 85.1% of the respondents agreed.

That sex education is about preventing unwanted teenage pregnancy, 82.0% of the respondents agreed. This majority agreement by the respondents could be possible because sex education programmes cover a lot that is not limited to preventive measures towards becoming pregnant without planning. To the view that sex education is about taking care of adolescents' sexual health (physical, emotional, mental and social well-being in relation to sexuality), 88.0% of the respondents agreed. The majority response is in line as adolescents would be able to take good care of themselves sexually when they are enlightened on sexual-related issues through sex education.

On the view that sex education is about protecting the self from sexual related infections/diseases like HIV/AIDS, 89.0% of the respondents agreed and this revelation corresponds to the notion that sex education is a designed intervention programme that is aimed at preventing adolescent from sexual-related problems like HIV/AIDS and unplanned pregnancies (Delamater, Jacobson, Anderson, Cox, Fisher, Lustman & Wysocki, 2000). The view that sex education is about the provision of information about adolescents' bodily changes towards adulthood, 59.7% of the respondents agreed. This confirms to the position held by Pedus (2008), that sex education provides young people, especially adolescents, with the information they need in order to understand their bodily changes and gender roles in recommended customs.

Significant Gender Difference in Knowledge Level

The study revealed that there was no significance gender difference in knowledge level about sex education between male and female adolescent students'. It showed that male and female adolescent students' knowledge level about sex education is not different. It is possible because they all share similar characteristics in terms of knowledge during the period of adolescence. This study revelation debunked that of Keller (1959), which indicated that male adolescent students were more knowledgeable about human sexuality education than female adolescent students.

Significant Age Difference among Adolescents in Knowledge Level

The findings of the study indicated that there was no statistical significance difference in knowledge level about sex education between age groups 16 years and below and 17 years and above of adolescent students. This shows that the age grouping is not relevant in adolescence when it comes to knowledge level about sex education. The revelation is possible because during the period of adolescence, boys and girls virtually behave similarly and are likely to possess similar knowledge level about sex education irrespective of their age difference. The revelation has debunked that of Santelli, Lowry, Brener and Robin (2000) and Somers and Paulson (2000) that older adolescents reported more frequent sexual behaviours and more sexual knowledge than younger adolescents.

VII. CONCLUSIONS AND RECOMMENDATIONS

Indeed, it was anticipated that adolescent students might have low knowledge levels about sex education because most communities and homes in Ghana are perceived not to be allowing discussions on issues related to sex. However, the findings implied adolescent students' knowledge level about sex education was adequate and seemed surprising because there is no known established method through which sex education could be imparted onto adolescents in the country. Again, adolescent students' knowledge level in sex education was not different in terms of their gender and ages. In this light, adolescents need to be wary of problems such as sexually transmitted diseases and teenage pregnancy that accompany indiscriminate sexual activities. It will serve adolescents good if they avoid sexual interactions in order not to be affected negatively based on the adequacy of knowledge they have on sex education. This revelation could be because of the current trend of globalization of sexual-related issues that include sex education. The manner in which Ghanaian academic policies and curricular are designed do not give room for sex education to be treated as a topic or a subject. Rather, it is fused with other topics and subjects that target human development and this needs a second look by stakeholders. Above all, adolescents need to deal with the natural changes associated with puberty while, at the same time, work through social and other changes that include developing new roles with parents, managing their peer relationships and establishing their self-identity.

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