

Research Article

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Effect of Student's Centred Method of Learning on Sexual Health Knowledge and Attitudes of Adolescents in Anambra State Secondary Schools

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Abstract

This study is on effects of student's centred method of learning (cooperative learning method) on sexual health knowledge and attitudes of adolescents in Anambra State secondary schools. The inability of adolescents to acquire adequate knowledge regarding sexual health could be due to the method of teaching used which are mainly teacher-centred methods such as lecture, discussion, Socratic, demonstration teaching methods among others. Therefore, students' centered method is recommended in today's teaching and learning and cooperative learning method is one of them. The main purpose of the study was to determine the mean scores of adolescents in Anambra State secondary schools exposed to cooperative learning method on sexual health knowledge and attitudes and by comparing the scores with that of control group. The study was guided by six research questions and eight hypotheses. Quasi experimental research design was used and the population consisted of 20,342 senior secondary two (SS2) students in Anambra State. One hundred and forty SS2 students comprised sample for the study using simple random sampling technique without replacement. Four secondary schools in Anambra state were sampled. Then one intact class was sampled from each of the sampled schools using simple random sampling technique without replacement. Two schools were exposed with cooperative learning method and the other two schools were used as control group for six weeks. The instruments for data collection were Sexual Health knowledge Test (SHKT) and Sexual Health Attitudes Questionnaire (SHAQ). Analyses of data were carried out using Mean, Standard Deviation and Analysis of Covariance (ANCOVA). The findings of the study among others revealed that cooperative learning method improved sexual health knowledge and attitudes of the subjects as depicted by the positive gained mean scores recorded more than the control group. Male adolescents exposed to cooperative learning method had better sexual health knowledge gained mean score ($X = 37.27$) than their female counterparts ($X = 32.46$) exposed to the same method. But the female adolescents' standard deviation showed better homogeneity of responses than their male counterparts. Female adolescents exposed to cooperative learning method had better sexual health attitude gained mean score ($X = 11.38$) and their standard deviation showed better homogeneity of responses than their male counterparts exposed to the same method ($X = 9.37$). The effect of cooperative learning method on the mean sexual health knowledge and attitudes scores of adolescents in Anambra state secondary schools differ significantly using their post-test mean scores $P < 0.05$. On the contrary, the effect of cooperative learning method on the mean sexual health knowledge and attitudes scores of male and female adolescents in Anambra state secondary schools did not differ significantly using their post-test mean scores $P > 0.05$. It was recommended among other things that there is need to include cooperative learning method in handling sexual health education in the school curriculum at all levels of education in Nigeria.

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Introduction

The unhealthy sexual behaviours among adolescent students in African countries are still on increase and have become an area of interest for global public health researchers aiming to find innovative approaches to promote better healthy sexual outcomes. Many governments have pursued strategies to address the specific sexual and reproductive needs of adolescents since the 1994 International Conference on Population and Development (ICPD) which placed adolescents' sexual and reproductive health on the global policy agenda. Said that the large relative proportion of adolescent rate of HIV, unplanned pregnancy, maternal mortality and unsafe abortion indicate needs for greater improvement [1-3]. Sexual development is characterized by the acquisition of skills used to control feelings of sexual arousal and to manage the consequences of sexual behaviour, as well as by the development of new forms of sexual intimacy posited that many young people are susceptible to risky sexual behaviours such as engaging in underage sexual intercourse, polyamory (intimate relationships with more than one partner, with the consent of all partners involved), participating in unprotected sex, and exposing themselves to potential sexual assault environments. These health problems could be brought to the lowest minimum through sexual health education [4-5].

Opine that sexual health education has great potential for providing the knowledge and skills necessary for adolescents to make safe choices related to sex. It can reduce misinformation and increase critical thinking, communication and self-confidence. These could lead to young people making smarter choices regarding their sexual relationships. There are so many teaching methods that have been recognized, developed and used in sexual health education to impact knowledge that helps adolescents to reduce their chances of engaging in risky sexual behaviour. These teaching methods include: lecture, discussion, Socratic, demonstration teaching methods among others. Over the past few years, some of these different teaching and learning methods have been used and tested, often with the aim of developing skills for healthy sexual behaviour which

are more of didactic (teacher-centred / teacher directed) methods [6-7].

Apart from the teaching methods mentioned above, different arms of governments have carried out some strategies by organizing programmes for secondary schools for promoting healthy sexual behaviour of adolescents [2]. Despite the various sexual health educational initiatives, the delivery and implementation of sexual health education is still not perfect in developing countries. Irresponsible adolescent sexual health behaviour and the resultant adverse health effects are on the rise in developing countries [8]. The inadequate comprehensive adolescents' sexual well-being, knowledge and skills make them more likely to engage in unhealthy sexual behaviour. According to research done by Envuladu, Anke, one quarter of Nigerian adolescents are sexually active with age of sexual debut ranging from 10 to 15 years. In Southwestern Nigeria according to Salami, 27.4 percent unintended pregnancy among adolescents in a secondary school all ended in abortion while other studies recorded about 60 percent. Reported that Nigeria records yearly abortion rate of 25 abortions/1000 women more than a quarter of which are from adolescents resulting from unintended pregnancy [9-12]. In the southeastern part of Nigeria, about 32 percent of the cases of unsafe abortion were among adolescents who had unintended pregnancy. Evidence from studies has shown that those who are pregnant as students either dropout of school or are dismissed from school, majority of whom may never get back to school again while others are forced by their parents into child marriage as a result of the pregnancy [12-15] reported that of recent, Nigeria has been identified as a hot spot zone where child marriage is at its highest. Child marriage is a major problem for the whole of Nigeria. The rate of unintended pregnancy and Sexual Transmitted Infection (STI) among adolescents is increasing, becoming a major problem in Nigeria. This poses danger to the lives of adolescents contributing to the overall maternal mortality in Nigeria. These alarming statistics have resulted in appeals for public health interventions to address the increasing level of STIs (including HIV and AIDS) and other risk sexual behaviours, and to improve and implement sexual health education initiatives. The inadequate

implementation of sexual health education in school could as well be due to factors like social and cultural attitudes that do not allow open discussion and teachers' resistance to teaching sexual health matters properly. At times they omit mentioning some aspects they feel that it is so private in mentioning in an open classroom in the name of protecting the children from erotic thoughts. Furthermore, the existing, widely employed rote learning does not support the effective delivery of sexual health education [1]. Again, many teachers teach as they themselves were taught, using traditional teaching methods in which the instructor is the deliverer of factual information. Today's students are the ever-changing mass-media generation. Passive learning that worked in the past may not meet this generation student needs for various reasons. Argued that today's students are the product of mass-media influences, and their learning styles are different from students of the past. Adequate knowledge of sexual health education could help to protect adolescent's sexual health [16]. Therefore, students' centered method is recommended in today's teaching and learning. Constructivist teaching method is one of the teaching methods in education that is centred on learners.

Opined that constructivist teaching method is based on the belief that learning occurs as learners are actively involved in a process of meaning and knowledge construction as opposed to passive receiving of information. The constructivist view of learning has had a most noticeable influence on curriculum in education since 1980. This view has important consequences for the development of new teaching and learning methods that focus on students' understanding in education rather than recall of facts and formulae. Opined that constructivist teaching method is a method of teaching based on the constructivism learning theory. According to the theory, students learn by building on their previous knowledge and experiences and by actively engaging in the learning process, instead of receiving knowledge passively through lectures and memorization. Specific learning methods to education that are based on constructivism include the following; constructionism, guided instruction, problem-based learning, inquiry-based learning, anchored instruction, cooperative learning, reciprocal peer teaching, jigsaw among others. This study made use of cooperative learning method [17-19].

Cooperative learning method concentrates on learning how to think and understand. Education works best when it concentrates on thinking and understanding, rather than on rote learning. Cooperative learning is the instructional use of small groups so that students work together to maximize their

own learning and each other's learning. Eskay concluded that the effects of cooperative learning on academic achievement and social development were determined by the quality of group interaction. Reported that students who were exposed to cooperative learning situations showed an increase in self-study habits in a Web-based graduate-level course. Was in opinion that cooperative learning method means a variety of educational approaches focusing on individuals working together to achieve a specific learning outcome [20-22].

Different types of co-operative learning methods are being used in teaching different subjects. They are student teams achievement divisions (STAD), team game tournaments (TGT), teams assisted individualization (TAI), jigsaw, jigsaw II, cooperative interpreted read and composition (CIRC), learning together, group investigation, to mention but few. All the methods incorporate almost the same way of implementation, individual accountability, and equal opportunities for success, but a different ways of team rewards and some methods are specifically meant for specific subjects [23-24]. For this study, emphasis was on learning together of cooperative learning methods. Here, Students worked in four or five heterogeneous groups within an intact class [20]. After the group discussion as opined by Eskay, Onu, Obiyo and Obidoa, a leader was chosen to present group's result to the entire class; groups constructs their own knowledge through negotiation of meaning in their group discussion and receive reward (cooperative incentive) together which is contrary to traditional teaching method.

Traditional teaching method is a teaching method considered to be the one that are mainly teacher-centred, textbook-driven, transmission-oriented and with practice problems done by learners individually. In this traditional classroom setting, the teacher takes charge of a lot of the intellectual work in that classroom [1]. The teacher plans the scope and sequence, pre-synthesizes and pre-packages most of the learning [18]. This traditional teaching method in this study will be regarded as the conventional learning method. To the best knowledge of the researcher as a teacher in Anambra state as at the time of this study, traditional teaching method was the dominant teaching method in view to complete the termly scheme of work within the stipulated time thereby ignoring whether required knowledge is achieved or not.

Knowledge is a familiarity, awareness, or understanding of someone or something, such as facts, information, descriptions, or skills, which are acquired through experience or education by perceiving, discovering, or learning. According to Encyclopedia of Children's Health

(2011), knowledge can be referred to as a theoretical or practical understanding of a subject. However, sexual health knowledge is the knowledge of the level of sexual health risk within the individuals' community and knowledge of sexually transmitted infections, their transmission and their prevention. Sexual health knowledge is viewed as the understanding of the facts and information, awareness and familiarity with physical, emotional, mental, psychological, spiritual, legal and societal dimensions of sexuality which encompasses self-esteem, values, choices, and responsibility across the lifespan [25]. Sexual health knowledge also includes an understanding of facts on the anatomy and physiology of human reproductive system, processes of reproduction, problems of HIV and STIs, unintended pregnancy and abortion, infertility and cancer resulting from STIs and sexual dysfunction. Sexual health knowledge acquisition can enhance cognitive development, promote and raise awareness, and encourage positive sexual health attitudes.

An attitude is defined, as a mental and emotional entity that inheres in, or characterises a person. It is a complex and an acquired state through experiences. Attitude is an individual's predisposed state of mind regarding a value and it is precipitated through a responsive expression toward a person, place, thing, or event which in turn influences the individual's thought and action. Sexual health attitude is a person's beliefs about sexuality shown by the person's behaviour and is based on cultural views and previous sexual experience. Effective sex education provides adolescents with an opportunity to explore the reasons why people have sex, and to think about how it involves emotions, respect for self and other people and their feelings, decisions as it relates to their sexual health which is also part of this study [26-27]. Some factors could determine sexual health knowledge and attitudes, example gender. Gender is generally assumed to impact upon the growth, demonstration and manifestation on adolescents. Studies during 1970s and 1980s in the United States regularly found girls' self-concept more vulnerable during early adolescence, especially in urban areas. Studies from on sexual health among gender reported contradictory findings which did not find sex differences among adolescents' sexual health [23]. Reported that males were more sexually active while other findings like found that females reported more positive attitudes than males. In their study noted that gender had a significant effect on students' reproductive health knowledge. Therefore, this moderator variable, gender was considered in this study to determine its influence among adolescents' sexual health knowledge and attitudes. This research work was then to determine the effect

of cooperative learning method on sexual health knowledge and attitudes of adolescents in Anambra state secondary schools [28-34].

Statement of the Problem

Unsafe sex is a common practice among adolescents in Nigeria resulting in unintended pregnancies, which may eventually end in unsafe abortion, child marriage and Sexual Transmitted Infections (STIs). Ordinarily, secondary school students are supposed to have fair knowledge of sexual health because careful examination of Nigerian secondary school curriculum on health education and even on related areas like Biology reveals that there are learning experiences on human sexuality education for the students. But the problem is whether these topics or learning experiences are adequately taught with appropriate methods so that adequate knowledge is imparted and positive attitudes developed by these students.

The researcher's observation as a health educator in Anambra state, the delivery of sexual health education to students in Nigeria, mostly in Anambra state, is characterized by rote learning and memorization, which are limited to lecturing method with little or no room for proper discussion among students. The assumption being that all students can learn at the same pace and are active listeners [1]. However, according to Hussein, the inability of adolescents to acquire adequate knowledge regarding sexual health is due to the method of teaching used. Inadequate sexual health knowledge may expose the students to major sexual and reproductive health challenges such as unintended pregnancy resulting in unsafe abortion, HIV and AIDS among others.

Health educators have been exposed to several teacher-centred methods of teaching health issues during their professional training such as lecture, discussion, Socratic, demonstration teaching methods among others. They have been also exposed to in-service training like workshops and conferences. All in effort to make sure they impart positively on the sexual health of the students. Yet there are still sexual health challenges among secondary school adolescents. This may be because the teacher-centred methods of teaching are still unable to enhance logical thinking and behaviour and create social skills and commitment in a manner that will bring positive sexual health attitude of our adolescents.

Many governments have pursued strategies to address the specific sexual and reproductive needs of adolescents [2]. Even with all these efforts, students still exhibit poor knowledge and attitudes concerning sexual health.

For instance, a report was given by, that 27.4 percent of unintended pregnancy among adolescents in a secondary school ended in abortion in southwestern Nigeria; while in the southeastern part of Nigeria, about 32 percent of the cases of unsafe abortion were among adolescents who had unintended pregnancy [35,12]. WHO also reported that Nigeria records a yearly abortion rate of 25 abortions/1000 women more than a quarter of which are from adolescents resulting from unintended pregnancy.

It is as a result of these that this study was designed to determine the effect of cooperative learning method on sexual health knowledge and attitudes of adolescents in Anambra state secondary schools.

Purpose of the study

The main purpose of the study was to determine the effects of cooperative learning method on sexual health knowledge and attitudes of adolescents in Anambra state secondary schools. Specifically, the study determined;

1. The pre-test, post-test sexual health knowledge mean scores of male and female adolescents in Anambra state secondary schools exposed to cooperative learning method and those in the control group;
2. The pre-test, post-test sexual health attitudes mean scores of male and female adolescents in Anambra state secondary schools exposed to cooperative learning method and those in the control group;

Research Questions

The following research questions guided the study:

1. What are the pre-test, post-test sexual health knowledge mean scores of male and female adolescents in Anambra state secondary schools exposed to cooperative learning method and those in the control group?
2. What are the pre-test, post-test sexual health attitudes mean scores of male and female adolescents in Anambra state secondary schools exposed to cooperative learning method and those in the control group?

Hypotheses

The following null-hypotheses were formulated and tested at 0.05 level of significance:

1. The effect of cooperative learning method on the mean sexual health knowledge scores of male and female

adolescents in Anambra state secondary schools will not differ significantly using their post-test mean scores.

2. The effect of cooperative learning method on the mean sexual health attitude scores of male and female adolescents in Anambra state secondary schools will not differ significantly using their post-test mean scores.

Method

The design of this study was quasi-experimental design, pre-test, post-test controlled group design. It is a design where observations are made in the study groups before and after interventions and subjects are assigned to groups without complete randomization. The quasi-experimental research differs from true experimental research because it lacks randomization or proper control. Similar in Item in Enugu state, Nigeria had been done using this design and it was successful. Therefore, the researcher deemed it best for this study [36-39].

Teaching Method	Pre-test	Treatment	Post-test
Experimental group	P1	X1	P2
Controlled group	P1	X2	P2

Key

X1 = Treatment for cooperative learning method group.

X2 = Treatment for control group.

P1 = Pre-test with Sexual Health Knowledge Test (SHKT) and Sexual Health Attitude Questionnaire (SHAQ).

P2 = Post-test with SHKT and SHAQ.

Area of the Study

The study was carried out in Anambra state. Anambra state is one of the 36 states of the Federation, and it is situated on a generally low elevation on the Eastern Bank of River Niger. It was created in 1991. Anambra state is bounded in the north by Enugu state, in the East, by Abia state, in the south by Delta and in the West by Kogi state. Due to the nature of the state, people of various socio economic backgrounds live in it and it is characterized by different forms of social activities to meet the needs of its varied residents.

The researcher observed high rate of drop-outs among Awka education zone in Anambra state secondary school students

due to unintended pregnancy, unsafe abortion, and some questionable characters among adolescents. This could be as a result of different forms of social activities to meet the needs of its varied residents. These activities include watching of films which may be pornographic, hanging out at entertainment centres among others. The adolescents are affected by these society structures and are exposed to varied information sources, sexual behaviours and activities as dictated by the environment. These limit the efficiency in adolescents and prevent them from developing a sexual healthy character, developing their talents as well as their mental and emotional growth.

Population of the Study

The population of this study consisted of 20,342 (male= 9,062 and female= 11,280) senior secondary 2 (SS 2) students in Anambra state. According to Post Primary Schools Management Board (PPSMB) Anambra state office (2019), Anambra State had 261 (co-educational schools = 199 and non-co-educational schools =62) governments' owned secondary schools. SS2 students were considered to be appropriate since those in SS1 may not have concluded their registration to qualify them as bonafide students of the school and the SS3 students are in the examination class and need to concentrate in the examination preparations.

Sample and Sampling Techniques

The sample size for this study comprised one hundred and forty (140) SS2 students from the sampled intact classes in four government secondary schools in Awka education zone in the state, two co-educational schools from urban and two co-educational schools from rural settings. The researcher used only co-educational secondary schools from Awka education zone to ensure uniformity in gender disparity.

Instrument for Data Collection

The instruments for data collection were two structured instruments known as Sexual Health Knowledge Test (SHKT) and Sexual Health Attitude Questionnaire (SHAQ). These instruments were developed by the researcher through review of literature, use of text books, interviews of experts and the researcher's experience.

The SHKT consisted of 25 multiple choice questions with options A-E with only one correct answer, which was used to assess sexual health knowledge of the students. The SHAQ comprised twenty (20) attitudinal statements which were

equally used to assess sexual health attitude of the students. It was rated on the five points Likert type, with scales of Strongly Agree (SA), Agree (A), Undecided (U), Disagree (D), and Strongly Disagree (SD). Only one option was ticked (✓) among other options in one question.

Validation of the Instrument

The face and content validity of the instruments were established through the judgments of three experts. The experts determined the relevance of each item in the test instrument and questionnaire as guided by table of specification on SHKT in line with the purpose, research questions, and hypotheses. They also justified the relevance of the subject matter, clarity and appropriateness of the language.

Reliability of the Instruments

The internal consistency reliability of SHKT was determined using the Kuder – Richardson, Kr20. This formula was considered appropriate as it is applied to items that are dichotomously scored such as multiple choice items. For the SHAQ, Cronbach's Alpha was used to determine the reliability coefficient and the value obtained was 0.82.

Method of Data Collection

The pre-test and post-test were completed under examination conditions to allow for objective assessment of their performance. A marking scheme/guide developed by the researcher in line with the test guided the scoring of the test items.

Experimental procedure

Students in the two groups (experimental and control groups) were exposed to the same topics of sexuality education but in different ways, cooperative learning method and traditional teaching method. The students in the cooperative learning group were instructed on what cooperative learning method was all about and how they were going to embark on the learning activities. With the help of the research assistants, the researcher grouped the classes involved and tag them with any name of their choice according to the guideline for learning together of cooperative learning method, such as worthy group, excellent group, intelligent group and so on. The grouping was done heterogeneously (mixed with boys and girls, bright and less bright students) as it was said in basic elements of cooperative learning. Time arrangement was done and assigning of the following heads among each

group were also done; manager, reporter, recorder and so on. Anybody in the group is eligible to handle the post. Moreover, the teacher can choose any member of any group at any time which should be unknown to him/her to do the reporting in the general class. This made all members of the group to be ready at all time. Rules that guided the class and punishments for the defaulters were also clearly made known to both the teachers and the students. The rules and the resultant punishments were suggested by the students involved for the smooth running of the programme. Topic of the first lesson with the specific objectives were made known to them for proper guide and preparations against first week lesson discussion and light refreshment was done that first day to boost their interest in the programme.

From the second visit which was now counted as the first week, the main activity took off. The lesson plan that was prepared according to cooperative learning method was strictly used. There was also lesson plan prepared for the control group. Assignment and the next topic with its specific objectives for discussion were given to them. Cooperative incentive was given to the group that did very well.

During teaching and learning in the classroom, the students were given 30mins to learn together in their various groups, helped each other and then come up with their summary, arguments, and questions in the larger group for the class discussion. It was expected that each student should participate actively for none of them knew who will be called up to report for the group. During that 30mins of group discussion, the researcher or the research assistant moved round to monitor what each group was doing and offered corrections where necessary.

On the second week, the researcher or the research assistant threw light on the previous lesson before reintroducing the topic of the day. As usual the students were dispersed to their heterogeneous groups to learn the lesson. They maintained that group throughout the lesson period but were rotating leadership, recorder and the presenter. The teacher as usual summarised at the end of the presentation by all the groups and incentive given to the best group. Questions and further

discussion in the general class were welcomed. Assignment and the next topic for discussion with its specific objectives were given to them. Cooperative incentive was given to the group that did very well.

The above procedure was followed for the rest of the remaining four weeks. Then the following week was for the post-test.

Method of Data Analysis

For the SHKT, the test score were total number of question answered correctly, the responses were scored as four marks for each correctly answered question using the SHKT marking scheme/guide. For the SHAQ, the five point Likert type were used. Positive statements had a maximum of five points for strongly agree; four points for agree; three points for undecided; two points for disagree and minimum of one point for strongly disagree and the reverse will be the case for negative statements.

The generated data were collected and analysed using statistical package for social science (SPSS) for windows version 21. The research questions were answered using mean. The hypotheses were tested at 0.05 level of significance using Analysis of Covariance (ANCOVA) because the independent variable under study is just one, cooperative learning method, therefore ANCOVA took care of initial and final differences.

Presentation and Analysis of Data

This chapter presents the summary of analyses of data generated for this study and summary of major findings.

Research Question 1: What are the pre-test, post-test sexual health knowledge mean scores of male and female adolescents in Anambra State secondary schools exposed to cooperative learning method and those in the control group?

Source of Variation	Gender	N	Pretest X	SD	Posttest X	SD	X Difference
Cooperative Learning Method	Male	41	57.56	13.53	94.83	4.02	37.27
	Female	24	63.54	14.32	96.00	3.54	32.46
Control Group	Male	49	63.55	9.94	67.27	10.54	3.72
	Female	26	64.85	14.69	70.00	16.74	5.15

Table 3: Pre-test and Post-test mean sexual Health Knowledge Scores of Male and Female Adolescents Exposed to Cooperative Learning Method and those in the Control Group.

Table 3 shows the pre-test and post-test sexual health knowledge mean scores of 57.56 and 94.83 for male and 63.54 and 96.00 for female adolescents exposed to cooperative learning method. The male adolescents had a gained mean score of 37.27 and SD of 4.02 while their female counterparts had 32.46 and SD of 3.54. On the other hand, male adolescents in the control group had 63.55, 67.27, 3.72 and 10.54 as their pre-test, post-test, gained mean and SD scores respectively, while their female counterparts had 64.85, 70.00, 5.15 and 16.74 as pre-test, post-test, gained mean and SD scores respectively. This shows that the gained mean scores of male and female adolescents exposed to co-operative learning were greater than those of their counterpart in the control group.

Hypotheses Testing

The effect of cooperative learning method on the mean sexual health knowledge scores of male and female adolescents in Anambra state secondary schools will not differ significantly using their post-test mean scores.

Source	SS	DF	MS	F	P
Corrected Model	1142.936	2	571.468		
Intercept	26538.332	1	26538.332		
Pretest	915.886	1	915.886		
Gender	123.983	1	123.983	.475	.492
Error	35749.750	137	260.947		
Total	950256.000	140			

Table 5: ANCOVA Summary of the Mean of Sexual Health Knowledge Scores of Male and Female Adolescents Exposed to Cooperative Learning Method.

In Table 5, it was observed that there was no significant difference between the mean sexual health knowledge scores of male and female adolescents in Anambra state secondary schools exposed to cooperative learning method. $F(1,137) = .475$, $P > 0.05$. The null hypothesis of no significant difference was therefore accepted.

The effect of cooperative learning method on the mean sexual health attitude scores of male and female adolescents in Anambra state secondary schools will not differ significantly using their post-test mean scores.

Source	SS	DF	MS	F	P
Corrected Model	1858.942	2	929.471		
Intercept	3199.289	1	3199.289		
Pretest	1854.673	1	1854.673		
Gender	74.591	1	74.591	1.893	.171
Error	5398.029	137	39.402		
Total	644862.000	140			

Table 6: ANCOVA Summary of the Mean of Sexual Health Attitude Scores of Male and Female Adolescents Exposed to Cooperative Learning Method.

The analysis in Table 6 shows that there was no significant difference between the mean sexual health attitude scores of male and female adolescents in Anambra state secondary schools exposed to cooperative learning method, $F(1,137) = 1.893$, $P > 0.05$. The null hypothesis of no significant difference was therefore accepted.

Summary of the Findings

From the analysis, the following findings were made:

1. The male adolescents exposed to cooperative learning method had better sexual health knowledge gained mean score than their female counterparts exposed to the same method. But the female adolescents' standard deviation showed homogeneity in responses than their male counterparts.
2. The female adolescents exposed to cooperative learning method had better sexual health attitude gained mean score and their standard deviation showed better homogeneity of responses than their male counterparts exposed to the same method.
3. The effect of cooperative learning method on the mean sexual health knowledge scores of male and female adolescents in Anambra state secondary schools did not differ significantly using their post-test mean scores.
4. The effect of cooperative learning method on the mean sexual health attitude scores of male and female adolescents in Anambra state secondary schools did not differ significantly using their post-test mean scores.

Discussion, Conclusion and Recommendations

The discussion is done under the following headings:

- i. Effects of cooperative learning method on sexual health knowledge of the subjects.
- ii. Effects of cooperative learning method on sexual health attitudes of the subjects.

Effects of Cooperative Learning Method on Sexual Health Knowledge of the Subjects

The male adolescents exposed to cooperative learning method had the highest gained mean score ($X = 37.27$) in sexual health knowledge and SD of 4.02 while their female counterparts exposed to the same method had 32.46 gained mean score and SD of 3.54. This showed that male adolescents exposed to cooperative learning had gained more knowledge than their female counterparts. The finding was not surprising because, the presence of male counterparts may hinder the females from freely discussing sexual matters. Females usually feel shy and uncomfortable in discussing such culturally perceived sensitive topic. This could be a hindrance to the females from acquiring more accurate information to back up their discussion among their groups during group shearing, making them to have limited sexual health knowledge than their male counterparts. The higher gained mean score ($X = 37.27$) of males can also be linked to the fact that males are naturally more open to discuss the issues that are related to sexuality than females. These might likely be the cause of their higher mean gain knowledge on the subject matter.

In the Nigerian culture however, experience shows that females are relatively shy to discuss sexual matters while the males feel exited doing so because it is believed that it makes them feel superior to their female counterparts. Nevertheless, the standard deviation of females exposed to cooperative learning showed more closeness of responses compared to their male counterparts exposed to the same

cooperative learning. These findings are in line with the findings of although Ibe employed peer health education and Makata employed Socratic and lecture methods of teaching sexuality education and the present study used cooperative learning method. Recorded that there were significant gender differences in their study with a large proportion of males (57.5%) in the experimental group than in the control group (27.2%) in their sexual health knowledge. Other studies that studied girl adolescents alone recorded that there was a significant difference between the mean knowledge and attitudes scores towards aspect of healthy sexual behaviours. For example, recorded that the mean knowledge scores for all sexual health dimensions during puberty in the intervention group were significantly higher after the intervention ($P < 0.05$). Recorded a positive significant increase in the mean scores of knowledge and attitude of female sex workers after the programme ($P < 0.001$). Furthermore, also recorded a significant increase in overall sexual health knowledge scores of adolescent girls regarding menstrual cycle, ovulation, fertilization and pregnancy by 44.5 per cent, ($P > 0.001$) [39-43].

Effects of Cooperative Learning Method on Sexual Health Attitudes of the Subjects

The male adolescents exposed to cooperative learning method had sexual health attitudes gained mean score of 9.37 and the standard deviation of 8.64 while their female counterparts had gained mean score of 11.38 and standard deviation of 6.99 (Table 4). The hypotheses result showed that there was no significant difference between the mean sexual health attitude scores of male and female adolescents exposed to cooperative learning method, $F, (1,137) = 1.893$, $P > 0.05$ (Table 14). What it means is that females had better attitudinal change in sexual health matters more than their male counterparts exposed to cooperative learning methods. This result was not surprising because females by their nature are more poised for attitudinal change in health related issues. That could also be the reason why the standard deviation of the female's adolescents showed better closeness of responses than their male counterparts.

Females show emotions more than males and therefore will be more responsive in the affective domain than their male counterparts. These findings could be explained by the culture, gender and sexual attitudes relationship. Socialization process, division of labour and gender roles relating to sexuality, reproduction and care-giving create major but different impressions in the psyche of males and females and this start quite early in life. Females are prone

to develop positive sexual health attitudes more easily than males in the African societies in particular. Moreover, the earlier puberty experience for the females would have given them an edge in developing sexual health attitudes. These findings are in line with the findings of, that females had higher sexual health attitudes scores than the male counterparts of their respective studies even though with different teaching methods [39-40].

Conclusions

Cooperative learning method is a method that is particularly useful in communicating health issues of concern, especially those that are culturally sensitive such as sexual health issues. This study determined the effects of cooperative learning method on adolescents' sexual health knowledge and attitudes in Anambra state secondary schools. This was also similar to the work of, who recorded no significant interaction effect of gender, age and level of study on sexual health attitudes of university students ($F = 0.82$, $P = 0.37$), but her independent variables are gender, age and level of study and the current study used gender and location of study as independent variables in Anambra state secondary schools [40].

The findings of this study have established the fact that cooperative learning method has positive effect on sexual health knowledge and attitudes of adolescents in Anambra state secondary schools. A general increase in both sexual health knowledge and attitudes mean scores of subjects were observed after cooperative learning method indicating improvements in those variables. There was statistical significant difference in both the gained mean scores of sexual health knowledge and attitudes of subjects of different locations and gender. Once the right knowledge and attitudes are developed, the students will enjoy a more lasting if not permanent positive sexual behaviour. It was also established that gender of the students and location of the schools influenced sexual health knowledge and attitudes of the students in Anambra State after sexual health instruction intervention.

Cooperative learning method is one of the teaching methods in education that enhances logical thinking and behaviour and creates social skills and commitment in a manner that will bring positive sexual health attitude of our adolescents because, it is purely based on learners unlike teacher-based method of teaching and learning.

Implications of the Study

The male adolescents exposed to cooperative learning method had better sexual health knowledge gained mean score than their female counterparts exposed to the same method. This implies that when planning for cooperative learning in future, gender disaggregated groups will be recommended because it will yield better outcome more than the groups with both males and females together in group discussion. This is because; it will loosen some of the inhibitions that negatively affect female participation when it comes to discussion on things pertaining to sex and sexuality education. The findings of this study will make the relevant authorities of government, educational institution and non-governmental organization working with adolescents in the area of sexual health to be aware of, and sensitive to cooperative learning strategies with view of utilizing the strategies for positive outcomes.

Recommendations

A number of recommendations that arose from this study are stated below:

1. There is need to include cooperative learning method in handling sexual health education in the school curriculum at all levels of education in Nigeria. This will expose our adolescents to open discussions about sexuality education thereby getting accurate sexual health information which will improve sexual health attitudes for risk reduced behaviour.
2. Using cooperative learning method will be more progressive if grouping is gender based (females grouped together and males grouped together). This will loosen some of the inhibitions that negatively affect females in particular when it comes to discussions on sex and sexuality.
3. Updating health instructors' knowledge on use of cooperative learning method as a means of instruction should be a priority issue to policy makers by making policies to ensure periodic organization of refresher courses on instructional methods for these health instructors to improve their skills.

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