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## Comprehensive Sex Education to Improve Sexually Transmitted Infection and Disease Knowledge Base and Decision Making in Adolescents

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Comprehensive Sex Education to Improve Sexually Transmitted Infection and Disease  
Knowledge Base and Decision Making in Adolescents

BY

McKenzie Terfehr

A paper submitted in partial fulfillment of the requirements for the degree

Doctor of Nursing Practice

South Dakota State University

2020

## COMPREHENSIVE SEX EDUCATION

Comprehensive Sex Education to Improve Sexually Transmitted Disease Knowledge  
Base and Decision Making in Adolescents

This Doctor of Nursing Practice (DNP) Project is approved as a credible and independent investigation by a candidate for the DNP degree and is acceptable for meeting the project requirements for this degree. Acceptance of this DNP Project does not imply that the conclusions reached by the candidate are necessarily the conclusions of the major department.

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## COMPREHENSIVE SEX EDUCATION

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## COMPREHENSIVE SEX EDUCATION

## Abstract

**Introduction:** Developing intimate relationships are a normal part of transitioning through development. The United States continues to see increasing numbers of sexually transmitted infections (STIs) and sexually transmitted diseases (STDs), mostly in adolescents and young adults. Initiation of comprehensive sexual health education in schools can help protect young adolescents by arming them with information to make informed choices and reduce exposure risk to STIs/STDs.

**Methods:** The review of literature focused on impacts that positively affected adolescents and their ability to competently protect themselves and others following sex education. Databases searched included PubMed, Medline, PLOS ONE, National Institutes of Health (NIH) and Google Scholar. Following a review of literature, four themes emerged including STIs/STDs, STIs and adolescents, curriculum recommendations, and safer sex practices.

**Gaps:** There is a lack of adolescent child birth intentions, information pertaining to sexual education of rural youth in the United States, studies of adolescent sexual health in subjects less than 15 years of age, and self-reporting as a measure to obtain data leading to skewed results due to fear of admission, and in-home or privately schooled adolescents.

**Recommendation for Practice:** Revising sexual health education curriculum to include comprehensive sexual health education will reduce risky sexual experiences, while also educating adolescents on protective techniques to reduce exposure to STIs/STDs, HIV, and prevent unintended pregnancies.

## COMPREHENSIVE SEX EDUCATION

### **Comprehensive Sex Education to Improve Sexually Transmitted Infection and Disease Knowledge Base and Decision Making in Adolescents**

#### **Introduction**

Sexually transmitted infections (STIs) are health related concerns in people of all age groups. STIs are bacteria, viruses, and/or parasites passed from person to person through direct sexual contact via anal, oral, vaginal, or contact with infected skin or mucous membranes (Centers for Disease Control and Prevention, 2016a; Leung, Shek, Leung, & Shek, 2019). Some STIs are curable; whereas, sexually transmitted diseases (STDs) are typically incurable (Leung et al., 2019). STIs/STDs are considered a global health epidemic, and the need for effective interventions to educate youth on the effects of STIs/STDs is of high concern (Bechtel & Trout, 2015). For the purposes of this paper, STIs will be used to represent both STIs/STDs unless specifically noted otherwise.

Nearly 2.3 million cases of chlamydia, gonorrhea, and syphilis were diagnosed in the United States in 2017 (Centers for Disease Control and Prevention, 2018a). Young adults and adolescents account for nearly half of the 20 million new STIs occurring in the United States annually (Centers for Disease Control and Prevention, 2017). STIs contribute to an estimated annual cost of approximately 16 billion dollars (Centers for Disease Control and Prevention, 2013). Based on statistics, STIs are a significant public health concern as well as a financial liability.

**Significance.** Sexually transmitted infections can cause numerous health risks that do not discriminate against race, gender, age, or socioeconomic status. In 2016, the World Health Organization (WHO) (2019) concluded that an estimated 376 million new sexually transmitted infections were identified. The following STIs were identified as the

## COMPREHENSIVE SEX EDUCATION

diagnoses of these infections: chlamydia (127 million), gonorrhea (87million), syphilis (6.3 million), and trichomoniasis (156 million). Approximately 240 million people have chronic hepatitis B specifically related to being sexually transmitted (WHO, 2019).

Additionally, more than 500 million people live with genital herpes (HSV) infection, and approximately 300 million women have human papilloma virus (HPV) infection (World Health Organization, 2019). Eighty percent of both men and women are exposed to HPV at some point during sexually active years. Of concern, most individuals may be asymptomatic and never know they have the virus (Cleveland Clinic, 2020).

The Centers for Disease Control and Prevention (CDC) identified a lack of information presented in the school classroom as a factor for the high prevalence for STIs (Centers for Disease Control and Prevention, 2015). In 2015, approximately one-fifth of middle schools and less than half of high schools in the United States taught sex education guided by essential education components recommended by the CDC (2016b). Sexual health education is an important key to helping reduce the risk of contracting STIs and/or human immunodeficiency virus (HIV) (CDC, 2015).

### **PICOT question.**

The evidence search was guided through the development of a PICOT Question. The PICOT Question for this evidence search was: In tenth grade students in a rural southern Minnesota school taking a required Health course (P), does delivery of the CDC-endorsed Rights, Respect, and Responsibility Curriculum for sex education (I) when compared to before delivery of the curriculum (C) increase knowledge, understanding of risky behaviors, and intention to utilize barrier methods of safer sex (O) when measured two weeks after completion of curriculum delivery (T)?

## COMPREHENSIVE SEX EDUCATION

Databases searched included PubMed, Medline, PLOS ONE, National Institutes of Health (NIH) and Google Scholar using the following keywords for the dissemination of information and study results: *STIs, STDs, sexual health education programs, rights-based sex education curriculum, sexual health training, sexual health curriculum, adolescent behavior change, adolescent decision making, evidence-based sex education, comprehensive sex education, abstinence education, and state policies on sex education.*

Included in the search results were studies on adolescents and young adults, articles published in the last 10 years, studies evaluating varying levels of interventions, interventions involving behavior change, studies specific to reduction rates of STIs, HIV/AIDS, and pregnancy, global studies, and full text information. Studies dating back nine years are being reviewed in order to analyze a wider range of interventions, and limited studies have been proposed in the last five years. Information excluded from collection were studies on puberty education, greater than nine years as this information becomes outdated, focusing only on behavioral change as the focus of the project involves improvement in sex education curriculum in addition to improving behavioral components, and lacking full text access.

The Johns Hopkins Nursing Evidence-Based Practice Evidence Level and Quality Guide was used to review the evidence (see Appendix B) (Dang & Dearholt, 2018). Multiple studies were found containing different interventions, and it was difficult to find information that compared different interventions to each other specifically. Pertinent studies to this project were reviewed: four studies were graded as “IA” evidence, three studies were graded as “IB” evidence, one study was level “IC” evidence, one study was level “IIIB” evidence, and one study was graded as “VA” (see Appendix A and B).

## COMPREHENSIVE SEX EDUCATION

### Methods

The evidence search yielded four key themes including STI/STD, STI/STD and adolescents, curriculum recommendations, and safer sex practices.

**STI/STD.** Serious health consequences are associated with acquiring a sexually transmitted infections or diseases. Sexually transmitted infections and diseases increase the risk for acquiring HIV with potential progression to acquired immunodeficiency syndrome (AIDS). Mother to child transmission may occur during pregnancy with potential added risks for stillbirth, neonatal death, low birth weight, prematurity, sepsis, pneumonia, neonatal conjunctivitis, and congenital deformities (WHO, 2019). Increased risk for HPV infection has been documented as owing its contribution to approximately 570,000 cervical cancer instances yearly, and more than 300,000 cervical cancer deaths annually (WHO, 2019). Sexually transmitted infections increase risk for pelvic inflammatory disease in women and cause infertility issues (WHO, 2019), as well as increased risk for ectopic pregnancy (National Institute of Allergy and Infectious Diseases, 2015). Finally, transmission of hepatitis B can yield a form of chronic liver disease in patients infected (WHO, 2019).

Sexually transmitted infections have been documented to cause other forms of cancer such as penile cancer from HPV in men, cancers of the mouth, throat, and anus from HPV, risk of liver cancer from viral hepatitis B/C infection (Eunice Kennedy Shriver National Institute of Child Health and Human Development, 2017), and infertility issues in men (NIH, 2016). Among high school students surveyed in 2017, the Centers for Disease Control and Prevention (2019) reported that 40 percent had already had sexual intercourse, and 10 percent had four or more sexual partners. Of the 30 percent

## COMPREHENSIVE SEX EDUCATION

that had had sexual intercourse in the last three months, 46 percent did not use a condom the last time they had sex.

**STIs/STDs and adolescents.** There is stress of importance on developing programs which focus on behaviors that have been proven in studies to be modifiable, such as condom use. For example, high intensity (greater than two hours) interventions were more successful in reducing the rates of STIs/STDs while also increasing condom use (O'Connor et al., 2014). Other successful interventions include tailoring programs specifically for adolescents to increase likelihood for successful behavioral change, using theory to guide the project which incorporates modeling activities (Latifi et al., 2017), skill building exercises, and application of community involvement of sex education in adolescents (Mirzazadeh et al., 2018). A common goal has been established to attempt to increase self-efficacy in the communication of safer sex with others in conjunction with promoting more favorable attitudes towards barrier method use (Morales et al., 2018), utilization of components of abstinence education and promotion of safe condom use (Latifi et al., 2017), and addressing more than just risk based interventions by adding psychological components to reduce risky behaviors (Sales & DiClemente, 2010).

The use of peers to help influence the target population has also been discussed (Simoni, Franks, Lehavot, & Yard, 2011). Peers are often used in many settings to enhance educational outcomes because peers resemble the target group and can relate better developmentally as well as in their experience, status, and social roles. Peers help to target the self-efficacy of individuals better, enhancing judgement abilities to carry out ideal or desired health outcomes. Interventions that also included information about STIs/STDs specifically pertaining to prevalence, transmission, and reducing risk for

## COMPREHENSIVE SEX EDUCATION

transmission, identifying personal risk for STIs/STDs, training in behavior practices such as problem solving, goal setting, decision making, training in condom application, and communication patterns with partners have shown promising outcomes in the adolescent/young adult population (O'Connor et al., 2014).

The use of gaming and information technology was discussed in multiple instances. More investigation needs to be done with the development of technology friendly sex education programs with application via social media and websites. Use of interactive materials has been minimally investigated for use in STI/STD risk reduction in primary care settings (O'Connor et al., 2014).

Investigation and implementation of game-based strategies should be performed to potentially close a gap in learning and retention of sex education in adolescents/young adults (Haruna et al., 2018). Social-cultural aspects should be thoroughly considered when implementing a sex education program. When combined with the high influence of technology, gamification can be applied to all cultural backgrounds and settings with the goal of being inclusive to all.

Incorporation of information technology is part of improving sexual health as a method to better reach adolescents. Development of programs to reach youth digitally with pertinent sexual health education material plays a critical role in the way information is disseminated. Since the internet is a pivotal source of information for adolescents/young adults, use of information technology will also contribute to reaching adolescents/young adults of diverse backgrounds easily and by non-discriminatory means (Strasburger & Brown, 2014).

## COMPREHENSIVE SEX EDUCATION

**Curriculum recommendations.** Missing components of recommended education could have a profound gap in knowledge of the students and their ability to practice abstinence, demonstrate adequate protective methods of sexual intercourse to prevent sexually transmitted diseases, and protecting against contracting HIV or unintended pregnancies. It was recommended that adolescents and young adults should have the right to make informed decisions with regards to sexual health and the right to decide must contain the understanding of all available choices. Sexual health content should enhance an adolescent's knowledge base to make appropriate decisions about their bodies and health (Sexuality Information and Education Council of the United States, 2019).

Anwar, Sulaiman, Ahmadi, and Khan (2010) proposed that youth need to be adequately taught symptoms, measures of avoidance, and identification of transmission routes along with complications of STIs/STDs. Additionally, they found that higher knowledge levels, does not lead to responsible sexual behavior. The American College of Obstetricians and Gynecologists (2018) indicated that sex education programs vary in the United States and unification of programs providing accurate, transparent, and effective content needs to occur. The committee summarized that comprehensive sex education programs have been proven effective agents against sexual activity, risky sexual behaviors, STIs, and young pregnancies. The CDC (2019) stated that school health programs can help adolescents develop lifelong attitudes and behaviors that positively influence their sexual and reproductive health, while reducing the risk of contracting HIV or STIs/STDs.

## COMPREHENSIVE SEX EDUCATION

Behavioral focused, developmentally appropriate interventions tailored to the target population, and improvements including recommended components missing in sex education should be explored. The use of theory based interventions and application to real-life experiences, use of peers and the community in sex education engagement, improved evolution of curriculums in the school setting, new-age intervention strategies specifically targeting the youth population, and analyzing effective message delivery strategies was supported by research (CDC, 2017; Ford, Barnes, Rompalo, & Hook, 2013; National Association of School Nurses, 2019). Additionally, aspects from both teacher and provider roles were addressed as prominent figures in delivery of sex education. The CDC (2019) stated schools and youth service organizations can help provide health information that is accurate, yet basic, and can directly contribute to healthy behaviors, address the needs of youth who are not currently having sex, and ensure adolescents are appropriately educated. Additionally, they must be invested in the need for involvement between both students and parents and encourage support locally within the community while representing community values and policies.

ACOG (2018) recommended comprehensive sex education to be medically accurate, evidence-based, age-appropriate, and should offer insight on delaying sexual intercourse, reproductive development, contraceptive methods, and barrier methods of protection if sex is initiated. The American Academy of Pediatrics advocated for sexual education to involve comprehensive sexual education for adolescents based on developmentally appropriate and evidence-based education about human sexuality and sexual reproduction to ensure adolescents are more informed to make positive and safe choices (Breuner, 2016). Haruna et al., (2018) stated comprehensive sexual health

## COMPREHENSIVE SEX EDUCATION

education can help to reduce risk by addressing adolescents of all backgrounds.

Programs initiated within school systems can promote healthy sexual behaviors in adolescents.

Advocates for Youth is an organization in the United States that collaborates with youth leaders, adult representatives, and youth-focused organizations with the goal of developing programs and policies that facilitates youth rights to sexual health information, sexual health services, and resources to enable sexual health equity. The “3Rs” program was developed as a method of providing comprehensive sexual education to students, without the constraint of money that typically would limit program implementation by many teachers in the school setting. The Rights, Respect, Responsibility (“3Rs”) program supports a vision of sexuality being healthy and advocates that youth be treated as valuable individuals to society. The program displays the rights of youth to be given the appropriate education and information pertaining to sexual health, health services, and the opportunity to reach optimal potential, youth deserve respect meaning that youth should be involved and program implementation should be focused on the needs specifically of youth, and finally, society has the responsibility to ensure that youth have the tools that they need to protect themselves as well as their cohorts (Advocates for Youth, n.d.).

The implementation of comprehensive sex education has been encouraged as a team approach including healthcare providers working in collaboration with the patient population. Health care providers, along with educators, governmental agencies, and societal organizations should be highly cooperative and collaborative in the development of medically accurate, developmentally appropriate, comprehensive sexual education

## COMPREHENSIVE SEX EDUCATION

programs with the intention to better prepare adolescents/young adults to make informed decisions about their sexual health. Governments, educational groups, and health care providers need to continuously ensure there is a collaborative working relationship that enables adolescents/young adults to access the appropriate information and education with regards to sexual health. This also establishes a referral nature for this population if the need arises for health/sexually transmitted disease screening, as well as assistance with the proper course of treatment and means to affordable care measures (International Planned Parenthood Federation, 2016).

**Safer sex practices.** There has been support for comprehensive sex education that addresses underlying components of adolescent behavior and risk taking and that improvements need to be made in order to ensure adolescents are well informed and can make decisions pertinent to their sexual health based on reliable, accurate education provided (SIECUS, 2019). From a provider's standpoint, ACOG (2018) suggested that providers can aid in the initiation of open discussion with parents, as well as adolescent/young adult patients with regards to sexual development and the initiation of sex. Providers can serve communities by using expertise in the development of comprehensive sexual education curriculum that offers healthy sex development-based goals and provide the health care that optimizes comprehensive sexual health (ACOG, 2018). As a provider, it would be important to know what online programs and resources are available to access that contain appropriate and medically accurate information for adolescents/young adults and encourage the use of such. It would be pertinent for providers to actively be engaged in program development with resources that enhance sexual health education (IPPF, 2016).

## COMPREHENSIVE SEX EDUCATION

Sexual health education interventions suggested in the literature are modalities that have been studied to influence development of comprehensive sex education programs. Tailoring programs to better suit adolescents/young adults are thought to have substantial benefit to promote behavioral change and better sexual health protection methods.

### **Gaps in the Literature**

Gaps in the literature included lack of studies of adolescent pregnancy or childbirth intentions and information pertaining to sexual education of rural youth in the United States. Additionally, studies of adolescent sexual health in subjects less than 15 years of age were limited, many studies included self-reporting as a measure to obtain data potentially leading to skewed results due to bias or fear of admission, and studies that included in-home or privately schooled adolescents.

Further exploration into the education material presented in the school environment should be evaluated. Research should also be conducted to investigate the views or perceptions of the teachers presenting sex education components. Also, students' perception of sex education presented can be analyzed more consistently in order to narrow the education gap by presenting materials valued by the student body in forms that enable optimal learning of the materials (Anwar et al., 2010). Additionally, more interventions need to be explored in youth within the rural setting, as many of the interventions have been applied to urban youth (Constantine et al., 2015).

Multiple areas for further research were identified following the study of loss and gain-framed message presentation to adolescents. More research is needed to determine long-term impact of education and delivery of information in real life sex-decision

## COMPREHENSIVE SEX EDUCATION

making. There should also be a concentration on what environmental conditions should be considered that enable proper delivery of messages and the effectiveness following, as well as evaluation of message delivery at differing stages of adolescent development (Macapagal, Janssen, Matson, Finn, & Heiman, 2017).

### **Recommendations for Practice**

**STI/STDs.** Serious health consequences are associated with acquiring a sexually transmitted disease. Many adolescents and young adults engage in risky sex behaviors that can yield unintended poor health outcomes. Implementation of comprehensive sex education can help further inform adolescents of the risks associated with risky sexual behavior, contracting STDs, and the consequences associated (CDC, 2019).

**STI and adolescents.** Various types of interventions have been studied with the intention of delineating which specific interventions work to improve the reduction of risky sexual behaviors. Interventions that have been successful include high intensity interventions (greater than two hours of instruction) (O'Connor et al., 2014), utilization of theory and application to program development (Latifi et al., 2017), community involvement methods (Mirzazadeh et al., 2018), utilization of peers to enhance educational outcomes (Simoni et al., 2011), application of IT and gaming strategies to better apply and identify with adolescents (Haruna et al., 2018; O'Connor et al., 2014; Strasburger & Brown, 2014), investigation into perceptions of those teaching the curriculum to students (Anwar et al., 2010), and studying message delivery and environmental settings and their influence on decision making in adolescents (Macapagal et al., 2017). Identification and incorporation of successful techniques into comprehensive sexual education were shown to help adolescents succeed in obtaining

## COMPREHENSIVE SEX EDUCATION

adequate information, apply the information to decision making, and aid in the reduction of risky sex behaviors.

**Curriculum.** Research the necessity for medically accurate, transparent, developmentally appropriate comprehensive sex education to equip adolescents/young adults with the appropriate knowledge and resources to make informed decisions with regards to their sexual health (ACOG, 2018; Breuner, 2016; CDC, 2017; Ford et al., 2013; National Association of School Nurses, 2019; & SIECUS, 2019). Improvements in the delivery of sex education should be structured according to the suggested components identified, proposed by the CDC (2016b). The literature supports recommendations that include more focus on sex education programs that acknowledge the complexity of behavior and develop strategies that specifically focus on behavior change, and the initiation of comprehensive sex education early in childhood and continue through one's lifespan (Sales & DiClemente, 2010). There has been support for the implementation of rights-based sex education, based off findings that this type of education significantly improved students' sex-related knowledge, communication, attitudes, and self-efficacy following implementation of the curriculum (Constantine et al., 2015). Initiation of the Advocates for Youth "3Rs" curriculum meets National Sexuality Education Standards while providing rights-based sex education that arms youth with the appropriate knowledge related to sexuality and skills to initiate healthy behaviors (Advocates for Youth, n.d.).

**Safer sex practices.** Providers should promote adolescent-friendly sexual and reproductive health services by advocating for the population and assisting in program development to effectively educate the youth population (IPPF.org, 2016), and by

## COMPREHENSIVE SEX EDUCATION

opening patient-parent dialogue with regards to sex (ACOG, 2018). Recommendations included the utilization of providers as sources of information and resources to area schools, and community agencies (Breuner, 2016), as well as utilizing providers to assess current sex education in schools and organizing education that focuses on STI prevention (Anwar et al., 2010).

### **Conclusion**

The implementation of comprehensive sex education in the target population may enable knowledge development in adolescents for the enhancement protective sexual health decision making processes to take forth. The curriculum developed by Advocates for Youth provides medically accurate, transparent, and developmentally appropriate information to address the target population with methods from past-presented research that have been deemed as effective methods for positive influence in sexual behavior decision making and physical practices. Following implementation of the program, discussion, peer interaction techniques and activities, and take-home assignments, the target population will have an increased knowledge pertaining specifically to STIs/STDs, the ability to identify at-risk situations where barrier methods should be applied and an increase in the intention to practice abstinence or safer sex practices.

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## COMPREHENSIVE SEX EDUCATION

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## COMPREHENSIVE SEX EDUCATION

## Appendix A

## Evidence Table

Authors & Date	Study Design	Participants, Sample Size and Setting	Intervention	Results	Comments (Strengths/Weaknesses)	Recommendations for Practice	Evidence Level, Quality
Rohrbach, L., Berglas, N., Jerman, P., Angulo-Olaiz, F., Chou, C., & Constantine, N. (2015)	Cluster-randomized trial: one-year outcomes	1,447 ninth grade students across 10 schools in Los Angeles, California	Surveys completed by students one-year post intervention - multilevel analysis performed at one year follow up	Students who received the rights-based curriculum yielded higher scores than the control students at one-year post intervention on items of sexual health knowledge, attitudes on relationship rights, partner communication, protection self-efficacy,	<p><b>Strengths:</b> 1,447 out of 1,750 students participated in follow up results; yielding a large sample size to base results off; design of study; comparison between implemented curriculum and comparison curriculum; use of multilevel analysis</p> <p><b>Weaknesses:</b> self-reporting by students; potentially different strengths of each curriculum; application of the</p>	Research analyzing whether preparatory behaviors are predictors of later protective factors; use of the material on other population subgroups; the effects of “booster sessions” on adolescent behaviors in subsequent years	Level I Quality Grade B

COMPREHENSIVE SEX EDUCATION

				access to health information, and awareness of sexual health services – students were more likely to report use of sexual health services, and were more likely to carry a condom.	curriculum to a predominantly urban, low income, Hispanic students; control group contamination due to comparison of control group and implementation group within the same school		
Constantine, N. A., Jerman, P., Berglas, N. F., Angulo-Olaiz, F., Chou, C. P., & Rohrbach, L. A. (2015)	Cluster-randomized trial	1,750 ninth grade students at 10 high schools in Los Angeles, California	Classrooms at each school were randomized to receive either rights-based curriculum or basic sex education (control). A pre-test and immediate	Students receiving the rights-based curriculum demonstrated significantly higher knowledge about sexual health and sexual health	Strengths: design of the study; use of school clusters to treatment; use of control curriculum to compare results; strong follow up rates  Weaknesses: different lengths of the intervention	Research noting the effects of timing of curriculum length and its effect on outcomes use of the material on other population subgroups	Level I Quality Grade A

COMPREHENSIVE SEX EDUCATION

			<p>post-test administered prior to and following implementation of the curriculum. Multi-level regression models used to examine short term effects of the interventions.</p>	<p>services, positive attitudes about sex and relationship rights, increased communication about sex and relationship with parents, and greater self-efficacy to manage risky sexual situations.</p>	<p>curricula and control curricula; self-report questionnaires; use of three scales administered to only half of the students about sexual relationship rights with a steady partner, sexual relationship rights with casual partner, and parent sexual communication yields a sample size half of the other scales so the statistical power may be reduced for these outcomes; application of the curriculum to a predominantly urban, low income, Hispanic students; control group contamination due to</p>	
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## COMPREHENSIVE SEX EDUCATION

					comparison of control group and implementation group within the same school		
Haruna, H., Hu, X., Chu, S., Mellecker, R. R., Gabriel, G., & Ndekao, P. S. (2018)	Randomized control study	120 students from a secondary school in Dar Es Salaam, Tanzania	Sexual health education topics were delivered in a masked fashion, 40-min a week for five weeks	The average post-test scores for GBL (Mean = 79.94, SD = 11.169) and gamification (Mean = 79.23, SD = 9.186) were significantly higher than the control group Mean = 51.93, SD = 18.705 (F (2, 117) = 54.75, p = 0.001). Overall, statistically significant differences ( $p \leq 0.05$ ) were found for the constructs	<p><b>Strengths:</b> Tanzania is an optimal area to propose intervention due to its acceptance of various international and regional conventions that promote adolescent sexual and reproductive health; students ages 11-15 years were included in target population</p> <p><b>Weaknesses:</b> Small sample size; did not focus on all recommended components that are stressed in the United States from the Centers for Disease</p>	Innovative teaching approaches can be used to improve the sexual health education of adolescent students. Contribution can be made socially, particularly in improving sexual health behavior and adolescents' knowledge of sexual health problems, including HIV/AIDS.	Level I Quality Grade A

COMPREHENSIVE SEX EDUCATION

				of Motivation, Attitude, Knowledge, and Engagement (MAKE).	Control and Prevention.		
Morales, A., Espada, J., Orgiles, M., Escribano, S., Johnson, B. T., & Lightfoot, M. (2018).	Meta-analysis	59,795 participants. 63 studies totals included in analysis that were performed between the years of 2008 and 2016. Setting included primarily schools, with a few containing different settings such as a medical school in Cuba, and activities in parks,	Analysis of studies performed to determine effectiveness of interventions promoting sexual health and prevention of STIs, including HIV and pregnancy since 2008.	Interventions within the studies indicated a large impact on condom use in short-term (<12 months), effective in increasing sexual-health related knowledge, promoting favorable attitudes towards HIV and methods of protection, self-efficacy to use condoms, behavioral	<b>Strengths:</b> Large sample of studies and participants examined. Large portion of randomized-control studies are evaluated. <b>Weaknesses:</b> Small number of medium- and long-term studies of efficacy of HIV and sexual health interventions. Sample limited to years 2008-2016.	Long term evaluations to determine whether interventions impact STDs and pregnancy in adolescence.	Level I Quality Grade B

COMPREHENSIVE SEX EDUCATION

		<p>streets, hospitals, etc.</p>		<p>intention to use condoms, intention to refuse sex, and increasing condom use in adolescents. In medium term (12-18 months), the results were reflective of short-term outcomes, except to refuse sex and communication of sex with partner. Long term effects (24 months after intervention ) detailed an increase in condom use only.</p>	<p>Most reports gathered contained self-reporting techniques which could hold a level of bias.</p>		
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## COMPREHENSIVE SEX EDUCATION

<p>Mirzazadeh, A., Biggs, M. A., Viitanen, A., Horvath, H., Wang, L., Dunville, R., Barrios, L. C., Kahn, J. G., &amp; Marseille, E. (2017).</p>	<p>Meta-analysis</p>	<p>Youth ages 10-19 years. School based programs in the United States of America. Total of nearly 19,000 baseline participants in the included studies.</p>	<p>Evaluation of many different proposed studies including results pertaining to 2-year HIV, STD, and education curriculum; a program focused on social development and engagement in the community, while forming bonds with parents and teachers; condom availability in the community; an intervention determining peer</p>	<p>Inconclusive evidence pertaining to which intervention would benefit adolescents with STI and HIV prevention.</p>	<p><b>Strengths:</b> positive effects found on changes in STI-related knowledge and attitudes. <b>Weakness:</b> Lack of published studies on specifically the reduction of STIs and HIV in the USA. Quality of evidence in the studies was poor – relying on self-reporting. Large amount of variability between studies making specific interventions difficult to identify what</p>	<p>Improvement in study designs – include biological outcomes. Longer studies to see effects over time. Targeting students, teachers, and parents making it a collaborative approach.</p>	<p>Level I: Quality Grade C</p>
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COMPREHENSIVE SEX EDUCATION

			influence on sexual behavior and personal decision making; an AIDS and pregnancy prevention campaign providing curriculum-based teaching among students; and the introduction of a community-based program that addressed risk factors and protective factors then creation of a family-focused approach		information specifically had impact.		
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COMPREHENSIVE SEX EDUCATION

			model delivered over 6 <sup>th</sup> and 7 <sup>th</sup> grade levels.				
Macapagal, K., Janssen, E., Matson, M., Finn, P. R., & Heiman, J.	Experimental study	127 participants in large Midwestern university ages 18-24 years.	Computer generated questionnaire and then a computerized decision making. Messages conveyed utilizing the Framed message approach (both loss and gain).	Among the participants who received the gain-framed message approach first, there were stronger intentions of having sex versus the loss-framed message approach. Loss framed messages are more persuasive in situations	<p><b>Strengths:</b> Focus on loss-framed messages to determine which model definitively affected participant response. Study also advocated for perception of the individual and their partner.</p> <p><b>Weaknesses:</b> Monetary incentive for responses. Self-reporting.</p>	Examine message framing on decisions of participants to engage in sexual activity in real life experiences. Determine the appropriate environment for message delivery for optimal effectiveness. Implement framed messages at different developmenta	Level I Grade A

## COMPREHENSIVE SEX EDUCATION

				that pose greater risks and have uncertain outcomes. Loss-framed message placed emphasis on condom use to show care and responsibility for one-self and their partner, different from previous loss-framed STI education interventions.	Previous studies have shown conflicting views between framed message delivery.	1 stages and determine effectiveness of message delivery.	
Anwar, M., Sulaiman, S-A. S., Ahmadi, K., & Khan, T. (2010).	Cross-sectional, descriptive study	1139 students from a total of six schools, ages 15-20 years in Pulau	Students were given pre-validated, anonymous, 18 item questionnaires.	1139 surveys were accepted and the remaining 55 rejected due to being	<b>Weakness:</b> Self-administered surveys. Potential for recall bias. Small sample size.	Recommendations include making the link between STIs and HIV/AIDS more predominant.	Level III Grade B

## COMPREHENSIVE SEX EDUCATION

		<p>Pinang, Malaysia. Information obtained in classroom setting.</p>		<p>incomplete. 121 students claimed that they had not heard of STDs. AIDs were indicated as the most commonly known STI in those students who stated they had knowledge of STIs. The majority of students claimed to have their first sexual experience between ages 15-19 years with no difference in gender, more sexual partners were</p>		<p>STIs and HIV/AIDS prevention programs, lectures, and seminars should be implemented on a regular basis. Educational programs should target parents and teachers. More research needs to be completed with regards to the behavior and attitudes of adolescents and young adults.</p>	
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## COMPREHENSIVE SEX EDUCATION

				identified with males than females, and ethnicity, religion, socioeconomic status, and education level were also significant to sexual debut.			
O'Connor, E., Lin, J., Burda, B., Henderson, J., Walsh, E., & Whitlock, E. (2014).	Systematic review	31 trials selected with dates ranging from 2007 through 2013. 16 were newly published, while 15 were from a previous review.	Two investigators assessed the methods portion of each study using USPSTF criteria. Studies were then rated as good, fair, or poor quality. The information was then analyzed via	All interventions analyzed were seeking to minimize high risk sexual behaviors and increase to the maximal potential, protective factors.	<b>Strengths:</b> multiple investigators analyzing the information to uphold high level of quality evidence <b>Weaknesses:</b> most of the information presented represented bacterial infections of gonorrhea and	More data is needed in mixed-sex populations. More data is needed on interventions that can be utilized in the primary care setting.	Level I Grade A

COMPREHENSIVE SEX EDUCATION

			meta-analyses for STI incidence.		chlamydia. The studies analyzed were on specific populations, rather than being inclusive to all adolescents. Most adult studies were limited to African American and Latina women.		
Latifi, A., Effat, M., Shojaeizadeh, D., Nedjat, S., Mehri, A., & Garmaroudi, G. (2017).	Systematic review	25 full texts reviewed and 13 articles which met criteria for analysis.	The purpose: to investigate theory-based interventions of STDs in Iran and the effects of interventions.	The use of the Health Belief Model, Self-Efficacy, and the Theory of Planned Behavior all had positive impact on STI prevention. Behavioral intervention	<b>Strengths:</b> the reviewed studies used a wide variety of methods in the analysis. <b>Weakness:</b> the studies in Iran were of poor quality and held methodological weakness.	Future research implemented on high risk groups and that theories and models be implemented and used in school-based STD educational programs. Use of social cognitive	Level I Grade B

## COMPREHENSIVE SEX EDUCATION

				s that involve participants can have a positive impact on STD prevention.		theory when initiating interventions. Health care providers must emphasize the use of condoms to help aid prevention of STDs.	
Abma, J. C., & Martinez, G. M. (2017).	National survey – in-person interviews	Men and women ages 15-44. 20,621 men and women total, with 4,134 teenagers (2,087 males and 2,047 females). In-person interviews in the household population of the United	Interviews contained questions with regards to sexual experience of participants; age at first sexual intercourse; relationship with first partner; reasons for not having sex; recent sexual activity; contraceptiv	In 2011–2015, 42.4% of never-married female teenagers (4.0 million) and 44.2% of never-married male teenagers (4.4 million) had had sexual intercourse at least once by the time of the interview	<b>Strengths:</b> large sample size. Trend evaluation over time from the 1980s. Different racial backgrounds analyzed. Components of behavioral determinants evident in analysis.  <b>Weaknesses:</b> personal interviews	More investigation into teen pregnancy and STI risk reduction strategies.  More investigation into racial/ethnic differences.  More investigation into understanding teen sexual and	Level V Grade A

COMPREHENSIVE SEX EDUCATION

		<p>States, including persons temporarily living away from the household in a college dormitory, sorority, or fraternity.</p>	<p>use among teens; ever-use of contraceptive methods by teens; contraceptive use at first sexual intercourse; contraceptive use at the last sexual intercourse in the past three months; and feelings about hypothetical pregnancy.</p>	<p>(were sexually experienced). These levels of sexual experience among teenagers are like those seen in 2002 and 2006–2010. Longer-term trends, from 1988 to 2011–2015, show declines in the percentage of teenagers who were sexually experienced. Female teenagers’ use of a method of contraception at first sex increased from 74.5%</p>	<p>(could hold bias or produce untrue answers).</p>	<p>contraceptive behaviors.</p> <p>Age at early initiation of sex is related to lower contraceptive use. Younger age of initiation of sexual relationships is also associated with more partners and sex with partners where their relationship is less established (“just friends”). Methods to improve availability of contraceptives to this group, and education to this group to aid</p>	
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## COMPREHENSIVE SEX EDUCATION

				<p>in 2002 to 81.0% in 2011–2015. Male teenagers’ use of a condom at first sex increased from 70.9% in 2002 to 79.6% in 2006–2010 and remained stable at 76.8% in 2011–2015. Overall, in 2011–2015, 5.8% of female teenagers had used a long-acting reversible method (intrauterine device or implant).</p>		<p>informed decision making and sexual health awareness.</p> <p>More investigation into what degree teenagers want to avoid pregnancy to determine the influence on sexual and contraceptive behaviors.</p>	
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Appendix B

Johns Hopkins Evidence-Based Practice Level and Quality Guide

Evidence Levels	Quality Ratings
<p><b>Level I</b></p> <p>Experimental study, randomized controlled trial (RCT)</p> <p>Explanatory mixed method design that includes only a level I quantitative study</p> <p>Systematic review of RCTs, with or without meta-analysis</p>	<p><b>Quantitative Studies</b></p> <p><b>A High quality:</b> Consistent, generalizable results; sufficient sample size for the study design; adequate control; definitive conclusions; consistent recommendations based on comprehensive literature review that includes thorough reference to scientific evidence.</p> <p><b>B Good quality:</b> Reasonably consistent results; sufficient sample size for the study design; some control, fairly definitive conclusions; reasonably consistent recommendations based on fairly comprehensive literature review that includes some reference to scientific evidence.</p> <p><b>C Low quality or major flaws:</b> Little evidence with inconsistent results; insufficient sample size for the study design; conclusions cannot be drawn.</p>
<p><b>Level II</b></p> <p>Quasi-experimental study</p> <p>Explanatory mixed method design that includes only a level II quantitative study</p> <p>Systematic review of a combination of RCTs and quasi-experimental studies, or quasi-experimental studies only, with or without meta-analysis</p>	<p><b>Qualitative Studies</b></p> <p>No commonly agreed-on principles exist for judging the quality of qualitative studies. It is a subjective process based on the extent to which study data contributes to synthesis and how much information is known about the researchers' efforts to meet the appraisal criteria.</p> <p><i>For meta-synthesis, there is preliminary agreement that quality assessments of individual studies should be made before synthesis to screen out poor-quality studies<sup>1</sup>.</i></p> <p><b>A/B High/Good quality</b> is used for single studies and meta-syntheses<sup>2</sup>.</p> <p>The report discusses efforts to enhance or evaluate the quality of the data and the overall inquiry in sufficient detail; and it describes the specific techniques used to enhance the quality of the inquiry. Evidence of some or all of the following is found in the report:</p> <ul style="list-style-type: none"> <li>■ <b>Transparency:</b> Describes how information was documented to justify decisions, how data were reviewed by others, and how themes and categories were formulated.</li> <li>■ <b>Diligence:</b> Reads and rereads data to check interpretations; seeks opportunity to find multiple sources to corroborate evidence.</li> <li>■ <b>Verification:</b> The process of checking, confirming, and ensuring methodologic coherence.</li> <li>■ <b>Self-reflection and -scrutiny:</b> Being continuously aware of how a researcher's experiences, background, or prejudices might shape and bias analysis and interpretations.</li> <li>■ <b>Participant-driven inquiry:</b> Participants shape the scope and breadth of questions; analysis and interpretation give voice to those who participated.</li> <li>■ <b>Insightful interpretation:</b> Data and knowledge are linked in meaningful ways to relevant literature.</li> </ul> <p><b>C Lower-quality</b> studies contribute little to the overall review of findings and have few, if any, of the features listed for High/Good quality.</p>
<p><b>Level III</b></p> <p>Nonexperimental study</p> <p>Systematic review of a combination of RCTs, quasi-experimental and nonexperimental studies, or nonexperimental studies only, with or without meta-analysis</p> <p>Exploratory, convergent, or multiphasic mixed methods studies</p> <p>Explanatory mixed method design that includes only a level III quantitative study</p> <p>Qualitative study</p> <p>Meta-synthesis</p>	

(Dang & Dearholt, 2018)

(continued)

**Johns Hopkins Evidence-Based Practice Level and Quality Guide**

Evidence Levels	Quality Ratings
<p><b>Level IV</b></p> <p>Opinion of respected authorities and/or nationally recognized expert committees or consensus panels based on scientific evidence</p> <p>Includes:</p> <ul style="list-style-type: none"> <li>■ Clinical practice guidelines</li> <li>■ Consensus panels/position statements</li> </ul>	<p><b>A High quality:</b> Material officially sponsored by a professional, public, or private organization or a government agency; documentation of a systematic literature search strategy; consistent results with sufficient numbers of well-designed studies; criteria-based evaluation of overall scientific strength and quality of included studies and definitive conclusions; national expertise clearly evident; developed or revised within the past five years</p> <p><b>B Good quality:</b> Material officially sponsored by a professional, public, or private organization or a government agency; reasonably thorough and appropriate systematic literature search strategy; reasonably consistent results, sufficient numbers of well-designed studies; evaluation of strengths and limitations of included studies with fairly definitive conclusions; national expertise clearly evident; developed or revised within the past five years</p> <p><b>C Low quality or major flaws:</b> Material not sponsored by an official organization or agency; undefined, poorly defined, or limited literature search strategy; no evaluation of strengths and limitations of included studies, insufficient evidence with inconsistent results, conclusions cannot be drawn; not revised within the past five years</p>
<p><b>Level V</b></p> <p>Based on experiential and nonresearch evidence</p> <p>Includes:</p> <ul style="list-style-type: none"> <li>■ Integrative reviews</li> <li>■ Literature reviews</li> <li>■ Quality improvement, program, or financial evaluation</li> <li>■ Case reports</li> <li>■ Opinion of nationally recognized expert(s) based on experiential evidence</li> </ul>	<p><b>Organizational Experience</b> (quality improvement, program or financial evaluation)</p> <p><b>A High quality:</b> Clear aims and objectives; consistent results across multiple settings; formal quality improvement, financial, or program evaluation methods used; definitive conclusions; consistent recommendations with thorough reference to scientific evidence</p> <p><b>B Good quality:</b> Clear aims and objectives; consistent results in a single setting; formal quality improvement, financial, or program evaluation methods used; reasonably consistent recommendations with some reference to scientific evidence</p> <p><b>C Low quality or major flaws:</b> Unclear or missing aims and objectives; inconsistent results; poorly defined quality improvement, financial, or program evaluation methods; recommendations cannot be made</p> <p><b>Integrative Review, Literature Review, Expert Opinion, Case Report, Community Standard, Clinician Experience, Consumer Preference</b></p> <p><b>A High quality:</b> Expertise is clearly evident; draws definitive conclusions; provides scientific rationale; thought leader(s) in the field</p> <p><b>B Good quality:</b> Expertise appears to be credible; draws fairly definitive conclusions; provides logical argument for opinions</p> <p><b>C Low quality or major flaws:</b> Expertise is not discernable or is dubious; conclusions cannot be drawn</p>

(Dang & Dearholt, 2018)

(continued)

### Johns Hopkins Evidence-Based Practice Level and Quality Guide

Grade	Research Evidence
A: High	Consistent, generalizable results; sufficient sample size for study design; adequate control; definitive conclusions; consistent recommendations based on comprehensive literature review that includes thorough reference to scientific evidence
B: Good	Reasonably consistent results; sufficient sample size for the study design; some control; fairly definitive conclusions; reasonably consistent recommendations based on fairly comprehensive literature review that includes some reference to scientific evidence
C: Low or Major flaw	Little evidence with inconsistent results; insufficient sample size for the study design; conclusions cannot be drawn

(Dang & Dearholt, 2018)

Comprehensive Sex Education to Improve Sexually Transmitted Disease Knowledge  
Base and Decision Making in Adolescents

BY

McKenzie Terfehr

A paper submitted in partial fulfillment of the requirements for the degree

Doctor of Nursing Practice

South Dakota State University

2020

## COMPREHENSIVE SEX EDUCATION

## Abstract

**Background/Purpose.** Developing intimate relationships are a normal part of transitioning through development, regardless of associated risk. Sexually transmitted diseases continue to escalate in the United States, particularly among adolescents. Comprehensive sexual health education in schools can protect adolescents by arming them with information to make informed choices and reduce exposure risk.

**Methods.** Participants included 43 tenth graders, both males and females. Eight educational sessions were delivered in 50-minute periods over four weeks. Students completed a pre-test prior, and post-test following intervention. Materials included guided education from Advocates for Youth, Answer, and the Sexuality Information and Education Council of the United States (SIECUS).

**Results.** Students' ability to correctly differentiate STDs ( $p = 0.00714$ ) was significant at a significance level of 0.05. Results revealed insignificant results with identification of risky sexual behaviors and identification and initiation of barrier methods with intercourse,  $p = 0.21498$ , and  $p = 0.0784$ .

**Discussion.** Participation in the recommended curriculum resulted in improvements in knowledge of sexually transmitted diseases. Improvement in curriculum delivery is recommended to promote avoidance of risky sexual behaviors, and initiation of barrier methods.

**Implications for Practice.** Implementation of comprehensive sex education curriculums can educate adolescents on STIs/STDs, HIV, and unintended pregnancy prevention. More information is needed to address behavioral components. Results will be used to aid further support for revision of the current sexual health curriculum to students.

## COMPREHENSIVE SEX EDUCATION

### Comprehensive Sex Education to Improve Sexually Transmitted Disease Knowledge Base and Decision Making in Adolescents

#### **Background**

Sexually transmitted infections (STIs), are health related concerns affecting millions of Americans on an annual basis. STIs are passed from person to person through direct sexual contact via anal, oral, or vaginal area, or contact with infected skin or mucous membranes (CDC, 2016a). While STIs are acute infections, sexually transmitted diseases (STDs) are STIs that have developed into chronic disease states (Leung, Shek, Leung, & Shek, 2019). Both are considered a global epidemic (Bechtel & Trout, 2015), while also contributing to propelling healthcare costs. STIs/STDs cost Americans approximately 16 billion dollars in healthcare expenditures annually (CDC, 2013).

Nearly 2.3 million cases of chlamydia, gonorrhea, and syphilis were diagnosed in the United States in 2017 (CDC, 2018b), with young adults and adolescents (aged 15-24) accounting for nearly half of the 20 million new STIs/STDs occurring in the United States annually (CDC, 2017). Leung et al. (2019) stated 25 percent of sexually active, adolescent females have an STI/STD with the most diagnosis being chlamydia or the human papilloma virus (HPV).

According to Leung et al., (2019) in 2017, survey results in the United States revealed that nearly 40 percent of high school students reported engaging in sexual intercourse, and 46 percent of those sexually active, report not using a condom during intercourse. This statistic is down from 2007, where nearly 61 percent stated they used a condom with intercourse (Leung et al., 2019). Based on statistics and behaviors

## COMPREHENSIVE SEX EDUCATION

exhibited by adolescents/young adults, STIs/STDs are a significant public health concern, as well as a financial liability.

### **Significance**

The Centers for Disease Control and Prevention (CDC) stated that acquiring health concept information and knowledge develops a foundation for the promotion of healthy behaviors in youth as well as young adults. The CDC developed standards that are benchmarks for schools to meet when implementing health promotion education (CDC, 2019), and proposed 19 critical sexual education topics to be included in sexual health education in the classroom setting (CDC, 2016b). Nearly one-fifth of middle schools and less than half of high schools teach sex education based off the recommendations provided by the CDC (2015). Implementation of the appropriate sexual health information is an important part in initially arming adolescents/young adults with the necessary information in order to make informed choices with regards to their sexual behavior and health (CDC, 2015). Missing components of critical sexual health information has a profound impact on the ability for adolescents/young adults to make appropriate decisions based on the circumstances they encounter in real life and relationships (Sexuality Information and Education Council of the United States, 2019).

### **PICOT Question**

The following PICOT question was utilized to develop this project. “In tenth grade students in a rural southern Minnesota school taking a required Health course (P), does delivery of the CDC-endorsed Rights, Respect, and Responsibility Curriculum for sex education (I) when compared to before delivery of the curriculum (C) impact and effect knowledge, understanding of risky behaviors, and intention to utilize barrier

## COMPREHENSIVE SEX EDUCATION

methods of safer sex (O) when measured two weeks after completion of curriculum delivery (T)”?

### **Literature Review/ Summary of Evidence**

Studies have been performed on with attempts to understand what the best approach is to deliver medically accurate, developmentally appropriate, and totally inclusive sexual education to adolescents/young adults (American College of Obstetrics and Gynecologists, 2018; CDC, 2017; Ford, Barnes, Rompalo, & Hook, 2013; & National Association of School Nurses, 2019). Multi-directional improvements are warranted with regards to educational interventions that focus on recommendations and additionally include missing details. Application of theory-based interventions (Goldman, 2010) to real life situations can effectively simulate situational based learning, and assist students working their way through a complex situation utilizing problem solving methods (Massey University, n.d.). More detail in sex education is needed, along with intervention strategies adolescents/young adults can relate to should be considered (Haruna et al., 2018). The initiation of effective message delivery strategies should be included in implementation of material (Ford et al., 2013). The use of peers in sex education additionally adds engagement of students in the classroom setting (Simoni, Franks, Lehavot, & Yard, 2011). Community involvement has also shown promising effects on adolescent/young adult sexual health with the addition of resources for youth as well as trusting individuals to provide information when it is sought out.

Finally, teacher and provider roles have been concluded as prominent delivery figures of sexual health education (CDC, 2017; Ford et al., 2013; International Planned Parenthood Federation, 2016; & National Association of School Nurses, 2019). It is

## COMPREHENSIVE SEX EDUCATION

suggested that these working relationships will foster development of evidence-based sex education programs, increase affordability, and increase accessibility for teachers (IPPF, 2016).

### **Gaps in Current Practice**

Currently, there is a varying degree of structure with regards to sexual education in the school setting. Schools are currently free to teach material that is of their own, and some schools focus on abstinence-only material (Minnesota Women's Consortium, n.d.). The approach to sexual education often does not address behavioral components. More studies also need to be done to address the detailed behavioral component of adolescents in order to further enhance educational programs (Macapagal, Janssen, Matson, Finn, & Heiman, 2017).

### **Recommendations**

Recommendations for schools include a detailed comprehensive sexual education curriculum (Kats, 2019). Increased focus on sex education curricula should acknowledge the complexity of behavior and develop strategies that specifically focus on behavior change. The initiation of comprehensive sex education early in childhood and continuing through the lifespan, program development via information technology (IT) and targeting behaviors that are most likely to change (such as contraception use) should be included (Sales & DiClemente, 2010). Furthermore, applying theory to real-life sexual encounters to better understand adolescent/young adult behavior during the initiation of sexual encounters, and curriculum development encouraging content that utilizes problem solving, decision making skills, social skill development and enhancing relationships needs to be included in application of education curriculum (Sales & DiClemente,

## COMPREHENSIVE SEX EDUCATION

2010). Recommendations include the utilization of providers as sources of information and resources to area schools, community agencies, and religious institutions (Breuner, 2016). Utilizing providers to assess current sex education in schools and organizing seminars that focus on STI/STD prevention to improve awareness is also recommended (Anwar, Sulaiman, Ahmadi, & Khan, 2010).

### **Methods**

**Model and Theories.** This Doctoral of Nursing Practice project is based on the Johns Hopkins Nursing Evidence-based Practice Model (Dang & Dearholt, 2018), Health Belief Model (Rural Health Information Hub, 2019a), Prochaska and DiClemente's Transtheoretical Model of Stages of Change Model (LaMorte, 2018).

**Setting.** The project took place in a Junior/Senior high school classroom in the rural Midwest. The school contained grades seven through 12, with approximately 814 students. Three classes of sophomores received the curriculum content, which was mandated for graduation, in the fourth, sixth, and seventh hour classes. Health was one semester in length containing information of various subjects including: healthy choices and behavior, communication, decision making, healthy relationships, benefits of healthy body, LGTBQ individuals, STIs/STDs, HIV, and pregnancy prevention. Evaluation of the previously administered curriculum determined that 16 recommended Sexual Health Education Topics proposed by the Centers for Disease Control and Prevention (2016b) were absent.

**Sample.** The intervention was applied to subjects in 10<sup>th</sup> grade. The sample included 43 of 140-10<sup>th</sup> grade students, ages 15-16 years. Out of 43 students, 28 (65.1%) were female, and 15 (34.8%) were male. The target sample was a predominantly

## COMPREHENSIVE SEX EDUCATION

Caucasian population, consisting of 32 male and female students (74.4%). Three students identified as Hispanic (7%), two students identified as consisting of two or more races (4.7%), two students identified as Asian/Pacific Islander (4.7%), one student identifying as African American (2.2%), and three students identified as American Indian/Alaskan Native (7%).

**Intervention.** The pre and post tests were developed by Jaworski and Carey (2007) (Appendix E) to address the need to evaluate STIs/STDs knowledge. An additional set of questions were developed by the DNP Project Coordinator and Health instructor. The Jaworski and Carey (2007) STD-KQ exam was constructed by reducing an 85-item exam down to a 27-item exam following analyses, where internal consistency was noted, strong reliability was supported, and test-retest reliability was deemed “excellent” (Jaworski & Carey, 2007). Internal consistency ( $r = .86$ ) compared well with other HIV-specific and STI/STD questionnaires, and results remained consistent over a two-week retest period ( $r = .88$ ). Based on results, the test was suggested for use in other risk reduction programs that offered a pre-test/post-test design (Jaworski & Carey, 2007). Additional questions created were scored similarly to the Jaworski & Carey (2007) STD-KQ (Appendix F). These questions were reviewed by district curriculum advisors, who determined question face validity and applicability to the proposed research question components. Both tools were utilized in the collection of data, and determination of questions pertinent to PICOT outcomes are listed in Appendix F.

Eight education modules containing evidence-based lesson plans developed by Advocates for Youth, Answer, and the Sexuality Information and Education Council

## COMPREHENSIVE SEX EDUCATION

of the United States (SIECUS) (Sex Initiative, 2012) were administered by the DNP project coordinator. The Rights, Respect, Responsibility curriculum was developed from over 30 years of analyzing sexual health education programs yielding development of one comprehensive and versatile program displaying lesson plans available for youth ages Kindergarten through 12<sup>th</sup> grade. The goal of the program was to arm youth with information and techniques that they need to reduce their risk for unwanted pregnancy and STIs/STDs, including HIV. The curriculum represents National Sex Education Standards, including organized content specific to each grade level. It was also developed to effectively meet the needs of all students regardless of gender, race, or sexual orientation (Schroeder, Goldfarb, & Gelperin, 2015). The structured information is made available via the internet and free for use. Utilizing the curriculum material does not require specific training to do so, however Advocates for Youth does have training available to teachers but there is cost associated with this (N. Gelperin, personal communication, November 8, 2019).

The curriculum was developed by Elizabeth Schroeder, Ed.D., MSW, Eva Goldfarb, Ph.D., and Nora Gelperin, M.Ed. These individuals were also involved in the creation of the National Sexuality Education Standards: Core Content and Skills K-12 (Hauser, 2015) which provides guidance on essential core curriculum for sexuality education that is age and developmentally appropriate for students grades K-12 (SIECUS, n.d.a). These standards were developed to address inconsistencies in sex education delivery throughout the nation and the limited time set forth teaching the topics (SIECUS, n.d.b). The curriculum developed by these individuals, incorporates effective program components identified in the document, *Tool to Assess the Characteristics of Effective*

## COMPREHENSIVE SEX EDUCATION

*Sex and STD/HIV Education Programs* by Kirby, Rolleri, and Wilson (2007).

Permission to use components of this curriculum was not warranted based on the intended use of the curriculum by developers as indicated in Appendix I.

**Project Procedure.** Prior to implementation of the curriculum, weekly meetings between the DNP Project Coordinator and the school Health instructor were completed with intent to organize content material from the Advocates for Youth Rights, Respect, and Responsibility K-12 Curriculum. Following organization of lessons, proposal was made to school administrators including the superintendent, assistant principal, and district curriculum advisors. Approval was given for implementation of the curriculum to the students.

A parent notification letter (Appendix G) was initially sent out to parents of the students, delineating the material that was discussed in the class over eight class sessions. Students are required to take the Health course provided by the school for graduation, so students received the content as a part of the standardized curriculum. The students did have the option to decline taking the pre and post-tests.

A pre-test was administered one week prior to the implementation of the intervention to measure baseline knowledge incorporating questions pertaining to specifically STIs/STDs, risky sexual behavior, and identification of barrier methods. The pre-test was delivered to the students via school district appointed Chromebooks in class by the Health instructor. Students were given notecards with random four-digit codes with links to the pre-test. Two sessions were delivered per week by the DNP Project Coordinator, who had experience in substitute teaching, using the Advocates for Youth Rights, Respect, Responsibility curriculum, to the students for

## COMPREHENSIVE SEX EDUCATION

four weeks with information on the subjects. Eight sessions of 50 minutes each contained lectures, group activities, peer interaction, a guest speaker, homework activities, and inclusion of parents (Appendix H).

Lectures included information on the topics of interest from the curriculum followed by class discussion of communication, relationships, sexual health safety, HIV/AIDS and STIs/STDs, contraception, and pregnancy. Group activities and peer interaction applied critical thinking in risky behavior situations, communication techniques amongst peers, role playing, identifying methods of contraception, and playing STI/STD jeopardy. Homework activities included journaling activities, worksheets, reading articles and answering questions that assessed understanding of the material, and exit slips including student evaluation of activities and discussion of topics with parents. Topics of interest included abstinence, decision making, healthy relationships, personal safety, HIV/AIDS and sexually transmitted infections and diseases, and contraception and pregnancy prevention.

Two weeks following the intervention, a post-test, with the same content administered in the pre-test, was delivered to the target population in the same classroom setting by the Health instructor via Chromebooks, assessing the students' ability to identify risky sexual behaviors, STIs/STDs, along with interventions to protect themselves against STIs/STDs, HIV, and pregnancy. The post-test consisted of a five-digit code within the post-test link. The five-digit code linked to the previously taken pre-test so that the scores were representative of the same students' scores taking both test(s).

## COMPREHENSIVE SEX EDUCATION

**Ethical considerations.** The curriculum was developed to be inclusive to all students from varying backgrounds such as different family dynamics, differing cultural backgrounds and ethnicities, alternative sexual orientation, and differing gender identities. The curriculum is offered in both English and Spanish, however, all students were proficient in the English language (personal communication, Chris Engelby, September 30, 2019). Different phrasing techniques were included by the developers to guide instructors with ways to communicate effectively to varying backgrounds while continuing to support those students.

Student identities were protected during the project by disseminating note cards with links to the pre-test and post-test with random assignment of pre and post-test specific numbers. The link directed the students to their own assigned pre/post tests without revealing identifying information specific to the student(s).

**Results**

The information was evaluated using the SAS Statistical Analysis platform (SAS Institute, n.d.) in collaboration with Dr. Gemechis Djira Ph. D., using two-sided hypothesis testing to reveal two-way frequency tables, histograms for total scores, and to run the Signed Rank Test for comparing pre and post-test scores. Significance level was set at 0.05. Results yielded a statistically significant increase overall in student scores with the ability to recognize and correctly differentiate STIs/STDs ( $p = 0.007$ ). Results did not yield a statistically significant increase in identification of risky sexual behaviors ( $p = 0.215$ ), or correct identification of barrier methods in the event of sexual contact ( $p = 0.078$ ). See Appendix F for delineation of question break-down pertinent to PICOT outcomes, and Appendix J for full data sets.

## COMPREHENSIVE SEX EDUCATION

A comparison was made between scores of the pre-intervention and post-intervention tests of each student, as well as identification of the difference in scores between class periods. Overall results of 43-10<sup>th</sup> grade student test scores determined statistically significant increase in scores following the initiation of the curriculum with  $p = 0.004$ .

Interpretation of data compiled for the fourth hour class containing 17-10<sup>th</sup> grade students, revealed no statistical significance with the application of the intervention. The data revealed  $p = 0.950$ . The sixth hour class, containing 11-10<sup>th</sup> grade students, revealed  $p = 0.019$ , meaning statistically significant improvement in scores, as well as the seventh hour class containing 15-10<sup>th</sup> grade students, revealed  $p = 0.003$ .

During the intervention, no students opted out of classroom instruction or taking the pre and/or post-test. The pre-test, curriculum material and post-test were also made available to the students in the event of an unexpected absence from school or absence due to school-related event. Outcomes revealed the identification of areas for improvement in the sexual education curriculum, use of protection methods, and ways students can initiate safer sexual practices.

### **Discussion**

The outcome of the project included an increase in knowledge of the target population related to the subjects discussed. Students' ability to adequately identify risky sexual situations, and correct identification of barrier methods to utilize with sexual intercourse were not impacted. Increased knowledge level does not mean decision making skills are representative of the knowledge held, or that they are inversely related. Data had shown a heavy weight on positive knowledge gains from STI/STD education,

## COMPREHENSIVE SEX EDUCATION

with inadequate results with regards to behavioral components. Although students may be knowledgeable and aware of STIs/STDs, students may not opt for avoidance of risky sexual behaviors or apply barrier methods prior to sexual intercourse.

Clinically, there may or may not be sustained rates of STIs/STDs diagnoses based on the evidence that adolescents are not correctly identifying situations in which to practice safer sex. The results reveal adolescent knowledge level of STIs/STDs did in fact increase. Overall, statistical significance revealed positive learning outcomes following the intervention. More discussion on STIs/STDs should take place in classroom setting due to statistically significant increased awareness and knowledge of STIs/STDs produced, however, non-statistically significant scores with regards to identification of risky sexual behaviors and identification and intention to use barrier methods during sexual intercourse need more research and attention.

**Barriers.** Barriers included limited student availability and time constraints on physical class time, potential skewed answers on pre and post-tests based on non-truthful submissions, and a limited racial/ethnic/cultural difference in the population. In addition, physical demonstrations with models (which are encouraged by curriculum developers) were not approved by the school board, curriculum directors, and student oversight personnel due to the graphic nature of the demonstration and fear of parental backlash (personal communication, Jake Tietje, November 4, 2019).

### **Implications for Practice**

The impact on the school district can be described as increased knowledge levels of STIs/STDs in 10<sup>th</sup> grade students. Alterations in the curriculum material will be made

## COMPREHENSIVE SEX EDUCATION

to encourage behavioral changes that produces healthier students. The curriculum material is free to use and has no financial implications.

Results of the project will be disseminated as means to encourage curriculum changes and sexual health advocacy, resulting in policy changes for curriculum material being administered in the high school. Utilization of the material will also encourage policy changes starting in the elementary school that encourage healthy behaviors starting at younger age levels.

Many pathways of education and understanding have been taken in society to encourage awareness of gender identity, and lesbian/gay/bisexual/transsexual/queer (LGBTQ) individuals. It is recommended that students become more aware of these developments and understand the nature behind them as well (Advocates for Youth, n.d.). At this time, it was discussed by school administrators that while these items are in fact important, there needs to be further discussion and awareness in the community before implementing more detailed curriculum on these subjects (personal communication, Joe Brown, November 4, 2019).

Initiation of protective sexual health can help protect people from all different backgrounds by reducing risky sexual behaviors and helping to reduce the financial burden STIs/STDs impose on society. Implementing consistent programs in public school settings can address multiple areas of differing socioeconomic statuses, racial differences, and targets a different population (i.e. adolescents and young adults) that have different modalities of learning and needs specific to developmental factors.

For nurse practitioners (NPs), those participating in the education of adolescents can positively impact youth, while reinforcing preventative health measures.

## COMPREHENSIVE SEX EDUCATION

Engagement will open discussion of sex and sexual behaviors while encouraging use of contraception, to adequately prevent STIs/STDs, HIV, and/or pregnancy. From a clinical perspective, NPs can expect more conversations with adolescents with regards to sexual health, obtaining appropriate screening, and a reduction of STIs/STDs, HIV, and pregnancy diagnoses.

**Limitations.** Limitations included a small sample size to where the outcomes cannot be generalized to the entire population, limited class time (50 minutes per class period), and a restricted time frame for implementation. Educational points with demonstration were not permissible, this was the first planned implementation of the curriculum so constant development and reorganization of teaching strategies needed to occur, and variability of student schedules.

**Sustainability.** The curriculum had shown success in two out of three class periods, and utilization of curriculum content in future classes will be initiated by the Health instructor. Following conclusion of the project, a presentation and discussion will be held with school administrators and curriculum advisors with the intention to evolve the sex education curriculum in the Middle and High school and implement material in the Elementary school for students K-6. The curriculum proposed has been designed for the entire student body population (grades K-12), and utilization of the curriculum early could potentiate further positive outcomes.

### **Recommendations for Future Projects**

Future implementation should include physical demonstrations of condom use on models in the classroom; involvement of parents/caregivers directly into the curriculum

## COMPREHENSIVE SEX EDUCATION

sessions, and more detailed information on gender identity, and lesbian/gay/bisexual/transsexual/queer (LGBTQ) individuals.

### **Conclusion**

Implementation of recommended comprehensive sexual education curriculum to adolescents and young adults can help reduce the risk of STIs/STDs, HIV, and pregnancy. There are gaps in practice due to the lacking mandatory standardized, evidence-based material in the school setting. Inconsistent, purely abstinence-based education is not enough to produce behavioral change in adolescents/young adults, and implementation of comprehensive sex education has positively influenced knowledge levels of STIs/STDs. More research in behavioral components are needed to further encourage identification of risky situations and use of protective barriers methods to prevent adverse health outcomes in 10<sup>th</sup> grade adolescents at a rural Midwestern high school.

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**Appendix A**  
**University IRB Approval**

  
**SOUTH DAKOTA  
STATE UNIVERSITY**

**Human Subjects Research Decision Chart**

86%

[← Back](#) [Exit Survey](#) 

Your study/research/project **IS NOT** Human Subjects Research. No application to the IRB is required.

Questions?  
Contact us at:  
[sdsu.irb@sdstate.edu](mailto:sdsu.irb@sdstate.edu)  
<https://www.sdstate.edu/research-and-economic-development/research-compliance-human-subjects>

[Next](#)

Approved by Dr. Robin Arends December 9, 2019.

## COMPREHENSIVE SEX EDUCATION

**Appendix B**  
**Facility Approval**



714 Victoria Street • Suite 103 • Fairmont, MN 56031  
Phone: 507-238-4234 • Fax: 507-235-4050 • Website: [fairmont.k12.mn.us](http://fairmont.k12.mn.us)

November 11, 2019

Ms. McKenzie Terfehr  
223 200<sup>th</sup> Avenue  
Fairmont, MN 56031

Dear Ms. Terfehr,

Thank you for presenting our health teachers and school board curriculum committee with your proposed personal relationship curriculum. This letter serves as official approval for you to proceed with implementation of that curriculum at the high school level.

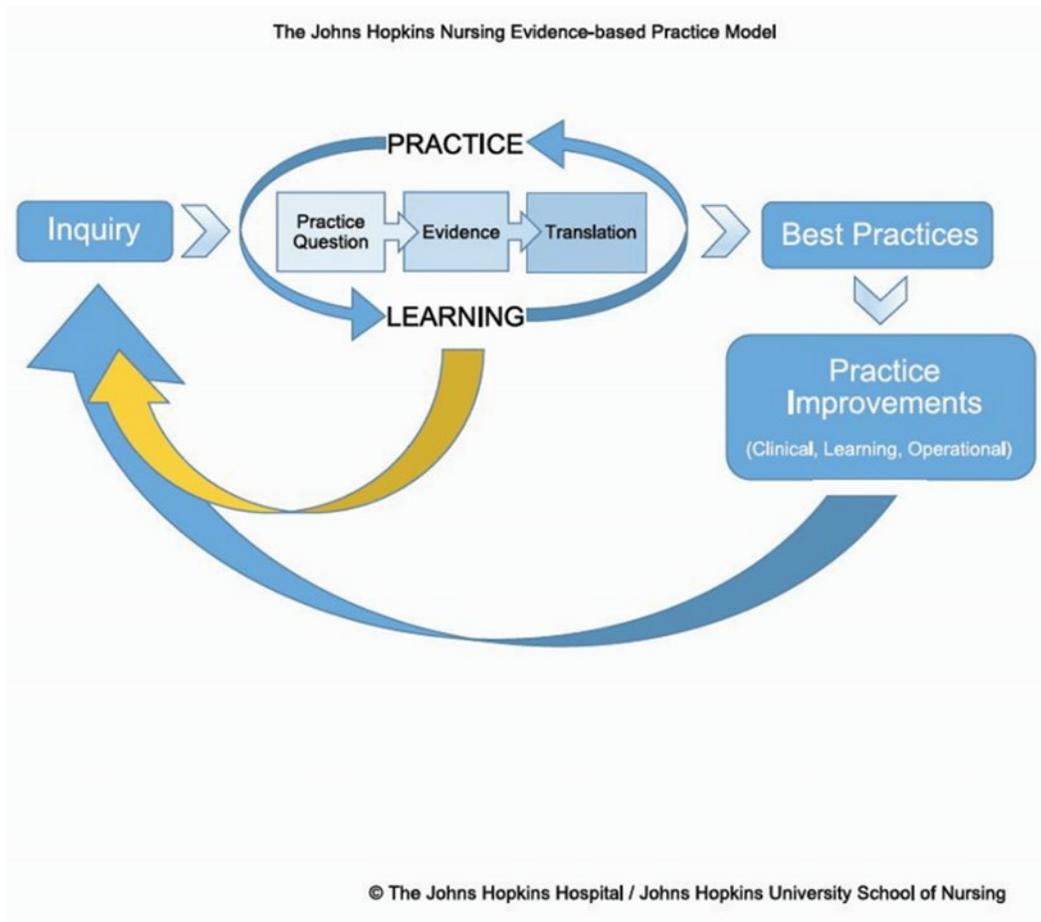
Thank you for your interest in serving our students.

Sincerely,

Joseph E. Brown, Sr.  
Superintendent

### Appendix C

### DNP Project Tools



## Appendix D

### Appropriate Project-Specific Forms or Document

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## JHNEBP MODEL AND TOOLS- PERMISSION



Thank you for your submission. We are happy to give you permission to use the JHNEBP model and tools in adherence of our legal terms noted below:

- 
- You may not modify the model or the tools without written approval from Johns Hopkins.
  - All reference to source forms should include "©The Johns Hopkins Hospital/The Johns Hopkins University."
  - The tools may not be used for commercial purposes without special permission.

If interested in commercial use or discussing changes to the tool, please email [ijhn@jhmi.edu](mailto:ijhn@jhmi.edu).

**Appendix E**

**Assessment of Knowledge Pre/Post Test Questions**

**The Sexually Transmitted Disease Knowledge Questionnaire  
(STD-KQ; Jaworski & Carey, 2007)**

**Instructions:** For each statement below, please circle true (T), false (F), or I don't know (DK). If you don't know, please do not guess; instead, please circle DK.

	True	False	Don't Know
1. Genital Herpes is caused by the same virus as HIV.	T	F	DK
2. Frequent urinary infections can cause Chlamydia.	T	F	DK
3. There is a cure for Gonorrhea.	T	F	DK
4. It is easier to get HIV if a person has another Sexually Transmitted Disease.	T	F	DK
5. Human Papillomavirus (HPV) is caused by the same virus that causes HIV.	T	F	DK
6. Having anal sex increases a person's risk of getting Hepatitis B.	T	F	DK
7. Soon after infection with HIV a person develops open sores on his or her genitals (penis or vagina).	T	F	DK
8. There is a cure for Chlamydia.	T	F	DK
9. A woman who has Genital Herpes can pass the infection to her baby during childbirth.	T	F	DK
10. A woman can look at her body and tell if she has Gonorrhea.	T	F	DK
11. The same virus causes all of the Sexually Transmitted Diseases.	T	F	DK
12. Human Papillomavirus (HPV) can cause Genital Warts.	T	F	DK
13. Using a natural skin (lambskin) condom can protect a person from getting HIV.	T	F	DK
14. Human Papillomavirus (HPV) can lead to cancer in women.	T	F	DK
15. A man must have vaginal sex to get Genital Warts.	T	F	DK
16. Sexually Transmitted Diseases can lead to health problems that are usually more serious for men than women.	T	F	DK
17. A woman can tell that she has Chlamydia if she has a bad smelling odor from her vagina.	T	F	DK
18. If a person tests positive for HIV the test can tell how sick the person will become.	T	F	DK
19. There is a vaccine available to prevent a person from getting Gonorrhea.	T	F	DK
20. A woman can tell by the way her body feels if she has a Sexually Transmitted Disease.	T	F	DK
21. A person who has Genital Herpes must have open sores to give the infection to his or her sexual partner.	T	F	DK
22. There is a vaccine that prevents a person from getting Chlamydia.	T	F	DK
23. A man can tell by the way his body feels if he has Hepatitis B.	T	F	DK
24. If a person had Gonorrhea in the past he or she is immune (protected) from getting it again.	T	F	DK
25. Human Papillomavirus (HPV) can cause HIV.	T	F	DK
26. A man can protect himself from getting Genital Warts by washing his genitals after sex.	T	F	DK
27. There is a vaccine that can protect a person from getting Hepatitis B.	T	F	DK

## COMPREHENSIVE SEX EDUCATION

## Appendix F

## Assessment of Knowledge: Sexual Behaviors

1. The pull out method or withdrawal method prevents pregnancy 100% T/F
2. Which birth control method requires a prescription?
  - a. Pill
  - b. Condom
  - c. Diaphragm
  - d. IUD
3. Where can you obtain the pill? (Select all that apply)
  - a. Convenience store
  - b. Physician's office
  - c. Planned Parenthood
  - d. Sharing your friend's pills
4. A male condom cannot be used for sex protection if:
  - a. Expired
  - b. Torn or ripped
  - c. Used previously
  - d. Placed on penis incorrectly initially then put back on correctly
  - e. Used with oil-based lubricant
  - f. All of the above
5. You can still become pregnant:
  - a. During your menstrual cycle
  - b. Pre-ejaculate fluid touched the vaginal prior to intercourse
  - c. Taking birth control and oral antibiotics at the same time
  - d. All of the above
6. The correct way to put on a condom is to place it at the tip of the penis leaving no space at the top of the condom and unrolling it all the way to the base of the penis. T/F
7. What is the most effective way to prevent pregnancy?
  - a. Condom
  - b. Abstinence
  - c. IUD
  - d. Birth control
8. What is the most effective way to prevent STDs?
  - a. Birth control pills
  - b. Male condom
  - c. IUD
  - d. All of the above
9. You can't get an STD from:
  - a. Vaginal sex
  - b. Anal intercourse
  - c. Neither
  - d. Both
10. Teens in a relationship should talk to their partner about sexual activity to:
  - a. Establish boundaries
  - b. Find out if their partner has engaged in risky sexual behavior
  - c. To decide if they should be tested for STDs
  - d. All of the above
11. If someone is less than 18 years old, you need your parent's permission to get a prescription for birth control in most states. T/F
12. What is the failure rate, resulting in pregnancy, for a latex male condom?
  - a. 1%
  - b. 3%
  - c. 11-16%
  - d. 21-25%
13. What is the failure rate, resulting in pregnancy for birth control pills?

## COMPREHENSIVE SEX EDUCATION

**Assessment of Knowledge: Sexual Behaviors**  
(continued)

- a. Less than 1%
  - b. 5%
  - c. 10%
  - d. 15%
14. Teens who talk to their parents about safe sex practices are more likely to:
- a. Delay having sex
  - b. Have sex
  - c. Have more sex partners
  - d. Both b and c
15. Who should use safe sex practices?
- a. Adults over 50
  - b. Adults 20-30
  - c. Adults 30-40
  - d. Everyone

Questionnaire scoring

Correct: 2

Don't Know: 1

Incorrect: 0

Question identification related to PICOT question outcomes

STI/STD Identification – (both questionnaires combined)

1, 2, 3, 4, 5, 7, 8, 9, 10, 11, 12, 14, 16, 17, 18, 19, 20, 22, 23, 24, 25, 27

Risky sexual behaviors

6, 15, 21, 26, 28, 32, 34, 36, 37, 41, 42

Barrier method identification

13, 29, 30, 31, 33, 35, 38, 39, 40

**Appendix G**  
**Parent Notification Letter**

## COMPREHENSIVE SEX EDUCATION

**Upcoming Health-Relationship Unit**

Dear Parent or Guardian:

This school year your child will receive sexuality education as part of the Fairmont School District overall health education curriculum. The school district will be partnering with area health care professionals sharing their expertise on the topics and presenting comprehensive sexual education curriculum recommended by the Centers for Disease Control and Prevention and Advocates for Youth organization. Topics will include:

- Abstinence
- Decision Making
- Healthy Relationships
- Personal Safety
- HIV/AIDS and Sexually Transmitted Infections (STDs)
- Contraception and Pregnancy Prevention

You are welcome to contact your child's Health Teacher to preview the lessons we'll be teaching your child. If you feel uncomfortable with any of the lessons, your child can be given an alternative assignment co-created with the instructor and completed out of class. To contact Mrs. Engelby, please email her at [cengelbv@fairmont.k12.mn.us](mailto:cengelbv@fairmont.k12.mn.us) to set up a time to meet to review the curriculum.

The Fairmont School District acknowledges that parents/guardians are the primary sexuality educators for their child/children and we are committed to partnering with you to provide supplementary resources to support you in this role. The curriculum presented meets components of education recommended by the Centers for Disease Control and Prevention (CDC). The CDC's National Health Education Standards being met are listed in addition to this notification.

Sincerely,

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Mrs. Engelby, Health Instructor

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Jake Tietje, Co-Principal

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Alex Schmidt, Co-Principal

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Joe Brown, Superintendent

## COMPREHENSIVE SEX EDUCATION

(continued)

## CDC Healthy Schools: National Health Education Standards

## Performance Indicators

<p>Standard 1 – Students will comprehend concepts related to health promotion and disease prevention to enhance health.</p> <p>1.12.1 1.12.2 1.12.5 1.12.6 1.12.7 1.12.8 1.12.9</p>	<p>Standard 2 – Students will analyze the influence of family, peers, culture, media, technology, and other factors on health behaviors.</p> <p>2.12.1 2.12.3 2.12.4 2.12.5 2.12.6 2.12.7 2.12.8 2.12.9 2.12.10</p>	<p>Standard 3 – Students will demonstrate the ability to access valid information, products, and services to enhance health.</p> <p>3.12.1 3.12.2 3.12.3 3.12.4 3.12.5</p>	<p>Standard 4 – Students will demonstrate the ability to use interpersonal communication skill to enhance health and avoid or reduce health risks.</p> <p>4.12.1 4.12.2 4.12.3 4.12.4</p>
<p>Standard 5 – Students will demonstrate the ability to use decision-making skills to enhance health.</p> <p>5.12.1 5.12.2 5.12.3 5.12.4 5.12.5 5.12.6 5.12.7</p>	<p>Standard 6 – Students will demonstrate the ability to use goal-setting skills to enhance health.</p> <p>6.12.1 6.12.2 6.12.4</p>	<p>Standard 7 – Students will demonstrate the ability to practice health-enhancing behaviors and avoid or reduce health risks.</p> <p>7.12.1 7.12.2 7.12.3</p>	<p>Standard 8 – Students will demonstrate the ability to advocate for personal, family, and community health.</p> <p>8.12.1 8.12.2 8.12.3 8.12.4</p>

Please refer to <https://www.cdc.gov/healthyschools/sher/standards/1.htm> for detailed description of performance indicators listed above.

## Appendix H

### Curriculum Details

Day	Objectives	Curriculum	In-class activity	Homework
Day 1	<ul style="list-style-type: none"> <li>Identifying healthy relationships and applying healthy communication to situations between two people</li> </ul>	<p>Choose Your Words carefully</p> <p>Healthy or Unhealthy Relationships</p>	<p>Open group discussion in class</p> <p>Activity 1 – how to communicate about something important</p> <p>Activity 2 – identifying healthy versus unhealthy relationships</p>	No homework
Day 2	<ul style="list-style-type: none"> <li>Name at least two people or entities from which young people receive messages about relationships and sexuality.</li> <li>Describe at least one message young people might receive about sex and sexuality from each of these sources.</li> <li>Explain how these messages can have an impact on a young person's sexual decision-making.</li> <li>Reflect on how examining these influences can have</li> </ul>	<p>The World Around Me</p> <p>Using Technology Respectfully and Responsibly</p> <p>Talking without Speaking: The Role of Texting in Relationships</p>	<p>Group activity in class – Leah/Malik scenario</p> <p>Pornography addiction statistics discussion</p>	Journal activity

## COMPREHENSIVE SEX EDUCATION

	<p>an impact on their self-concept and body image, which can affect their own sexual decision making in the future.</p> <ul style="list-style-type: none"> <li>• Define what sexting is. Describe two disadvantages and two reasons why someone may sext.</li> <li>• Identify at least two connections between child pornography and sexting laws.</li> <li>• Describe at least two facts relating to sexting laws in their state.</li> <li>• Explain at least two options for people involved in sexting situations.</li> </ul>			
Day 3	<p>Define the terms “consent,” “coercion” and “incapacitated.” Differentiate between a situation in which consent is clearly given and one in which it is not.</p> <p>Demonstrate an understanding of how giving and getting clear consent is part of a respectful relationship.</p> <p>Define sexual intercourse</p> <p>Apply the decision-making model to a scenario relating to pregnancy/STI/STD</p>	<p>Reproduction Basics</p> <p>Rights, Respect, Responsibility – Don’t Have Sex Without Them</p> <p>Decisions, Decisions</p>	<p>Lecture/Class discussion</p> <p>Class discussion What’s your DOGMA?</p> <p>MYTH vs FACT in class</p>	No homework

## COMPREHENSIVE SEX EDUCATION

	prevention and safer sex.			
Day 4	<p>STI/STD Lecture</p> <ol style="list-style-type: none"> <li>1.) Describe at least two ways in which STIs/STDs, including HIV, can be transmitted.</li> <li>2.) Name at least one step they plan to take personally to reduce or eliminate their chances of contracting an STI/STD.</li> <li>3.) Name at least one health center in their area to which they can go for STI/STD testing and treatment that is affordable and confidential.</li> <li>4.) Name at least three facts about STI/STD symptoms.</li> <li>5.) Describe at least three facts about STI/STD testing.</li> <li>6.) Apply knowledge about STI/STD symptoms and testing to hypothetical</li> </ol>	<p>STD Smarts</p> <p>STD Basics: Reducing Your Risks</p>	<p>STI/STD Jeopardy</p> <p>Class Discussion</p>	<p>Article: Taking Charge of My Sexual Health with STD Testing &amp; Communication</p> <p>Journal Entry</p>

## COMPREHENSIVE SEX EDUCATION

	<p>situations relating to safer sex.</p> <p>7. Name a clinic or center in the area that provides STI/STD testing.</p>			
Day 5	1. STI/STD Lecture		Dr. Buchholz OB/GYN Guest speaker	No homework
Day 6	<p>STIs/STDs</p> <ol style="list-style-type: none"> <li>Name at least three facts about STD symptoms.</li> <li>Describe at least three facts about STD testing.</li> <li>Apply knowledge about STD symptoms and testing to hypothetical situations relating to safer sex.</li> <li>Know your accurate online resources about STDs - handout</li> </ol>	<p>STD Smarts</p> <p>Trust It or Trash It</p>	Pam Stenzel Video	<p>STD Smarts – Myth versus Fact Quiz</p> <p>Pam Stenzel video – journal entry questions</p> <p>Exit slips – engage parents – have sign off on Exit slips noting acknowledgment of discussion of material</p> <p>Handout – accurate STD resources</p>
Day 7	<ol style="list-style-type: none"> <li>List at least 3 methods of effective birth control</li> <li>Analyze three factors that have an impact on a teen’s ability to successfully use birth control.</li> <li>List at least 2 reasons a teen can use birth control that are independent from pregnancy.</li> <li>Describe the impact of correct and</li> </ol>	<p>Birth Control Basics</p> <p>You’re your Options</p> <p>Using Condoms Effectively</p> <p>Creating Condom Confidence</p>	<p>What are my rights? Quiz and discussion</p> <p>Group activity - identifying appropriate birth control methods</p> <p>Group discussion: “Which One is Not True.”</p>	

## COMPREHENSIVE SEX EDUCATION

	<p>consistent use of birth control</p> <p>5. State correctly what emergency contraception is.</p> <p>6. Describe correctly and in order, the steps to using an external condom</p>			
Day 8	<p>1.Name at least two stereotypes associated with why many people value the gender binary of “boys” and “girls.”</p> <p>2.Analyze at least two sources of gendered messages and expectations that exist within their culture.</p> <p>3.Describe at least one connection between gender expectations and discomfort around non-heterosexual orientations.</p>	<p>Blue is for Boys; Pink is for Girls... Or Are They?</p>	<p>Group Activities</p> <p>Class Discussion</p>	<p>Worksheet: Martin and Tia</p>

## Appendix I

### **Permission for Use: Advocates for Youth: Rights, Respect, Responsibility Curriculum**

Hi McKenzie-

Thanks for reaching out and since the 3Rs is designed for use with schools we don't have anything specific that a school needs to do in order to use it. You're welcome to just take it and run with it.

Thanks, Nora



COMPREHENSIVE SEX EDUCATION

Appendix J

Results: Frequency tables with analysis of comparison of individual questions

Fourth period

Table of Q1_Pre by Q1_Post					
Q1_Pre(Q1_Pre)	Q1_Post(Q1_Post)			Total	Frequency Percent Row Pct
	0	1	2		
0	7 41.18 77.78	1 5.88 11.11	1 5.88 11.11	9 52.94	
1	1 5.88 33.33	0 0.00 0.00	2 11.76 66.67	3 17.65	
2	3 17.65 60.00	0 0.00 0.00	2 11.76 40.00	5 29.41	
Total	11 64.71	1 5.88	5 29.41	17 100.00	

Table of Q4_Pre by Q4_Post					
Q4_Pre(Q4_Pre)	Q4_Post(Q4_Post)			Total	Frequency Percent Row Pct
	0	1	2		
0	1 5.88 50.00	0 0.00 0.00	1 5.88 50.00	2 11.76	
1	1 5.88 33.33	0 0.00 0.00	2 11.76 66.67	3 17.65	
2	0 0.00 0.00	1 5.88 8.33	11 64.71 91.67	12 70.59	
Total	2 11.76	1 5.88	14 82.35	17 100.00	

Table of Q7_Pre by Q7_Post					
Q7_Pre(Q7_Pre)	Q7_Post(Q7_Post)			Total	Frequency Percent Row Pct
	0	1	2		
0	7 41.18 53.85	2 11.76 15.38	4 23.53 30.77	13 76.47	
1	2 11.76 100.00	0 0.00 0.00	0 0.00 0.00	2 11.76	
2	1 5.88 50.00	0 0.00 0.00	1 5.88 50.00	2 11.76	
Total	10 58.82	2 11.76	5 29.41	17 100.00	

Table of Q2_Pre by Q2_Post					
Q2_Pre(Q2_Pre)	Q2_Post(Q2_Post)			Total	Frequency Percent Row Pct
	0	1	2		
0	5 29.41 62.50	2 11.76 25.00	1 5.88 12.50	8 47.06	
1	2 11.76 100.00	0 0.00 0.00	0 0.00 0.00	2 11.76	
2	3 17.65 42.86	0 0.00 0.00	4 23.53 57.14	7 41.18	
Total	10 58.82	2 11.76	5 29.41	17 100.00	

Table of Q5_Pre by Q5_Post					
Q5_Pre(Q5_Pre)	Q5_Post(Q5_Post)			Total	Frequency Percent Row Pct
	0	1	2		
0	3 17.65 60.00	1 5.88 20.00	2 11.76 20.00	5 29.41	
1	2 11.76 100.00	0 0.00 0.00	0 0.00 0.00	2 11.76	
2	4 23.53 40.00	0 0.00 0.00	6 35.29 60.00	10 58.82	
Total	9 52.94	1 5.88	7 41.18	17 100.00	

Table of Q8_Pre by Q8_Post					
Q8_Pre(Q8_Pre)	Q8_Post(Q8_Post)			Total	Frequency Percent Row Pct
	0	1	2		
0	5 29.41 41.67	1 5.88 8.33	6 35.29 50.00	12 70.59	
1	0 0.00 0.00	0 0.00 0.00	1 5.88 100.00	1 5.88	
2	2 11.76 50.00	0 0.00 0.00	2 11.76 50.00	4 23.53	
Total	7 41.18	1 5.88	9 52.94	17 100.00	

Table of Q3_Pre by Q3_Post					
Q3_Pre(Q3_Pre)	Q3_Post(Q3_Post)			Total	Frequency Percent Row Pct
	0	1	2		
0	3 17.65 27.27	1 5.88 9.09	7 41.18 63.64	11 64.71	
1	0 0.00 0.00	0 0.00 0.00	2 11.76 100.00	2 11.76	
2	1 5.88 25.00	0 0.00 0.00	3 17.65 75.00	4 23.53	
Total	4 23.53	1 5.88	12 70.59	17 100.00	

Table of Q6_Pre by Q6_Post				
Q6_Pre(Q6_Pre)	Q6_Post(Q6_Post)		Total	Frequency Percent Row Pct
	0	2		
0	1 5.88 100.00	0 0.00 0.00	1 5.88	
1	1 5.88 25.00	3 17.65 75.00	4 23.53	
2	8 47.06 66.67	4 23.53 33.33	12 70.59	
Total	10 58.82	7 41.18	17 100.00	

Table of Q9_Pre by Q9_Post				
Q9_Pre(Q9_Pre)	Q9_Post(Q9_Post)		Total	Frequency Percent Row Pct
	0	2		
0	5 29.41 71.43	2 11.76 28.57	7 41.18	
1	1 5.88 50.00	1 5.88 50.00	2 11.76	
2	2 11.76 25.00	6 35.29 75.00	8 47.06	
Total	8 47.06	9 52.94	17 100.00	

COMPREHENSIVE SEX EDUCATION

Results: Frequency tables with analysis of comparison of individual questions

Fourth period

Frequency Percent Row Pct

Table of Q10_Pre by Q10_Post			
Q10_Pre(Q10_Pre)	Q10_Post(Q10_Post)		
	1	2	Total
0	0 0.00 0.00	3 17.65 100.00	3 17.65
1	0 0.00 0.00	1 5.88 100.00	1 5.88
2	1 5.88 7.69	12 70.59 92.31	13 76.47
<b>Total</b>	1 5.88	16 94.12	17 100.00

Frequency Percent Row Pct

Table of Q13_Pre by Q13_Post				
Q13_Pre(Q13_Pre)	Q13_Post(Q13_Post)			
	0	1	2	Total
0	0 0.00 0.00	0 0.00 0.00	3 17.65 100.00	3 17.65
1	0 0.00 0.00	1 5.88 50.00	1 5.88 50.00	2 11.76
2	5 29.41 41.67	1 5.88 8.33	6 35.29 50.00	12 70.59
<b>Total</b>	5 29.41	2 11.76	10 58.82	17 100.00

Frequency Percent Row Pct

Table of Q16_Pre by Q16_Post				
Q16_Pre(Q16_Pre)	Q16_Post(Q16_Post)			
	0	1	2	Total
0	3 18.75 75.00	0 0.00 0.00	1 6.25 25.00	4 25.00
1	1 6.25 50.00	0 0.00 0.00	1 6.25 50.00	2 12.50
2	3 18.75 30.00	1 6.25 10.00	6 37.50 60.00	10 62.50
<b>Total</b>	7 43.75	1 6.25	8 50.00	16 100.00

Frequency Missing = 1

Frequency Percent Row Pct

Table of Q11_Pre by Q11_Post			
Q11_Pre(Q11_Pre)	Q11_Post(Q11_Post)		
	0	2	Total
0	0 0.00 0.00	2 11.76 100.00	2 11.76
1	1 5.88 100.00	0 0.00 0.00	1 5.88
2	2 11.76 14.29	12 70.59 85.71	14 82.35
<b>Total</b>	3 17.65	14 82.35	17 100.00

Frequency Percent Row Pct

Table of Q14_Pre by Q14_Post				
Q14_Pre(Q14_Pre)	Q14_Post(Q14_Post)			
	0	1	2	Total
0	2 11.76 50.00	0 0.00 0.00	2 11.76 50.00	4 23.53
1	3 17.65 75.00	1 5.88 25.00	0 0.00 0.00	4 23.53
2	1 5.88 11.11	0 0.00 0.00	8 47.06 88.89	9 52.94
<b>Total</b>	6 35.29	1 5.88	10 58.82	17 100.00

Frequency Percent Row Pct

Table of Q17_Pre by Q17_Post				
Q17_Pre(Q17_Pre)	Q17_Post(Q17_Post)			
	0	1	2	Total
0	7 41.18 87.50	0 0.00 0.00	1 5.88 12.50	8 47.06
1	1 5.88 33.33	2 11.76 66.67	0 0.00 0.00	3 17.65
2	4 23.53 66.67	0 0.00 0.00	2 11.76 33.33	6 35.29
<b>Total</b>	12 70.59	2 11.76	3 17.65	17 100.00

Frequency Percent Row Pct

Table of Q12_Pre by Q12_Post			
Q12_Pre(Q12_Pre)	Q12_Post(Q12_Post)		
	0	2	Total
0	0 0.00 0.00	3 17.65 100.00	3 17.65
1	0 0.00 0.00	1 5.88 100.00	1 5.88
2	2 11.76 15.38	11 64.71 84.62	13 76.47
<b>Total</b>	2 11.76	15 88.24	17 100.00

Frequency Percent Row Pct

Table of Q15_Pre by Q15_Post				
Q15_Pre(Q15_Pre)	Q15_Post(Q15_Post)			
	0	1	2	Total
0	0 0.00 0.00	1 5.88 50.00	1 5.88 50.00	2 11.76
2	7 41.18 46.67	0 0.00 0.00	8 47.06 53.33	15 88.24
<b>Total</b>	7 41.18	1 5.88	9 52.94	17 100.00

Frequency Percent Row Pct

Table of Q18_Pre by Q18_Post			
Q18_Pre(Q18_Pre)	Q18_Post(Q18_Post)		
	0	2	Total
0	4 23.53 80.00	1 5.88 20.00	5 29.41
1	1 5.88 20.00	4 23.53 80.00	5 29.41
2	2 11.76 28.57	5 29.41 71.43	7 41.18
<b>Total</b>	7 41.18	10 58.82	17 100.00

COMPREHENSIVE SEX EDUCATION

Results: Frequency tables with analysis of comparison of individual questions

Fourth period

Frequency Percent Row Pct

Table of Q19_Pre by Q19_Post			
Q19_Pre(Q19_Pre)	Q19_Post(Q19_Post)		
	0	2	Total
0	2 11.76 40.00	3 17.65 60.00	5 29.41
1	2 11.76 66.67	1 5.88 33.33	3 17.65
2	5 29.41 55.56	4 23.53 44.44	9 52.94
<b>Total</b>	9 52.94	8 47.06	17 100.00

Frequency Percent Row Pct

Table of Q22_Pre by Q22_Post			
Q22_Pre(Q22_Pre)	Q22_Post(Q22_Post)		
	0	2	Total
0	4 23.53 100.00	0 0.00 0.00	4 23.53
1	2 11.76 100.00	0 0.00 0.00	2 11.76
2	7 41.18 63.64	4 23.53 36.36	11 64.71
<b>Total</b>	13 76.47	4 23.53	17 100.00

Frequency Percent Row Pct

Table of Q25_Pre by Q25_Post			
Q25_Pre(Q25_Pre)	Q25_Post(Q25_Post)		
	0	2	Total
0	5 29.41 50.00	5 29.41 50.00	10 58.82
1	1 5.88 100.00	0 0.00 0.00	1 5.88
2	5 29.41 83.33	1 5.88 16.67	6 35.29
<b>Total</b>	11 64.71	6 35.29	17 100.00

Frequency Percent Row Pct

Table of Q20_Pre by Q20_Post			
Q20_Pre(Q20_Pre)	Q20_Post(Q20_Post)		
	0	2	Total
0	4 23.53 57.14	3 17.65 42.86	7 41.18
1	2 11.76 66.67	1 5.88 33.33	3 17.65
2	1 5.88 14.29	6 35.29 85.71	7 41.18
<b>Total</b>	7 41.18	10 58.82	17 100.00

Frequency Percent Row Pct

Table of Q23_Pre by Q23_Post				
Q23_Pre(Q23_Pre)	Q23_Post(Q23_Post)			
	0	1	2	Total
0	2 11.76 40.00	1 5.88 20.00	2 11.76 40.00	5 29.41
1	2 11.76 66.67	0 0.00 0.00	1 5.88 33.33	3 17.65
2	3 17.65 33.33	0 0.00 0.00	6 35.29 66.67	9 52.94
<b>Total</b>	7 41.18	1 5.88	9 52.94	17 100.00

Frequency Percent Row Pct

Table of Q26_Pre by Q26_Post			
Q26_Pre(Q26_Pre)	Q26_Post(Q26_Post)		
	0	2	Total
0	5 29.41 100.00	0 0.00 0.00	5 29.41
1	2 11.76 66.67	1 5.88 33.33	3 17.65
2	5 29.41 55.56	4 23.53 44.44	9 52.94
<b>Total</b>	12 70.59	5 29.41	17 100.00

Frequency Percent Row Pct

Table of Q21_Pre by Q21_Post				
Q21_Pre(Q21_Pre)	Q21_Post(Q21_Post)			
	0	1	2	Total
0	3 17.65 75.00	1 5.88 25.00	0 0.00 0.00	4 23.53
1	3 17.65 100.00	0 0.00 0.00	0 0.00 0.00	3 17.65
2	3 17.65 30.00	0 0.00 0.00	7 41.18 70.00	10 58.82
<b>Total</b>	9 52.94	1 5.88	7 41.18	17 100.00

Frequency Percent Row Pct

Table of Q24_Pre by Q24_Post			
Q24_Pre(Q24_Pre)	Q24_Post(Q24_Post)		
	0	2	Total
0	3 17.65 60.00	2 11.76 40.00	5 29.41
2	3 17.65 25.00	9 52.94 75.00	12 70.59
<b>Total</b>	6 35.29	11 64.71	17 100.00

Frequency Percent Row Pct

Table of Q27_Pre by Q27_Post			
Q27_Pre(Q27_Pre)	Q27_Post(Q27_Post)		
	0	2	Total
0	6 35.29 75.00	2 11.76 25.00	8 47.06
1	0 0.00 0.00	1 5.88 100.00	1 5.88
2	2 11.76 25.00	6 35.29 75.00	8 47.06
<b>Total</b>	8 47.06	9 52.94	17 100.00

COMPREHENSIVE SEX EDUCATION

Results: Frequency tables with analysis of comparison of individual questions

Fourth period

Frequency Percent Row Pct	Table of Q28_Pre by Q28_Post			
	Q28_Pre(Q28_Pre)	Q28_Post(Q28_Post)		
		0	2	Total
0	0 0.00 0.00	1 5.88 100.00	1 5.88	
1	0 0.00 0.00	1 5.88 100.00	1 5.88	
2	3 17.65 20.00	12 70.59 80.00	15 88.24	
<b>Total</b>	3 17.65	14 82.35	17 100.00	

Frequency Percent Row Pct	Table of Q29_Pre by Q29_Post			
	Q29_Pre(Q29_Pre)	Q29_Post(Q29_Post)		
		0	2	Total
0	14 82.35 100.00	0 0.00 0.00	14 82.35	
2	1 5.88 33.33	2 11.76 66.67	3 17.65	
<b>Total</b>	15 88.24	2 11.76	17 100.00	

Frequency Percent Row Pct	Table of Q30_Pre by Q30_Post			
	Q30_Pre(Q30_Pre)	Q30_Post(Q30_Post)		
		0	2	Total
0	5 29.41 62.50	3 17.65 37.50	8 47.06	
2	1 5.88 11.11	8 47.06 88.89	9 52.94	
<b>Total</b>	6 35.29	11 64.71	17 100.00	

Frequency Percent Row Pct	Table of Q31_Pre by Q31_Post			
	Q31_Pre(Q31_Pre)	Q31_Post(Q31_Post)		
		0	2	Total
0	2 11.76 100.00	0 0.00 0.00	2 11.76	
2	1 5.88 6.67	14 82.35 93.33	15 88.24	
<b>Total</b>	3 17.65	14 82.35	17 100.00	

Frequency Percent Row Pct	Table of Q32_Pre by Q32_Post			
	Q32_Pre(Q32_Pre)	Q32_Post(Q32_Post)		
		0	2	Total
0	2 11.76 66.67	1 5.88 33.33	3 17.65	
2	1 5.88 7.14	13 76.47 92.86	14 82.35	
<b>Total</b>	3 17.65	14 82.35	17 100.00	

Frequency Percent Row Pct	Table of Q33_Pre by Q33_Post			
	Q33_Pre(Q33_Pre)	Q33_Post(Q33_Post)		
		0	2	Total
0	12 70.59 85.71	2 11.76 14.29	14 82.35	
2	2 11.76 66.67	1 5.88 33.33	3 17.65	
<b>Total</b>	14 82.35	3 17.65	17 100.00	

Frequency Percent Row Pct	Table of Q34_Pre by Q34_Post			
	Q34_Pre(Q34_Pre)	Q34_Post(Q34_Post)		
		0	2	Total
0	4 23.53 57.14	3 17.65 42.86	7 41.18	
2	1 5.88 10.00	9 52.94 90.00	10 58.82	
<b>Total</b>	5 29.41	12 70.59	17 100.00	

Frequency Percent Row Pct	Table of Q35_Pre by Q35_Post			
	Q35_Pre(Q35_Pre)	Q35_Post(Q35_Post)		
		0	2	Total
0	9 52.94 69.23	4 23.53 30.77	13 76.47	
2	3 17.65 75.00	1 5.88 25.00	4 23.53	
<b>Total</b>	12 70.59	5 29.41	17 100.00	

Frequency Percent Row Pct	Table of Q36_Pre by Q36_Post			
	Q36_Pre(Q36_Pre)	Q36_Post(Q36_Post)		
		0	2	Total
0	3 17.65 50.00	3 17.65 50.00	6 35.29	
2	3 17.65 27.27	8 47.06 72.73	11 64.71	
<b>Total</b>	6 35.29	11 64.71	17 100.00	

COMPREHENSIVE SEX EDUCATION

Results: Frequency tables with analysis of comparison of individual questions

Fourth period

Frequency Percent Row Pct	Table of Q37_Pre by Q37_Post			
	Q37_Pre(Q37_Pre)	Q37_Post(Q37_Post)		Total
		0	2	
0	3 17.65 75.00	1 5.88 25.00	4 23.53	
2	0 0.00 0.00	13 76.47 100.00	13 76.47	
<b>Total</b>	3 17.65	14 82.35	17 100.00	

Frequency Percent Row Pct	Table of Q40_Pre by Q40_Post			
	Q40_Pre(Q40_Pre)	Q40_Post(Q40_Post)		Total
		0	2	
0	10 58.82 90.91	1 5.88 9.09	11 64.71	
2	3 17.65 50.00	3 17.65 50.00	6 35.29	
<b>Total</b>	13 76.47	4 23.53	17 100.00	

Frequency Percent Row Pct	Table of Q38_Pre by Q38_Post			
	Q38_Pre(Q38_Pre)	Q38_Post(Q38_Post)		Total
		0	2	
0	5 29.41 31.25	11 64.71 68.75	16 94.12	
2	0 0.00 0.00	1 5.88 100.00	1 5.88	
<b>Total</b>	5 29.41	12 70.59	17 100.00	

Frequency Percent Row Pct	Table of Q41_Pre by Q41_Post			
	Q41_Pre(Q41_Pre)	Q41_Post(Q41_Post)		Total
		0	2	
0	4 23.53 44.44	5 29.41 55.56	9 52.94	
2	2 11.76 25.00	6 35.29 75.00	8 47.06	
<b>Total</b>	6 35.29	11 64.71	17 100.00	

Frequency Percent Row Pct	Table of Q39_Pre by Q39_Post			
	Q39_Pre(Q39_Pre)	Q39_Post(Q39_Post)		Total
		0	2	
0	9 52.94 69.23	4 23.53 30.77	13 76.47	
2	2 11.76 50.00	2 11.76 50.00	4 23.53	
<b>Total</b>	11 64.71	6 35.29	17 100.00	

Frequency Percent Row Pct	Table of Q42_Pre by Q42_Post			
	Q42_Pre(Q42_Pre)	Q42_Post(Q42_Post)		Total
		0	2	
0	2 11.76 66.67	1 5.88 33.33	3 17.65	
2	1 5.88 7.14	13 76.47 92.86	14 82.35	
<b>Total</b>	3 17.65	14 82.35	17 100.00	

COMPREHENSIVE SEX EDUCATION

Results: Frequency tables with analysis of comparison of individual questions

Sixth period

Frequency  
Percent  
Row Pct

Table of Q1_Pre by Q1_Post				
Q1_Pre(Q1_Pre)	Q1_Post(Q1_Post)			Total
	0	1	2	
0	0 0.00 0.00	0 0.00 0.00	3 27.27 100.00	3 27.27
1	1 9.09 33.33	2 18.18 66.67	0 0.00 0.00	3 27.27
2	0 0.00 0.00	0 0.00 0.00	5 45.45 100.00	5 45.45
<b>Total</b>	1 9.09	2 18.18	8 72.73	11 100.00

Frequency  
Percent  
Row Pct

Table of Q4_Pre by Q4_Post				
Q4_Pre(Q4_Pre)	Q4_Post(Q4_Post)			Total
	0	1	2	
0	2 18.18 100.00	0 0.00 0.00	0 0.00 0.00	2 18.18
1	1 9.09 33.33	1 9.09 33.33	1 9.09 33.33	3 27.27
2	1 9.09 16.67	1 9.09 16.67	4 36.36 66.67	6 54.55
<b>Total</b>	4 36.36	2 18.18	5 45.45	11 100.00

Frequency  
Percent  
Row Pct

Table of Q7_Pre by Q7_Post				
Q7_Pre(Q7_Pre)	Q7_Post(Q7_Post)			Total
	0	1	2	
0	5 45.45 62.50	0 0.00 0.00	3 27.27 37.50	8 72.73
1	0 0.00 0.00	1 9.09 100.00	0 0.00 0.00	1 9.09
2	0 0.00 0.00	0 0.00 0.00	2 18.18 100.00	2 18.18
<b>Total</b>	5 45.45	1 9.09	5 45.45	11 100.00

Frequency  
Percent  
Row Pct

Table of Q2_Pre by Q2_Post				
Q2_Pre(Q2_Pre)	Q2_Post(Q2_Post)			Total
	0	1	2	
0	3 27.27 50.00	0 0.00 0.00	3 27.27 50.00	6 54.55
1	0 0.00 0.00	2 18.18 100.00	0 0.00 0.00	2 18.18
2	0 0.00 0.00	1 9.09 33.33	2 18.18 66.67	3 27.27
<b>Total</b>	3 27.27	3 27.27	5 45.45	11 100.00

Frequency  
Percent  
Row Pct

Table of Q5_Pre by Q5_Post			
Q5_Pre(Q5_Pre)	Q5_Post(Q5_Post)		Total
	0	2	
0	2 18.18 33.33	4 36.36 66.67	6 54.55
2	1 9.09 20.00	4 36.36 80.00	5 45.45
<b>Total</b>	3 27.27	8 72.73	11 100.00

Frequency  
Percent  
Row Pct

Table of Q8_Pre by Q8_Post				
Q8_Pre(Q8_Pre)	Q8_Post(Q8_Post)			Total
	0	1	2	
0	2 18.18 66.67	0 0.00 0.00	1 9.09 33.33	3 27.27
1	0 0.00 0.00	1 9.09 50.00	1 9.09 50.00	2 18.18
2	1 9.09 16.67	0 0.00 0.00	5 45.45 83.33	6 54.55
<b>Total</b>	3 27.27	1 9.09	7 63.64	11 100.00

Frequency  
Percent  
Row Pct

Table of Q3_Pre by Q3_Post				
Q3_Pre(Q3_Pre)	Q3_Post(Q3_Post)			Total
	0	1	2	
0	3 27.27 75.00	1 9.09 25.00	0 0.00 0.00	4 36.36
1	0 0.00 0.00	1 9.09 100.00	0 0.00 0.00	1 9.09
2	1 9.09 16.67	0 0.00 0.00	5 45.45 83.33	6 54.55
<b>Total</b>	4 36.36	2 18.18	5 45.45	11 100.00

Frequency  
Percent  
Row Pct

Table of Q6_Pre by Q6_Post				
Q6_Pre(Q6_Pre)	Q6_Post(Q6_Post)			Total
	0	1	2	
0	2 18.18 66.67	0 0.00 0.00	1 9.09 33.33	3 27.27
1	1 9.09 33.33	2 18.18 66.67	0 0.00 0.00	3 27.27
2	1 9.09 20.00	0 0.00 0.00	4 36.36 80.00	5 45.45
<b>Total</b>	4 36.36	2 18.18	5 45.45	11 100.00

Frequency  
Percent  
Row Pct

Table of Q9_Pre by Q9_Post				
Q9_Pre(Q9_Pre)	Q9_Post(Q9_Post)			Total
	0	1	2	
0	1 9.09 100.00	0 0.00 0.00	0 0.00 0.00	1 9.09
1	1 9.09 33.33	1 9.09 33.33	1 9.09 33.33	3 27.27
2	1 9.09 14.29	0 0.00 0.00	6 54.55 85.71	7 63.64
<b>Total</b>	3 27.27	1 9.09	7 63.64	11 100.00

COMPREHENSIVE SEX EDUCATION

Results: Frequency tables with analysis of comparison of individual questions

Sixth period

Table of Q10_Pre by Q10_Post				
Q10_Pre(Q10_Pre)	Q10_Post(Q10_Post)			Total
	1	2		
0	0 0.00	2 18.18 100.00	2	2 18.18
1	1 9.09 100.00	0 0.00	1	1 9.09
2	0 0.00	8 72.73 100.00	8	8 72.73
<b>Total</b>	1 9.09	10 90.91	11	11 100.00

Table of Q13_Pre by Q13_Post				
Q13_Pre(Q13_Pre)	Q13_Post(Q13_Post)			Total
	0	1	2	
1	0 0.00	1 9.09 100.00	0 0.00	1 9.09
2	5 45.45 50.00	0 0.00	5 45.45 50.00	10 90.91
<b>Total</b>	5 45.45	1 9.09	5 45.45	11 100.00

Table of Q16_Pre by Q16_Post				
Q16_Pre(Q16_Pre)	Q16_Post(Q16_Post)			Total
	0	1	2	
0	1 9.09 33.33	0 0.00	2 18.18 66.67	3 27.27
1	0 0.00	1 9.09 33.33	2 18.18 66.67	3 27.27
2	0 0.00	1 9.09 20.00	4 36.36 80.00	5 45.45
<b>Total</b>	1 9.09	2 18.18	8 72.73	11 100.00

Table of Q11_Pre by Q11_Post				
Q11_Pre(Q11_Pre)	Q11_Post(Q11_Post)			Total
	1	2		
0	0 0.00	3 27.27 100.00	3	3 27.27
1	1 9.09 50.00	1 9.09 50.00	2	2 18.18
2	0 0.00	6 54.55 100.00	6	6 54.55
<b>Total</b>	1 9.09	10 90.91	11	11 100.00

Table of Q14_Pre by Q14_Post				
Q14_Pre(Q14_Pre)	Q14_Post(Q14_Post)			Total
	0	1	2	
0	1 9.09 33.33	0 0.00	2 18.18 66.67	3 27.27
1	0 0.00	1 9.09 50.00	1 9.09 50.00	2 18.18
2	1 9.09 16.67	1 9.09 16.67	4 36.36 66.67	6 54.55
<b>Total</b>	2 18.18	2 18.18	7 63.64	11 100.00

Table of Q17_Pre by Q17_Post				
Q17_Pre(Q17_Pre)	Q17_Post(Q17_Post)			Total
	0	1	2	
0	1 9.09 50.00	1 9.09 50.00	0 0.00	2 18.18
1	18.18 66.67	9.09 33.33	0 0.00	27.27
2	3 27.27 50.00	0 0.00	3 27.27 50.00	6 54.55
<b>Total</b>	6 54.55	2 18.18	3 27.27	11 100.00

Table of Q12_Pre by Q12_Post				
Q12_Pre(Q12_Pre)	Q12_Post(Q12_Post)			Total
	1	2		
0	0 0.00	3 27.27 100.00	3	3 27.27
1	1 9.09 100.00	0 0.00	1	1 9.09
2	0 0.00	7 63.64 100.00	7	7 63.64
<b>Total</b>	1 9.09	10 90.91	11	11 100.00

Table of Q15_Pre by Q15_Post				
Q15_Pre(Q15_Pre)	Q15_Post(Q15_Post)			Total
	1	2		
0	0 0.00	1 9.09 100.00	1	1 9.09
1	1 9.09 50.00	1 9.09 50.00	2	2 18.18
2	0 0.00	8 72.73 100.00	8	8 72.73
<b>Total</b>	1 9.09	10 90.91	11	11 100.00

Table of Q18_Pre by Q18_Post				
Q18_Pre(Q18_Pre)	Q18_Post(Q18_Post)			Total
	0	1	2	
0	1 9.09 33.33	1 9.09 33.33	1 9.09 33.33	3 27.27
1	0 0.00	1 9.09 100.00	0 0.00	1 9.09
2	1 9.09 14.29	0 0.00	6 54.55 85.71	7 63.64
<b>Total</b>	2 18.18	2 18.18	7 63.64	11 100.00

COMPREHENSIVE SEX EDUCATION

Results: Frequency tables with analysis of comparison of individual questions

Sixth period

Frequency  
Percent  
Row Pct

Table of Q19_Pre by Q19_Post				
Q19_Pre(Q19_Pre)	Q19_Post(Q19_Post)			
	0	1	2	Total
0	1 9.09 25.00	1 9.09 25.00	2 18.18 50.00	4 36.36
1	0 0.00 0.00	2 18.18 66.67	1 9.09 33.33	3 27.27
2	1 9.09 25.00	0 0.00 0.00	3 27.27 75.00	4 36.36
<b>Total</b>	2 18.18	3 27.27	6 54.55	11 100.00

Frequency  
Percent  
Row Pct

Table of Q22_Pre by Q22_Post				
Q22_Pre(Q22_Pre)	Q22_Post(Q22_Post)			
	0	1	2	Total
0	3 27.27 60.00	1 9.09 20.00	1 9.09 20.00	5 45.45
1	1 9.09 50.00	1 9.09 50.00	0 0.00 0.00	2 18.18
2	2 18.18 50.00	0 0.00 0.00	2 18.18 50.00	4 36.36
<b>Total</b>	6 54.55	2 18.18	3 27.27	11 100.00

Frequency  
Percent  
Row Pct

Table of Q25_Pre by Q25_Post				
Q25_Pre(Q25_Pre)	Q25_Post(Q25_Post)			
	0	1	2	Total
0	1 9.09 25.00	0 0.00 0.00	3 27.27 75.00	4 36.36
1	1 9.09 50.00	1 9.09 50.00	0 0.00 0.00	2 18.18
2	1 9.09 20.00	0 0.00 0.00	4 36.36 80.00	5 45.45
<b>Total</b>	3 27.27	1 9.09	7 63.64	11 100.00

Frequency  
Percent  
Row Pct

Table of Q20_Pre by Q20_Post				
Q20_Pre(Q20_Pre)	Q20_Post(Q20_Post)			
	0	1	2	Total
0	1 9.09 33.33	0 0.00 0.00	2 18.18 66.67	3 27.27
1	0 0.00 0.00	1 9.09 100.00	0 0.00 0.00	1 9.09
2	1 9.09 14.29	0 0.00 0.00	6 54.55 85.71	7 63.64
<b>Total</b>	2 18.18	1 9.09	8 72.73	11 100.00

Frequency  
Percent  
Row Pct

Table of Q23_Pre by Q23_Post				
Q23_Pre(Q23_Pre)	Q23_Post(Q23_Post)			
	0	1	2	Total
0	2 18.18 50.00	0 0.00 0.00	2 18.18 50.00	4 36.36
1	1 9.09 50.00	1 9.09 50.00	0 0.00 0.00	2 18.18
2	0 0.00 0.00	0 0.00 0.00	5 45.45 100.00	5 45.45
<b>Total</b>	3 27.27	1 9.09	7 63.64	11 100.00

Frequency  
Percent  
Row Pct

Table of Q26_Pre by Q26_Post				
Q26_Pre(Q26_Pre)	Q26_Post(Q26_Post)			
	0	1	2	Total
0	1 9.09 50.00	0 0.00 0.00	1 9.09 50.00	2 18.18
1	1 9.09 33.33	1 9.09 33.33	1 9.09 33.33	3 27.27
2	0 0.00 0.00	0 0.00 0.00	6 54.55 100.00	6 54.55
<b>Total</b>	2 18.18	1 9.09	8 72.73	11 100.00

Frequency  
Percent  
Row Pct

Table of Q21_Pre by Q21_Post				
Q21_Pre(Q21_Pre)	Q21_Post(Q21_Post)			
	0	1	2	Total
0	1 9.09 50.00	0 0.00 0.00	1 9.09 50.00	2 18.18
1	0 0.00 0.00	2 18.18 100.00	0 0.00 0.00	2 18.18
2	0 0.00 0.00	0 0.00 0.00	7 63.64 100.00	7 63.64
<b>Total</b>	1 9.09	2 18.18	8 72.73	11 100.00

Frequency  
Percent  
Row Pct

Table of Q24_Pre by Q24_Post				
Q24_Pre(Q24_Pre)	Q24_Post(Q24_Post)			Total
	1	2	3	
0	0 0.00 0.00	3 27.27 100.00	3 27.27	3 27.27
1	1 9.09 100.00	0 0.00 0.00	1 9.09	1 9.09
2	0 0.00 0.00	7 63.64 100.00	7 63.64	7 63.64
<b>Total</b>	1 9.09	10 90.91	11 100.00	11 100.00

Frequency  
Percent  
Row Pct

Table of Q27_Pre by Q27_Post				
Q27_Pre(Q27_Pre)	Q27_Post(Q27_Post)			
	0	1	2	Total
0	1 9.09 50.00	0 0.00 0.00	1 9.09 50.00	2 18.18
1	1 9.09 33.33	2 18.18 66.67	0 0.00 0.00	3 27.27
2	0 0.00 0.00	0 0.00 0.00	6 54.55 100.00	6 54.55
<b>Total</b>	2 18.18	2 18.18	7 63.64	11 100.00

COMPREHENSIVE SEX EDUCATION

Results: Frequency tables with analysis of comparison of individual questions

Sixth period

Frequency  
Percent  
Row Pct

Table of Q28_Pre by Q28_Post			
Q28_Pre(Q28_Pre)	Q28_Post(Q28_Post)		
	1	2	Total
0	0 0.00 0.00	3 27.27 100.00	3 27.27
1	1 9.09 100.00	0 0.00 0.00	1 9.09
2	1 9.09 14.29	6 54.55 85.71	7 63.64
<b>Total</b>	2 18.18	9 81.82	11 100.00

Frequency  
Percent  
Row Pct

Table of Q31_Pre by Q31_Post			
Q31_Pre(Q31_Pre)	Q31_Post(Q31_Post)		
	0	2	Total
2	1 9.09 9.09	10 90.91 90.91	11 100.00
<b>Total</b>	1 9.09	10 90.91	11 100.00

Frequency  
Percent  
Row Pct

Table of Q35_Pre by Q35_Post			
Q35_Pre(Q35_Pre)	Q35_Post(Q35_Post)		
	0	2	Total
0	5 45.45 62.50	3 27.27 37.50	8 72.73
2	0 0.00 0.00	3 27.27 100.00	3 27.27
<b>Total</b>	5 45.45	6 54.55	11 100.00

Frequency  
Percent  
Row Pct

Table of Q29_Pre by Q29_Post			
Q29_Pre(Q29_Pre)	Q29_Post(Q29_Post)		
	0	2	Total
0	8 72.73 80.00	2 18.18 20.00	10 90.91
2	1 9.09 100.00	0 0.00 0.00	1 9.09
<b>Total</b>	9 81.82	2 18.18	11 100.00

Frequency  
Percent  
Row Pct

Table of Q32_Pre by Q32_Post			
Q32_Pre(Q32_Pre)	Q32_Post(Q32_Post)		
	0	2	Total
0	0 0.00 0.00	2 18.18 100.00	2 18.18
2	1 9.09 11.11	8 72.73 88.89	9 81.82
<b>Total</b>	1 9.09	10 90.91	11 100.00

Frequency  
Percent  
Row Pct

Table of Q36_Pre by Q36_Post			
Q36_Pre(Q36_Pre)	Q36_Post(Q36_Post)		
	0	2	Total
0	2 18.18 40.00	3 27.27 60.00	5 45.45
2	1 9.09 16.67	5 45.45 83.33	6 54.55
<b>Total</b>	3 27.27	8 72.73	11 100.00

Frequency  
Percent  
Row Pct

Table of Q30_Pre by Q30_Post			
Q30_Pre(Q30_Pre)	Q30_Post(Q30_Post)		
	0	2	Total
0	2 18.18 100.00	0 0.00 0.00	2 18.18
2	1 9.09 11.11	8 72.73 88.89	9 81.82
<b>Total</b>	3 27.27	8 72.73	11 100.00

Frequency  
Percent  
Row Pct

Table of Q33_Pre by Q33_Post			
Q33_Pre(Q33_Pre)	Q33_Post(Q33_Post)		
	0	2	Total
0	5 45.45 71.43	2 18.18 28.57	7 63.64
2	2 18.18 50.00	2 18.18 50.00	4 36.36
<b>Total</b>	7 63.64	4 36.36	11 100.00

Frequency  
Percent  
Row Pct

Table of Q37_Pre by Q37_Post			
Q37_Pre(Q37_Pre)	Q37_Post(Q37_Post)		
	0	2	Total
0	0 0.00 0.00	2 18.18 100.00	2 18.18
2	3 27.27 33.33	6 54.55 66.67	9 81.82
<b>Total</b>	3 27.27	8 72.73	11 100.00

Frequency  
Percent  
Row Pct

Table of Q34_Pre by Q34_Post			
Q34_Pre(Q34_Pre)	Q34_Post(Q34_Post)		
	0	2	Total
0	2 18.18 66.67	1 9.09 33.33	3 27.27
2	0 0.00 0.00	8 72.73 100.00	8 72.73
<b>Total</b>	2 18.18	9 81.82	11 100.00

COMPREHENSIVE SEX EDUCATION

Results: Frequency tables with analysis of comparison of individual questions

Sixth period

Frequency Percent Row Pct	Table of Q38_Pre by Q38_Post			
	Q38_Pre(Q38_Pre)	Q38_Post(Q38_Post)		
		0	2	Total
0	4 36.36 57.14	3 27.27 42.86	7 63.64	
2	1 9.09 25.00	3 27.27 75.00	4 36.36	
<b>Total</b>	5 45.45	6 54.55	11 100.00	

Frequency Percent Row Pct	Table of Q39_Pre by Q39_Post			
	Q39_Pre(Q39_Pre)	Q39_Post(Q39_Post)		
		0	2	Total
0	7 63.64 100.00	0 0.00 0.00	7 63.64	
2	1 9.09 25.00	3 27.27 75.00	4 36.36	
<b>Total</b>	8 72.73	3 27.27	11 100.00	

Frequency Percent Row Pct	Table of Q40_Pre by Q40_Post			
	Q40_Pre(Q40_Pre)	Q40_Post(Q40_Post)		
		0	2	Total
0	8 72.73 72.73	3 27.27 27.27	11 100.00	
<b>Total</b>	8 72.73	3 27.27	11 100.00	

Frequency Percent Row Pct	Table of Q41_Pre by Q41_Post			
	Q41_Pre(Q41_Pre)	Q41_Post(Q41_Post)		
		0	2	Total
0	1 9.09 16.67	5 45.45 83.33	6 54.55	
2	0 0.00 0.00	5 45.45 100.00	5 45.45	
<b>Total</b>	1 9.09	10 90.91	11 100.00	

Frequency Percent Row Pct	Table of Q42_Pre by Q42_Post			
	Q42_Pre(Q42_Pre)	Q42_Post(Q42_Post)		
		0	2	Total
0	0 0.00 0.00	2 18.18 100.00	2 18.18	
2	1 9.09 11.11	8 72.73 88.89	9 81.82	
<b>Total</b>	1 9.09	10 90.91	11 100.00	

COMPREHENSIVE SEX EDUCATION

Results: Frequency tables with analysis of comparison of individual questions

Seventh period

Frequency  
Percent  
Row Pct

Table of Q1_Pre by Q1_Post				
Q1_Pre(Q1_Pre)	Q1_Post(Q1_Post)			Total
	0	1	2	
0	5 33.33 100.00	0 0.00 0.00	0 0.00 0.00	5 33.33
1	3 20.00 60.00	1 6.67 20.00	1 6.67 20.00	5 33.33
2	2 13.33 40.00	1 6.67 20.00	2 13.33 40.00	5 33.33
<b>Total</b>	10 66.67	2 13.33	3 20.00	15 100.00

Frequency  
Percent  
Row Pct

Table of Q4_Pre by Q4_Post			
Q4_Pre(Q4_Pre)	Q4_Post(Q4_Post)		
	0	2	Total
0	0 0.00 0.00	1 6.67 100.00	1 6.67
1	0 0.00 0.00	6 40.00 100.00	6 40.00
2	1 6.67 12.50	7 46.67 87.50	8 53.33
<b>Total</b>	1 6.67	14 93.33	15 100.00

Frequency  
Percent  
Row Pct

Table of Q7_Pre by Q7_Post				
Q7_Pre(Q7_Pre)	Q7_Post(Q7_Post)			
	0	1	2	Total
0	0 0.00 0.00	2 13.33 50.00	2 13.33 50.00	4 26.67
1	4 26.67 44.44	1 6.67 11.11	4 26.67 44.44	9 60.00
2	0 0.00 0.00	1 6.67 50.00	1 6.67 50.00	2 13.33
<b>Total</b>	4 26.67	4 26.67	7 46.67	15 100.00

Frequency  
Percent  
Row Pct

Table of Q2_Pre by Q2_Post			
Q2_Pre(Q2_Pre)	Q2_Post(Q2_Post)		
	0	2	Total
0	4 26.67 66.67	2 13.33 33.33	6 40.00
1	2 13.33 33.33	4 26.67 66.67	6 40.00
2	0 0.00 0.00	3 20.00 100.00	3 20.00
<b>Total</b>	6 40.00	9 60.00	15 100.00

Frequency  
Percent  
Row Pct

Table of Q5_Pre by Q5_Post			
Q5_Pre(Q5_Pre)	Q5_Post(Q5_Post)		
	0	2	Total
0	7 46.67 58.33	5 33.33 41.67	12 80.00
2	1 6.67 33.33	2 13.33 66.67	3 20.00
<b>Total</b>	8 53.33	7 46.67	15 100.00

Frequency  
Percent  
Row Pct

Table of Q8_Pre by Q8_Post				
Q8_Pre(Q8_Pre)	Q8_Post(Q8_Post)			
	0	1	2	Total
0	2 13.33 50.00	2 13.33 50.00	0 0.00 0.00	4 26.67
1	5 33.33 83.33	0 0.00 0.00	1 6.67 16.67	6 40.00
2	1 6.67 20.00	0 0.00 0.00	4 26.67 80.00	5 33.33
<b>Total</b>	8 53.33	2 13.33	5 33.33	15 100.00

Frequency  
Percent  
Row Pct

Table of Q3_Pre by Q3_Post				
Q3_Pre(Q3_Pre)	Q3_Post(Q3_Post)			Total
	0	1	2	
0	1 6.67 16.67	1 6.67 16.67	4 26.67 66.67	6 40.00
1	2 13.33 40.00	0 0.00 0.00	3 20.00 60.00	5 33.33
2	0 0.00 0.00	0 0.00 0.00	4 26.67 100.00	4 26.67
<b>Total</b>	3 20.00	1 6.67	11 73.33	15 100.00

Frequency  
Percent  
Row Pct

Table of Q6_Pre by Q6_Post				
Q6_Pre(Q6_Pre)	Q6_Post(Q6_Post)			Total
	0	1	2	
0	1 6.67 33.33	1 6.67 33.33	1 6.67 33.33	3 20.00
1	1 6.67 20.00	1 6.67 20.00	3 20.00 60.00	5 33.33
2	1 6.67 14.29	1 6.67 14.29	5 33.33 71.43	7 46.67
<b>Total</b>	3 20.00	3 20.00	9 60.00	15 100.00

Frequency  
Percent  
Row Pct

Table of Q9_Pre by Q9_Post				
Q9_Pre(Q9_Pre)	Q9_Post(Q9_Post)			
	0	1	2	Total
0	0 0.00 0.00	0 0.00 0.00	1 6.67 100.00	1 6.67
1	1 6.67 25.00	1 6.67 25.00	2 13.33 50.00	4 26.67
2	2 13.33 20.00	0 0.00 0.00	8 53.33 80.00	10 66.67
<b>Total</b>	3 20.00	1 6.67	11 73.33	15 100.00

COMPREHENSIVE SEX EDUCATION

Results: Frequency tables with analysis of comparison of individual questions

Seventh period

Frequency  
Percent  
Row Pct

Table of Q10_Pre by Q10_Post			
Q10_Pre(Q10_Pre)	Q10_Post(Q10_Post)		
	1	2	Total
0	0 0.00 0.00	1 6.67 100.00	1 6.67
1	1 6.67 14.29	6 40.00 85.71	7 46.67
2	0 0.00 0.00	7 46.67 100.00	7 46.67
<b>Total</b>	1 6.67	14 93.33	15 100.00

Frequency  
Percent  
Row Pct

Table of Q13_Pre by Q13_Post				
Q13_Pre(Q13_Pre)	Q13_Post(Q13_Post)			
	0	1	2	Total
0	1 6.67 100.00	0 0.00 0.00	0 0.00 0.00	1 6.67
1	6 40.00 85.71	0 0.00 0.00	1 6.67 14.29	7 46.67
2	2 13.33 28.57	1 6.67 14.29	4 26.67 57.14	7 46.67
<b>Total</b>	9 60.00	1 6.67	5 33.33	15 100.00

Frequency  
Percent  
Row Pct

Table of Q16_Pre by Q16_Post				
Q16_Pre(Q16_Pre)	Q16_Post(Q16_Post)			
	0	1	2	Total
0	1 6.67 50.00	1 6.67 50.00	0 0.00 0.00	2 13.33
1	3 20.00 50.00	0 0.00 0.00	3 20.00 50.00	6 40.00
2	0 0.00 0.00	2 13.33 28.57	5 33.33 71.43	7 46.67
<b>Total</b>	4 26.67	3 20.00	8 53.33	15 100.00

Frequency  
Percent  
Row Pct

Table of Q11_Pre by Q11_Post				
Q11_Pre(Q11_Pre)	Q11_Post(Q11_Post)			
	0	1	2	Total
0	0 0.00 0.00	0 0.00 0.00	1 6.67 100.00	1 6.67
1	1 6.67 16.67	1 6.67 16.67	4 26.67 66.67	6 40.00
2	2 13.33 25.00	0 0.00 0.00	6 40.00 75.00	8 53.33
<b>Total</b>	3 20.00	1 6.67	11 73.33	15 100.00

Frequency  
Percent  
Row Pct

Table of Q14_Pre by Q14_Post				
Q14_Pre(Q14_Pre)	Q14_Post(Q14_Post)			
	0	1	2	Total
0	0 0.00 0.00	0 0.00 0.00	1 6.67 100.00	1 6.67
1	1 6.67 14.29	1 6.67 14.29	5 33.33 71.43	7 46.67
2	0 0.00 0.00	0 0.00 0.00	7 46.67 100.00	7 46.67
<b>Total</b>	1 6.67	1 6.67	13 86.67	15 100.00

Frequency  
Percent  
Row Pct

Table of Q17_Pre by Q17_Post				
Q17_Pre(Q17_Pre)	Q17_Post(Q17_Post)			
	0	1	2	Total
0	6 40.00 85.71	0 0.00 0.00	1 6.67 14.29	7 46.67
1	5 33.33 100.00	0 0.00 0.00	0 0.00 0.00	5 33.33
2	1 6.67 33.33	1 6.67 33.33	1 6.67 33.33	3 20.00
<b>Total</b>	12 80.00	1 6.67	2 13.33	15 100.00

Frequency  
Percent  
Row Pct

Table of Q12_Pre by Q12_Post				
Q12_Pre(Q12_Pre)	Q12_Post(Q12_Post)			
	0	1	2	Total
0	0 0.00 0.00	0 0.00 0.00	1 6.67 100.00	1 6.67
1	1 6.67 11.11	1 6.67 11.11	7 46.67 77.78	9 60.00
2	1 6.67 20.00	0 0.00 0.00	4 26.67 80.00	5 33.33
<b>Total</b>	2 13.33	1 6.67	12 80.00	15 100.00

Frequency  
Percent  
Row Pct

Table of Q15_Pre by Q15_Post				
Q15_Pre(Q15_Pre)	Q15_Post(Q15_Post)			
	0	1	2	Total
1	1 6.67 14.29	1 6.67 14.29	5 33.33 71.43	7 46.67
2	0 0.00 0.00	0 0.00 0.00	8 53.33 100.00	8 53.33
<b>Total</b>	1 6.67	1 6.67	13 86.67	15 100.00

Frequency  
Percent  
Row Pct

Table of Q18_Pre by Q18_Post			
Q18_Pre(Q18_Pre)	Q18_Post(Q18_Post)		
	1	2	Total
0	0 0.00 0.00	2 13.33 100.00	2 13.33
1	0 0.00 0.00	5 33.33 100.00	5 33.33
2	1 6.67 12.50	7 46.67 87.50	8 53.33
<b>Total</b>	1 6.67	14 93.33	15 100.00

COMPREHENSIVE SEX EDUCATION

Results: Frequency tables with analysis of comparison of individual questions

Seventh period

Frequency  
Percent  
Row Pct

Table of Q19_Pre by Q19_Post				
Q19_Pre(Q19_Pre)	Q19_Post(Q19_Post)			Total
	0	1	2	
0	0 0.00 0.00	2 13.33 66.67	1 6.67 33.33	3 20.00
1	3 20.00 42.86	0 0.00	4 26.67 57.14	7 46.67
2	1 6.67 20.00	2 13.33 40.00	2 13.33 40.00	5 33.33
<b>Total</b>	4 26.67	4 26.67	7 46.67	15 100.00

Frequency  
Percent  
Row Pct

Table of Q22_Pre by Q22_Post				
Q22_Pre(Q22_Pre)	Q22_Post(Q22_Post)			Total
	0	1	2	
0	1 6.67 100.00	0 0.00 0.00	0 0.00 0.00	1 6.67
1	3 20.00 42.86	0 0.00	4 26.67 57.14	7 46.67
2	1 6.67 14.29	1 6.67 14.29	5 33.33 71.43	7 46.67
<b>Total</b>	5 33.33	1 6.67	9 60.00	15 100.00

Frequency  
Percent  
Row Pct

Table of Q25_Pre by Q25_Post				
Q25_Pre(Q25_Pre)	Q25_Post(Q25_Post)			Total
	0	1	2	
0	2 13.33 50.00	0 0.00	2 13.33 50.00	4 26.67
1	4 26.67 44.44	1 6.67 11.11	4 26.67 44.44	9 60.00
2	1 6.67 50.00	0 0.00	1 6.67 50.00	2 13.33
<b>Total</b>	7 46.67	1 6.67	7 46.67	15 100.00

Frequency  
Percent  
Row Pct

Table of Q20_Pre by Q20_Post				
Q20_Pre(Q20_Pre)	Q20_Post(Q20_Post)			Total
	0	1	2	
0	0 0.00 0.00	1 6.67 50.00	1 6.67 50.00	2 13.33
1	2 13.33 28.57	1 6.67 14.29	4 26.67 57.14	7 46.67
2	0 0.00 0.00	0 0.00	6 40.00 100.00	6 40.00
<b>Total</b>	2 13.33	2 13.33	11 73.33	15 100.00

Frequency  
Percent  
Row Pct

Table of Q23_Pre by Q23_Post				
Q23_Pre(Q23_Pre)	Q23_Post(Q23_Post)			Total
	0	1	2	
0	0 0.00 0.00	1 6.67 50.00	1 6.67 50.00	2 13.33
1	1 6.67 20.00	0 0.00	4 26.67 80.00	5 33.33
2	0 0.00 0.00	0 0.00	8 53.33 100.00	8 53.33
<b>Total</b>	1 6.67	1 6.67	13 86.67	15 100.00

Frequency  
Percent  
Row Pct

Table of Q26_Pre by Q26_Post				
Q26_Pre(Q26_Pre)	Q26_Post(Q26_Post)			Total
	0	1	2	
0	1 6.67 25.00	1 6.67 25.00	2 13.33 50.00	4 26.67
1	3 20.00 37.50	0 0.00	5 33.33 62.50	8 53.33
2	0 0.00 0.00	1 6.67 33.33	2 13.33 66.67	3 20.00
<b>Total</b>	4 26.67	2 13.33	9 60.00	15 100.00

Frequency  
Percent  
Row Pct

Table of Q21_Pre by Q21_Post				
Q21_Pre(Q21_Pre)	Q21_Post(Q21_Post)			Total
	0	1	2	
0	2 13.33 66.67	0 0.00	1 6.67 33.33	3 20.00
1	2 13.33 33.33	0 0.00	4 26.67 66.67	6 40.00
2	2 13.33 33.33	1 6.67	3 20.00 50.00	6 40.00
<b>Total</b>	6 40.00	1 6.67	8 53.33	15 100.00

Frequency  
Percent  
Row Pct

Table of Q24_Pre by Q24_Post			
Q24_Pre(Q24_Pre)	Q24_Post(Q24_Post)		Total
	0	2	
0	0 0.00 0.00	2 13.33 100.00	2 13.33
1	1 6.67 33.33	2 13.33 66.67	3 20.00
2	0 0.00 0.00	10 66.67 100.00	10 66.67
<b>Total</b>	1 6.67	14 93.33	15 100.00

Frequency  
Percent  
Row Pct

Table of Q27_Pre by Q27_Post				
Q27_Pre(Q27_Pre)	Q27_Post(Q27_Post)			Total
	0	1	2	
0	1 6.67 14.29	1 6.67 14.29	5 33.33 71.43	7 46.67
1	0 0.00 0.00	1 6.67 16.67	5 33.33 83.33	6 40.00
2	0 0.00 0.00	1 6.67 50.00	1 6.67 50.00	2 13.33
<b>Total</b>	1 6.67	3 20.00	11 73.33	15 100.00

COMPREHENSIVE SEX EDUCATION

Results: Frequency tables with analysis of comparison of individual questions

Seventh period

Frequency  
Percent  
Row Pct

Table of Q28_Pre by Q28_Post			
Q28_Pre(Q28_Pre)	Q28_Post(Q28_Post)		Total
	0	2	
0	1 6.67 100.00	0 0.00 0.00	1 6.67
1	0 0.00 0.00	3 20.00 100.00	3 20.00
2	0 0.00 0.00	11 73.33 100.00	11 73.33
<b>Total</b>	1 6.67	14 93.33	15 100.00

Frequency  
Percent  
Row Pct

Table of Q31_Pre by Q31_Post			
Q31_Pre(Q31_Pre)	Q31_Post(Q31_Post)		Total
	0	2	
0	0 0.00 0.00	3 20.00 100.00	3 20.00
2	1 6.67 8.33	11 73.33 91.67	12 80.00
<b>Total</b>	1 6.67	14 93.33	15 100.00

Frequency  
Percent  
Row Pct

Table of Q34_Pre by Q34_Post			
Q34_Pre(Q34_Pre)	Q34_Post(Q34_Post)		Total
	0	2	
0	2 13.33 66.67	1 6.67 33.33	3 20.00
2	0 0.00 0.00	12 80.00 100.00	12 80.00
<b>Total</b>	2 13.33	13 86.67	15 100.00

Frequency  
Percent  
Row Pct

Table of Q29_Pre by Q29_Post			
Q29_Pre(Q29_Pre)	Q29_Post(Q29_Post)		Total
	0	2	
0	10 66.67 76.92	3 20.00 23.08	13 86.67
2	0 0.00 0.00	2 13.33 100.00	2 13.33
<b>Total</b>	10 66.67	5 33.33	15 100.00

Frequency  
Percent  
Row Pct

Table of Q32_Pre by Q32_Post		
Q32_Pre(Q32_Pre)	Q32_Post(Q32_Post)	
	2	Total
0	1 6.67 100.00	1 6.67
2	14 93.33 100.00	14 93.33
<b>Total</b>	15 100.00	15 100.00

Frequency  
Percent  
Row Pct

Table of Q35_Pre by Q35_Post			
Q35_Pre(Q35_Pre)	Q35_Post(Q35_Post)		Total
	0	2	
0	6 40.00 54.55	5 33.33 45.45	11 73.33
2	1 6.67 25.00	3 20.00 75.00	4 26.67
<b>Total</b>	7 46.67	8 53.33	15 100.00

Frequency  
Percent  
Row Pct

Table of Q30_Pre by Q30_Post			
Q30_Pre(Q30_Pre)	Q30_Post(Q30_Post)		Total
	0	2	
0	0 0.00 0.00	1 6.67 100.00	1 6.67
2	2 13.33 14.29	12 80.00 85.71	14 93.33
<b>Total</b>	2 13.33	13 86.67	15 100.00

Frequency  
Percent  
Row Pct

Table of Q33_Pre by Q33_Post			
Q33_Pre(Q33_Pre)	Q33_Post(Q33_Post)		Total
	0	2	
0	4 26.67 50.00	4 26.67 50.00	8 53.33
2	0 0.00 0.00	7 46.67 100.00	7 46.67
<b>Total</b>	4 26.67	11 73.33	15 100.00

Frequency  
Percent  
Row Pct

Table of Q36_Pre by Q36_Post			
Q36_Pre(Q36_Pre)	Q36_Post(Q36_Post)		Total
	0	2	
0	2 13.33 40.00	3 20.00 60.00	5 33.33
2	4 26.67 40.00	6 40.00 60.00	10 66.67
<b>Total</b>	6 40.00	9 60.00	15 100.00

COMPREHENSIVE SEX EDUCATION

**Results: Frequency tables with analysis of comparison of individual questions**

Seventh period

Frequency  
Percent  
Row Pct

Table of Q37_Pre by Q37_Post			
Q37_Pre(Q37_Pre)	Q37_Post(Q37_Post)		
	0	2	Total
0	1 6.67 50.00	1 6.67 50.00	2 13.33
2	2 13.33 15.38	11 73.33 84.62	13 86.67
<b>Total</b>	3 20.00	12 80.00	15 100.00

Frequency  
Percent  
Row Pct

Table of Q40_Pre by Q40_Post			
Q40_Pre(Q40_Pre)	Q40_Post(Q40_Post)		
	0	2	Total
0	9 60.00 75.00	3 20.00 25.00	12 80.00
2	1 6.67 33.33	2 13.33 66.67	3 20.00
<b>Total</b>	10 66.67	5 33.33	15 100.00

Frequency  
Percent  
Row Pct

Table of Q38_Pre by Q38_Post			
Q38_Pre(Q38_Pre)	Q38_Post(Q38_Post)		
	0	2	Total
0	4 26.67 33.33	8 53.33 66.67	12 80.00
2	1 6.67 33.33	2 13.33 66.67	3 20.00
<b>Total</b>	5 33.33	10 66.67	15 100.00

Frequency  
Percent  
Row Pct

Table of Q41_Pre by Q41_Post			
Q41_Pre(Q41_Pre)	Q41_Post(Q41_Post)		
	0	2	Total
0	2 13.33 50.00	2 13.33 50.00	4 26.67
2	1 6.67 9.09	10 66.67 90.91	11 73.33
<b>Total</b>	3 20.00	12 80.00	15 100.00

Frequency  
Percent  
Row Pct

Table of Q39_Pre by Q39_Post			
Q39_Pre(Q39_Pre)	Q39_Post(Q39_Post)		
	0	2	Total
0	11 73.33 78.57	3 20.00 21.43	14 93.33
2	1 6.67 100.00	0 0.00 0.00	1 6.67
<b>Total</b>	12 80.00	3 20.00	15 100.00

Frequency  
Percent  
Row Pct

Table of Q42_Pre by Q42_Post			
Q42_Pre(Q42_Pre)	Q42_Post(Q42_Post)		
	0	2	Total
0	2 13.33 100.00	0 0.00 0.00	2 13.33
2	1 6.67 7.69	12 80.00 92.31	13 86.67
<b>Total</b>	3 20.00	12 80.00	15 100.00