

Increasing Awareness of Sexually Transmitted Infection Through Education:

A Quality Improvement Initiative

Dennia Thompson

Texas Woman's University

Author Note

Dennia Thompson, College of Nursing, Texas Woman's University

Committee Chair: Dr. Linda Roussel, Ph.D. RN

Committee Member: Dr. Allison Huffman, DNP, APRN-BC

Correspondence concerning this project should be addressed to Dennia Thompson, College of Nursing, Texas Woman's University, Dallas, TX 75235. E-mail: dthompson6@twu.edu

Table of Contents

Abstract.....	7
Chapter 1. Problem.....	8
Clinical Needs Assessment and Specific Aim.....	9
Background and Clinical Significance of Proposed Project/Intervention.....	11
PICOT Statement and Question of Inquiry.....	12
PICOT question.....	12
Innovation/Objectives.....	13
Chapter 2. Review of Literature.....	13
Review of Literature and Search Process.....	13
Summary of the Literature.....	14
Prevalence and incidence of STIs.....	15
Financial burden of STIs.....	15
Adverse effects on reproductive health.....	16
The positive effects of using protection/condoms.....	18
Positive impacts of STI education.....	19
Synthesis of Literature.....	24
Summary.....	27
Chapter 3. Method.....	27
Project Setting.....	27
Sampling and Data Collection Plans.....	28
Characteristics that Influence Improvement.....	29
Identification of the Interventions.....	30

INCREASING AWARENESS OF STI THROUGH EDUCATION	3
Planning of the Intervention and its Components.....	30
Planning the Study and Plans for Evaluation.....	31
Study Design and Approaches for Implementation.....	32
Project Objectives.....	32
Timeline.....	32
Strengths, Weakness, Opportunities, and Threats (SWOT) Analysis.....	33
Congruence of Project to Organization Strategic Plan.....	34
Cost-Benefit Analysis.....	35
Guiding Framework.....	35
Chapter 4. Results and Outcomes.....	38
The Study Question.....	38
Phases of Study.....	38
Plan.....	38
Do—Data collection.....	39
Study—Analyze data.....	39
Act—Plan for dissemination.....	39
Defended DNP scholarly project.....	40
Measurements of Objectives.....	40
Statistical methods and analysis.....	40
Ethical implications.....	41
Descriptive Statistics for Patient Demographics.....	41
Method of evaluation.....	44
Instruments used to assess effectiveness.....	44

INCREASING AWARENESS OF STI THROUGH EDUCATION	4
Methods used to ensure quality.....	44
Data analysis and statistical methods.....	45
Expected versus actual outcomes.....	51
Quality Indicators and Resources.....	51
Barriers.....	52
Chapter 5. Discussion.....	52
Interpretation of Findings.....	52
Recommendations.....	54
Limitations.....	54
Future Directions.....	55
NP Role Consideration and Implications.....	55
Essential I: Scientific underpinning for practice.....	55
Essential II: Organizational and systems leadership for quality improvement and systems thinking.....	56
Essential III: Clinical scholarship and analytical methods for evidence-based practice.....	56
Essential VI: Interprofessional collaboration for improving patient and population health outcomes.....	56
Essential VII: Clinical prevention and population health for improving the nation’s health.....	56
Essential VIII: Advanced nursing practice.....	57
Plan for Dissemination.....	57
Conclusion.....	57
References.....	59
Appendix A: Synthesis of Literature.....	65
Appendix B: CDC Fact Sheets.....	66

INCREASING AWARENESS OF STI THROUGH EDUCATION	5
Appendix C: Sexually Transmitted Infection Pretest and Posttest.....	88
Appendix D: Script.....	92
Appendix E: SWOT Analysis.....	93
Appendix F: Data Dictionary.....	94
Appendix G: Content Validity Testing.....	96

LIST OF GRAPHICS

Table	Page
1. Timeline for Project.....	33
2. Language.....	41
3. Age Group.....	42
4. Race/Ethnicity.....	42
5. Education.....	43
6. Diagnosis.....	44
7. Chi-Square Tests—Sexually Transmitted Infections are Contracted by Having Sexual Intercourse with an Infected Person.....	46
8. Chi-Square Tests—Can Condoms Help to Reduce the Risk of Contracting a Sexually Transmitted Infection?.....	48
9. Chi-Square Tests—Untreated Sexually Transmitted Infections can Cause Harm to a Newborn.....	50
10. Paired Samples Statistics—Pre-Correct—Post Correct.....	51
11. Paired Samples Test—Pre-Correct—Post Correct.....	51
A1. Synthesis of Literature.....	65
Figure	
1. PDSA model.....	36
2. Crosstabulation 2x2 with chi-square test—Sexually transmitted infections are contracted by having sexual intercourse with an infected person.....	46
3. Crosstabulation—If you test positive for a sexually transmitted infection and receive treatment, does your partner need treatment?.....	47
4. Crosstabulation 2x2 with chi-square test—Can condoms help to reduce the risk of contracting a sexually transmitted infection?.....	48
5. Crosstabulation—sexually transmitted infections that are not treated can cause health problems in women.....	49
6. Crosstabulation with 2x2 chi-square test—untreated sexually transmitted infections can cause harm to a newborn.....	50

Abstract

Each year it is estimated that millions of people are affected by sexually transmitted infections (STIs). Sexually transmitted infections are transmitted through sexual contact with an infected person through vaginal, anal, or oral sex. Untreated STIs can have a negative impact on a woman's reproductive organs and can cause long-term health consequences. Effective interventions such as education to increase awareness of sexually transmitted infection can have a positive effect on decreasing the spread of these infections. The quality improvement (QI) initiative used existing evidence-based literature to educate the women who tested positive for an STI. The initiative was implemented over a 4-week timeframe in a women's clinic (WC). A sample size of 100 women, 18 years and over, participated in the initiative. The data analysis for the standardized, evidence-based education demonstrated an increase in awareness among the women who participated in the initiative. The findings of the study reinforce the use of evidence-based education on STIs as a way to raise awareness.

Keywords: *Sexually transmitted infection, prevalence of STIs, STIs education, STI prevention, and condoms*

Increasing Awareness of Sexually Transmitted Infection Through Education:

A Quality Improvement Project

Chapter 1. Problem

In the United States (U.S.), well over 20 million new cases of sexually transmitted infections (STIs) are reported each year (Centers for Disease Control and Prevention [CDC], 2017a). At least 50% of these cases affect teens and young adults between the ages of 15–24 (Taylor, Middlebrooks, & Marco, 2017). According to the World Health Organization (2018), each day worldwide over one million STIs are acquired. Although there are many different types of STIs in the U.S., gonorrhea, and chlamydia are the most reported (Zakher, Cantor, Pappas, Daeges, & Nelson, 2014). STIs equally affect young men and women, but females are faced with more severe, long-term health consequences (Relias Media, 2017). Pelvic inflammatory disease, ectopic pregnancy, miscarriages, and infertility are some health consequences that women face from undiagnosed or untreated STIs (CDC, 2017g). The U.S. Department of Health and Human Services (2017) reported that each year at least 24,000 cases of infertility in women are from an STI. Furthermore, pregnant women face unfavorable neonatal outcomes from STIs, which eventually can lead to preterm birth and transmission of the infection to the newborn (Zakher et al., 2014). When STIs are left untreated or undiagnosed, the risk of the woman experiencing a stillbirth or a newborn death increases significantly (Smith, 2013). This quality initiative project educated women who tested positive for STIs on the prevention of these infections. According to O’Conner et al. (2014), sexual risk-reduction education counseling has had a positive impact in reducing STIs in participants who received the counseling.

STIs are on the rise and contributing to major health problems in women across the country. In Texas, chlamydia infection ranked 13th highest and gonorrhea infection 11th highest

among the 50 states, with the reported rate for women being 2.6 times higher than men (CDC, 2017b, 2017e). Educating obstetrics and gynecology patients on the mode and consequences of STIs as well as the long-term life-altering outcomes that STIs have on the body is essential. Providers should offer STI prevention counseling and education to sexually active teens and adults who have tested positive for an STI or engage in sexual activity with multiple partners (CDC, 2017c). According to Marcus (2014), patients' comprehension of information conveyed by healthcare providers has been noted to result in better patient satisfaction. Also, information communicated by providers helps to increase compliance with the treatment plan, optimize outcomes, and decrease cost and time of treatment (Marcus, 2014).

In the women's clinic at a large hospital in North Texas, which will be referred to as WC to maintain anonymity, obstetrics and gynecology patients often present with vaginal bleeding, vaginal discharge, abdominal pain, back pain, or urinary symptoms. All of these symptoms are concerning, especially vaginal bleeding, if a woman is pregnant because after evaluating these symptoms, the vast majority of these patients are diagnosed with an STI. According to Mayo Clinic (2018), STIs can present with a variety of signs and symptoms, as well as sometimes presenting with no symptoms at all. In the U.S., the reported prevalence of chlamydia is 457.6 cases per 100,000 population, which remains the most reported infection (Keegan, Diedrich, & Peipert, 2014). The prevalence of chlamydia among pregnant women varies from 3.2% to 5.9%, and the rate among pregnant teenagers is higher at 14% (Pereboom et al., 2014).

Clinical Needs Assessment and Specific Aim

In Dallas County, chlamydia remains the most frequently reported communicable disease (Dallas County Health and Human Services, 2017). There were 19,084 people diagnosed in 2017 and 7,105 people diagnosed with gonorrhea. Furthermore, of the 19,084 people diagnosed with

chlamydia, 13,164 were women, and of the 7,105 people diagnosed with gonorrhea, 2,543 were women (Dallas County Health and Human Services, 2017). This WC in North Texas provides emergency services to women in the community. In 2017 the WC saw over 23,000 women and more than 2,000 were diagnosed and treated for an STI. This number indicated that more than 10% of the women seen in the WC were treated for an STI. The number of women treated in the WC for an STI supports the need to implement STI education.

With this project, the aim is to educate the patients diagnosed with an STI in the WC on the modes of transmission and the negative effects on health. Due to a large number of STI cases in the WC, the need is evident. According to Marcus (2014), educating patients is acknowledged in the medical community as part of patient care. Physicians, as well as other healthcare providers, play a vital role in the prevention and treatment of STIs (Workowski & Bolan, 2015). Moreover, patient-provider communication is a significant component of patient education and is frequently used in combination with other teaching practices (Marcus, 2014). Teaching practices, such as one-on-one prevention counseling over STIs and human immunodeficiency virus (HIV), videos, and group presentations including information about STIs, can be useful tools in reducing the transmission of the disease (Workowski & Bolan, 2015). The education provided in the WC will include one-on-one patient education as well as providing patients with a handout with information on their infection. According to Rufino et al. (2016), it is necessary for nurses to include education in their daily practice because STI education helps to reduce the prevalence and incidence of STIs. The education is intended to increase awareness about STIs and equip patients with the necessary knowledge to keep themselves free of disease. Therefore, patient education is a critical part of nursing and helps to contribute to more positive outcomes in all areas of healthcare. The focus of this project was increasing awareness and sharing information

to increase the understanding of STIs prevention. The short-term goal was to increase the knowledge of STI prevention in those patients who test positive in the WC. The long-term goal is to have a decreasing rate of STIs in the women population that present to the WC.

Background and Clinical Significance of the Project/Intervention

There are roughly around 20 million new cases of STIs reported in the U.S. each year (Taylor et al., 2017). This large number speaks directly to the need for increasing awareness and providing strategies to help with the understanding and prevention of STIs. According to the Office of Disease Prevention and Health Promotion (2018), sexually transmitted diseases (STDs) cost the U.S. healthcare system about \$16 billion to treat annually. In Dallas County, the chlamydia rate is 600.8 per 100,000 population, which is higher than the state of Texas rate of 486.4 per 100,000 population (Dallas County Health and Human Services, 2016).

This WC has no standardized STI education. Neither is their consistency in the information that is translated to the patients. In this WC, which provides care to women in the underserved community, the patient population consists of the uninsured, underinsured, illegal immigrants, women who do not have a primary care physician, or money to pay a doctor for treatment and testing. Therefore, this WC is the place these women come for all of their medical care, urgent and nonurgent, such as STI testing and treatment.

The project intervention included education for the patients who test positive for an STI in this WC. The patients who tested positive for cervicitis also received the education because cervicitis can be caused by gonorrhea or chlamydia, and the women who present for testing and treatment because their partner tested positive. The education consisted of five questions on the pretest to assess the patient's current knowledge of STIs. After the pretest, the patient received education on STIs and prevention and time to ask questions. The patient also received an

explanation on the questions they answered wrong. Finally, a posttest with the same questions in a different order was given to the patient to assess retention of the education. The information was delivered in English and Spanish and covered the mode of transmission, signs, and symptoms, harmful effects on the body, and prevention of STIs. The patient was also given the test with the correct answers to take home.

The efficacy of the education was be evaluated by comparing the pretest and posttest. Of those women that were participating in the project, evidence-based information for the STI education and test came from the CDC and Office on Women's Health (2014).

PICOT Statement and Question of Inquiry

Does providing specific, standard education using the CDC Fact Sheet and the Fact Sheet from the Office on Women's Health (2014) on prevention of STIs improve scores on pre-post testing questions of patients diagnosed with STIs seen in the WC?

PICOT question. Does an evidence-based educational program, increase awareness of STI prevention in the WC patients compared to before education was given?

The PICOT for this research question:

Population (P)–Women treated and diagnosed with an STI in the WC.

Intervention (I)–Evidence-based nursing education.

Compare (C)–Pre-posttest.

Outcome (O)–Improve awareness (pre-post testing) of patients diagnosed with an STI seen in the WC.

Time (T)–The education will be given over four weeks to each patient who tests positive for an STI.

Innovation/Objectives

The aim of the QI project was to evaluate the effectiveness of the evidence-based STI education in the women who test positive for an STI in the WC. The goal of this QI was to determine if the STI education increased the patient's awareness on the mode of transmission and prevention by pretest and posttest scores. Another goal was to decrease the incidence in the women who present to the WC and test positive for an STI.

Chapter 2. Review of Literature

Review of Literature and Search Process

A literature review search was conducted to identify studies on increasing awareness of sexually transmitted infection (STI) through prevention education. The search was accomplished using the electronic database at the library of Texas Woman's University, Centers for Disease Control and Prevention, and The World Health Organization. The electronic databases used to search for specific information were CINAHL plus with full text, Medline, Pub Med, and Cochrane Library. The search strategy also used Boolean connectors with the following keywords: *Sexually transmitted infection, STI in pregnancy, most common STIs, prevalence of STIs, STIs education, STI prevention, and condoms*. Information supporting key terms for increasing awareness of STI through prevention education was found in several journals including the following: *American Journal of Public Health, Indian Journal of Sexually Transmitted Diseases and AIDS, International Journal of Reproduction, Contraception, Obstetrics and Gynecology, Journal of School Health, Journal of Urban Health, Journal PLoS One*. The inclusion criteria were limited to full text, human studies, English language, and articles published between 2014 and 2018.

After examining the various search engines to find articles to support the problem and need, 118 articles resulted on the topic. In order to narrow down the articles further, the abstract and titles were read; the researcher excluded articles regarding men that sleep with men and men only articles which lead to 35 articles. Twelve articles were deemed appropriate for the QI project which excluded children and included research studies, peer-reviewed journals, systematic reviews, randomized control trials, exploratory analysis, research studies, and expert opinions. The synthesis of the literature and levels of evidence is in Appendix A.

Summary of the Literature

Prevalence and incidence of STIs. Newman et al. (2015) reported on a systematic review and global report conducted from 2005–2012 on the prevalence and occurrence of four curable STIs; there were 79 research studies used for the analysis. In 2012 there were around 273 million cases of chlamydia, gonorrhea, trichomoniasis, and syphilis among adults age 15–49 with chlamydia having the highest followed by trichomoniasis, gonorrhea, and finally syphilis. The review showed all four STIs accounted for 357 million new infections that year, equivalent to roughly one million new infections each day (Newman et al., 2015). The review showed the prevalence and incidence of these infections remain high with chlamydia having an estimated prevalence of 131 million new cases, gonorrhea at 78 million new cases, trichomoniasis at 143 million, and syphilis at 6 million (Newman et al., 2015). There is an urgent need for accessible STI prevention interventions that include screening, diagnosis, and treatment. The incidence and prevalence of STIs remain high, and the need for accessible prevention intervention that includes treatment is important and relates to the QI initiative.

Marotta (2017) conducted an exploratory analysis assessing the extraordinary levels of gonorrhea and chlamydia in the U.S., and the economic burden of \$16 billion annually to treat.

The analysis indicated gonorrhea (Moran's $I = .38, p < .001$) and chlamydia (Moran's $I = .37, p < .001$) are heavily concentrated in the southern counties and disproportionately affecting African Americans (Marotta, 2017). According to Marotta (2017), the rate of gonorrhea and chlamydia for African Americans ($B = .16, p < .001$ and $B = .40, p < .001$) compared to Native Americans at ($B = .12, p < .001$ and $B = .20, p < .001$), and Asians at ($B = .12, p < .001$ and $B = .09, p < .001$). The analysis showed in 2015 chlamydia, and gonorrhea was the two most reported infection in the U.S. with over 1.5 million cases reported that year. Marotta (2017) used the exploratory analysis of spatial patterns to track the geographical distribution of gonorrhea and chlamydia in the U.S. The data used for the analysis were obtained through surveys and databases which included 2,935 counties. The reports revealed high rates of the infections were clustered in certain parts of the U.S. associated with areas that had higher crime and poverty rates. Marotta (2017) concluded the health inequities in the U.S need to be addressed as well as STI prevention interventions. Overall, the study results revealed a need for STI education intervention in underserved communities to help reduce the prevalence and incidence of STIs which applies to the QI initiative.

Financial burden of STIs. Owusu-Edusei et al. (2013) conducted a study that followed previous studies from 2002-2011, to examine the financial burden that STIs impose on the U.S. healthcare system. The study indicated that in 2008, there were 19.7 million cases of STIs resulting in \$15.6 billion in cost. The eight major STIs included in the study were genital herpes simplex virus type 2, chlamydia, gonorrhea, trichomoniasis, hepatitis B virus, HIV, human papillomavirus, and syphilis (Owusu-Edusei et al., 2013). Chlamydia remains the most costly infection in the U.S., costing roughly \$516.7 million to treat followed by gonorrhea at \$162.1 million in treatment costs. Furthermore, STIs continue to be a significant cause of morbidity and

death in the U.S., placing a financial burden on individuals as well as society (Owusu-Edusei et al., 2013).

Owusu-Edusei et al. (2013) suggested that if it were not for the STI prevention and control efforts, the burden of STIs would be even higher. STIs pose a financial burden on the healthcare system, and prevention efforts have been shown to have a positive impact on decreasing the burden which relates to the QI initiative.

Adverse effects on reproductive health. The risks associated with STIs are significantly detrimental to the reproductive health of human beings, particularly expectant women who could potentially pass on devastating consequences to the fetus. Women who do not practice ideal safe sex practices, such as condom use are at risk of adverse reproductive health outcomes such as stillbirth, birth complications, and physiological damage to the fetus (Warr et al., 2018).

According to Warr et al., STIs are contributing to the global problem of reproductive diseases as well as poor maternal-child health outcomes. Furthermore, 90% of the worldwide burden of STIs occurs in low to middle-income countries (Warr et al., 2018).

Warr et al. (2018) conducted a nested longitudinal analysis to evaluate the relationship between STIs, genital infection in pregnancy, and the risk of infant mortality and stillbirths. The study was conducted on pregnant women in Kenya and through their postpartum period at 6 weeks and again at 6 months. The women excluded from the study were those who were HIV positive, had a spontaneous abortion before 20 weeks, and multiple gestations (Warr et al., 2018). The STIs and genital infections used in the screening were bacterial vaginosis, trichomonas, vaginal candidiasis, chlamydia, gonorrhea, as well as syphilis and genital ulcer disease. According to Warr et al. (2018), the women who participated in the study self-collected vaginal swabs and were assessed for abnormal vaginal discharge, itching or burning at each visit,

and treated according to their symptoms. There were 1,221 women included in the study, and of the total sample, 55% had a confirmed laboratory diagnosis of an STI or genital infection. Out of 1,221 participants, 19 women experienced a stillbirth, and of the 1,202 live births, there were 34 infant deaths (Warr et al., 2018). The logistic regression method was used to evaluate possible cofactors in comparison to live births. The models used to determine the correlation in “time-to-infant” mortality was the proportional hazards models (Warr et al., 2018). Maternal chlamydia was associated with $p = 0.093$ value and gonorrhea was $p = 0.017$ value, and both were linked to a high infant mortality rate compared to the women with no infection was $p < 0.001$ value (Warr et al., 2018). The study results suggested due to the burden of STIs and genital infections being high among pregnant women in Kenya, there is a need for early STI treatment as well as STI prevention programs to decrease the risk of adverse outcomes.

Hull, Kelley, and Clarke (2017) presented a case as to why there is a need to improve screening strategies for preventable STIs in the U.S. The case reported that undiagnosed and untreated STIs are causing severe consequences with profound effects on people that are infected. Also, STI related illnesses are creating a significant economic burden on the U.S. (Hull et al., 2017). In untreated women, STIs have an adverse effect on the female reproductive system and in men increases the risk of developing a testicular infection. Women are at risk for pelvic inflammatory disease, ectopic pregnancy, and infertility from untreated gonorrhea and chlamydia. Infections, such as chlamydia and gonorrhea, when left untreated leaves women with a 75%-85% chance of contracting pelvic inflammatory disease (Hull et al., 2017). Furthermore, according to Hull et al. (2017), it is estimated that about 24,000 women become infertile in the U.S. each year due to undiagnosed and untreated STIs. Pregnant women with untreated STIs can pass the infection to their unborn child during childbirth known as vertical transmission. In

newborns, STIs can cause eye infections, blindness, and pneumonia (Hull et al., 2017). Men also face adverse effects from undiagnosed and untreated STIs such as epididymitis and possible infertility. Moreover, STIs have been linked to several genital and oropharyngeal cancers (Hull et al., 2017). Overall, STIs have a negative effect on the human body and have the potential to cause death. The study showed a need for STI education and treatment programs to help reduce adverse effects, which supports the QI initiative.

The positive effects of using protection/condoms. Stover et al. (2017) conducted a primary research study on the impact and cost-effectiveness of condoms. The research was an attempt to quantify the cost and impact that condom use has on health-related issues and on the potential to prevent unwanted pregnancies. The study consisted of several tables showing various calculations on the efficacy of condoms against STIs and documentation on the incidence of gonorrhea, chlamydia, syphilis, and herpes simplex virus-2 with the baseline incidence of 93 million among women as well as 103 million among men (Stover et al., 2017). The method used for the study was scale-up scenarios which consisted of three scale-up scenarios to determine the cost and impact of condom use. The medium scale-up scenario, condoms use prevents 16 million infections and 31.5 million infections were abated with high condom use scenario (Stover et al., 2017). In conclusion, the study determined condoms are a cost-effective and efficient method to prevent the transmission of STIs. The study results support the use of condoms in preventing the transmission of STI which pertains to the QI initiative.

Marfatia, Pandya, and Mehta (2015) conducted research about the efficacy of condom use in preventing STIs. Although condoms are the oldest form of contraception, condoms remain a critical barrier for stopping the transmission of STIs and HIV. According to Marfatia et al. (2015), condoms offer a 90% protection rate against gonorrhea and a 50-90% protection rate

against chlamydia. Additionally, condom use provides a 50-90% protection rate against syphilis and a 10-50% protection rate against haemophilus ducreyi (Marfatia et al., 2015). Incorrect and inconsistent use of condoms contributes significantly to the failure rate. However, when used correctly and consistently, condoms have a 97% efficacy rate. Marfatia et al. also reported that two cross-sectional studies and one case-control study that was reviewed during the research showed condoms provided a 49-75% reduction rate in the risk of contracting gonorrhoea and a case-control study performed in an STD clinic had a 33% risk reduction rate in contracting chlamydia with consistent condom use.

A prospective study was also reviewed during the research in which some of the male participants used condoms 100% of the time, and some male participants choose not to use condoms (Marfatia et al., 2015). The study revealed the men who used condoms 100% of the time did not contract chlamydia. Of the men who chose not to use condoms, 6.3% contracted the chlamydia infection. Also, the prospective study showed a 50-71% reduction rate in syphilis when condoms were used correctly 100% of the time (Marfatia et al., 2015). Some of the issues and reasons noted for not using condoms were the fit of the condom, early removal, lack of sexual satisfaction, lack of acceptance by partner, lack of availability, perceived ineffectiveness, depression, and anxiety were some of the reasons for not using condoms (Marfatia et al., 2015). Studies have shown that condoms have a high efficacy rate in preventing STIs when used correctly and consistently. The studies supported the use of condoms for protection to help prevent STIs which is part of the QI initiative to educate women on the importance of condom use in preventing the transmission of STIs.

Positive impacts of STI education. O'Connor et al. (2014) performed a systematic review to evaluate behavioral sexual risk-reduction counseling in a primary care setting to

prevent STI. It is estimated that in the U.S. each year approximately 20 million cases of STIs occur, with half of all cases between the ages of 15–25 (O'Connor et al., 2014). Furthermore, the annual direct medical cost for STIs in the U.S. was \$16.9 billion. According to O'Connor et al. (2014), the U.S. Preventive Services Task Force recommended high-intensity behavioral counseling interventions as a way to reduce STIs. For the review, databases from January 2007 to October 2013 were selected, 31 trials were included with 16 trials newly published and 15 from previous studies (O'Connor et al., 2014). According to O'Conner et al. (2014, the participants were selected based on their STI history, risky sexual behavior, and sociodemographic characteristics. Adolescents that received the high-intensity counseling, which consisted of more than 2 hours of counseling, had a 62% reduction in contracting an STI after 12 months. Furthermore, in adults, the high-intensity intervention showed a 30% reduction in contracting an STI after 12 months (O'Connor et al., 2014). In conclusion, the primary care setting and other similar settings that offered high-intensity counseling over sexual risk education reduced STIs in adults and in adolescents who participated in the counseling.

Borawski et al. (2015) conducted a group-randomized intervention study in which ninth and 10th-grade students were provided reproductive health information by nurses and teachers. The randomized intervention study consisted of 10 schools, 6 nurses, 21 teachers, and 1,357 students. The nurses and teachers delivered the education, and the participants were randomly assigned to a classroom (Borawski et al., 2015). The education presented was over HIV and STI prevention and condoms. The curriculum used for the education was Be Proud Be Responsible which consisted of six 50-minute modules that included different developmentally appropriate teaching techniques. Information was collected from the students using questionnaires which were administered at four different times, before the intervention, within 2 weeks of completing

the intervention, at 4 months, and again at 12 months after the intervention (Borawski et al., 2015). According to Borawski et al. (2015), in 2011, among adolescent girls ages 15–19 years of age, there were over 1.7 million reported cases of gonorrhea and chlamydia. The education was aimed to improve STI knowledge in the students who participated in the study. Following the intervention, reports of improvement in HIV, STI, and condom awareness were noted. Teaching condom use techniques and the skill set needed for communication to stop high-risk sexual behaviors may not be easily obtained through health education teachers due to limited education in this area (Borawski et al., 2015). However, the results about condom education in perspective to attitudes, beliefs, and efficacy had better compliance and improvements lasting over 12 months longer with the nurse-led education (Borawski et al., 2015). STI education plays a significant role in raising awareness of HIV and STI prevention and has shown to have a better compliance rate in individuals who receive the education which relates to the QI initiative, increasing awareness through education.

Rufino et al. (2016) descriptive research (quantitative approach) was conducted to explore the level of knowledge on STIs and AIDS in women from the perspective of health education. The lack of proper information regarding STIs established the foundation for risky sexual practices among women worldwide (Rufino et al., 2016). The lack of knowledge surrounding the mode of transmission of AIDS and other STIs increases the potential of spreading such diseases in any particular location. The study results showed that lack of education on the mode of transmission, signs, and symptoms of various STIs and the appropriate method of prevention is responsible for the permeation of such diseases (Rufino et al., 2016). The research design used was the *before and after* descriptive with a quantitative approach. The data were collected in February 2014, from women between the ages of 18–49. The women were

given a questionnaire in the waiting room before attending the educational activity and again after the education. The questionnaire consisted of questions regarding sexual and reproductive health, prevention and transmission of STIs, the perception of STIs, and lifestyle (Rufino et al., 2016). The post-education questionnaire was compared to the pre-education questionnaire using the Chi-square test with a 95% confidence level. There was an increase in knowledge post-intervention ($p < 0.05$). Health education is one of the viable solutions for regulating the spread of such diseases in society with particular attention to women through improved reproductive health practices. Health education also directly contributes to the process of early identification of such ailments which increases the chances of successful treatment of diseases with established cures (Rufino et al., 2016). The researchers concluded that it is vital for nurses to incorporate education into their daily practice to help reduce the prevalence of STIs and AIDS as well as to help individuals take responsibility for their health which relates to the QI project.

Narasimhalu and Muhilan (2016) conducted a randomized questionnaire-based, cross-sectional study to evaluate the awareness of STDs among individuals who completed high school and those who did not complete their high school education. The study was conducted at a medical facility over a 6-month timeframe with 150 participants' males and females between the ages of 14–40. A questionnaire method was used to evaluate participants' knowledge of STDs. There were 17 questions on the questionnaire including questions on contraception, STD awareness, and sociodemographic details. The results showed 77.8%, $p = 0.0068$ ($p < 0.05$) had a good awareness of STDs, and all were high school graduates. The lowest percentage of STD awareness, 22.2%, came from participants who did not graduate from high school. The study results also revealed 45% of participants wanted to learn more about STD awareness. The study concluded that participants who completed high school had a good awareness of STDs and that

implementing STD prevention early into school level education can improve knowledge and lead to better prevention of STDs.

Behavioral counseling over STDs for people at risk is recommended. Brookmeyer, Hogben, and Kinsey (2016) reviewed existing literature from systematic reviews on STD prevention programs that were sufficient for a clinical setting. The reviews were from 2006–2014 and had specific intervention criteria that needed to be met in order to be included in the researchers' analysis: (a) one or two sessions, with contact time 60 minute or less; (b) individual face-to-face sessions; (c) location in a clinical setting; (d) readily available STD results; (e) based in the U.S.; (f) peer-reviewed; and (g) control group needed (Brookmeyer et al., 2016). In the six reviews covering the 91 studies, only 13 met the criteria and were included in the analyses. There were 22,947 participants that ranged from 14–45 years of age, of different ethnicities, genders, and sexual orientation with the majority of participants being African Americans and heterosexual (Brookmeyer et al., 2016). Of the 13 reviews, five reviews showed reductions in STD infections in the intervention groups that received behavioral counseling at the 9-month follow-up compared to the control group. A variety of counseling techniques were used for the different intervention groups. Some of the counseling entailed risk reduction planning, condoms use and perceived barriers, safe sexual behavior, contraception/STD prevention, and interactive counseling (Brookmeyer et al., 2016). The session lasted from 20 to 60 minutes. In the control groups, some participants received 5-minute sessions encouraging condom use, general health promotion, HIV risk assessment, and some control groups did not have education prevention. All 13 intervention groups received behavioral counseling, eight reported no difference between the intervention and control group, and one group reported a higher rate of STDs at the 9-month follow-up. The researchers concluded from the reviews that some STD

clinic clients would benefit from short behavioral counseling interventions. The studies showed STI risk reduction counseling and STI prevention education is beneficial in reducing the prevalence of infections and is relevant to the QI initiative project.

Synthesis of Literature

A review of the literature on sexually transmitted infections increasing awareness through education revealed that several of the studies were related to the prevalence and incidence of STIs, the financial burden that STIs imposes on the U.S. healthcare system, and the benefits of STI prevention intervention. According to Newman et al. (2015), there are over 30 different infections that can be transmitted through sexual contact and those 30 different STIs are reaching unprecedented levels and causing an annual economic burden worldwide. The financial burden is generated from treating STIs and the morbidity and mortality associated with these infections (Malavika, Prabhudev, & Bandamma, 2017). By increasing awareness of STI transmission, there has been a positive effect on STI preventions (Borawski et al., 2015).

This QI project focus is on increasing awareness of STI prevention through an educational intervention. Several studies indicated STI education interventions could reduce the prevalence and incidence of STIs, and were successful in improving the participants' knowledge. However, it is unknown if the education leads to a behavioral change in those participants. It is also unknown if the STI prevention education has had any effects on the U.S. healthcare system (Owusu-Edusei et al., 2013).

There were five reoccurring themes identified throughout the literature review, including prevalence and incidence of STIs, the financial burden of STIs, adverse effects on reproductive health, the positive effects of using protection/condoms, and the positive impacts of STI education.

Examining the prevalence and incidence of STIs, Newman et al. (2015) conducted a systematic review of the occurrence of four treatable STIs which accounts for over 357 million new infections annually. Specifically, this is equal to about one million new infections each day. The researchers report an urgent need to have accessible STI prevention intervention and treatment. Furthermore, Morotta (2017) used exploratory analysis to evaluate the prevalence and incidence of STIs. The analysis concludes that there were over 1.5 million reported cases of gonorrhea and chlamydia in 2015 and these infections are heavily concentrated in the Southern region of the US (Morotta, 2017).

Analyzing the economic burden of STIs, Owusu-Edusei et al. (2013) reports on the cost associated with STIs and the effects on the healthcare system. Specifically, the researchers note that chlamydia is costing the U.S. approximately 516.7 million dollars to treat yearly followed by gonorrhea at 162.1 million (Owusu-Edusei et al., 2013). Also, STI related illnesses and the continual rise in prevalence are costing the U.S. healthcare system 16 billion in treatment costs (Hull et al., 2017).

Adverse effects of STIs on reproductive health has also been reported by Warr et al. (2018) who conducted a nested longitudinal analysis which revealed that STIs helps to contribute to reproductive diseases and poor maternal-child health outcomes worldwide. Untreated chlamydia and gonorrhea put women at an increased risk of developing pelvic inflammatory disease, having an ectopic pregnancy, and infertility issues (Warr et al., 2018).

Positive effects of using protection are noted in the literature. A research on the cost-effectiveness of condom use by Stover et al. (2017) found a decrease STIs, specifically if condoms were correctly, and consistently applied. Condom use offered protection against STIs and reduced unintended pregnancies. Marfatia et al., (2015) research reported that the use of

condoms remains an essential barrier for stopping the spread of STI/HIV. The use of condoms when used correctly and consistently has a high efficacy rate in abating STIs.

Positive impacts of STI education and counseling are pervasive in the literature. Specifically, counseling on behavioral sexual risk-reduction in a primary care setting. In O'Connor et al.'s (2014) systematic review, they used 31 trials for the review and the trials used for the review showed that two hours of high-intensity counseling in young people over STI prevention had a 62% reduction rates in STI over 12 months. High-intensity counseling in adults had a 30% reduction in STIs over 12 months (O'Conner et al., 2014). Overall counseling on behavioral sexual risk-reduction in a primary care setting had a positive effect on the reduction of STIs.

Borawski et al. (2015) conducted a randomized intervention study which consisted of 10 schools, six nurses, 21 teachers, and 1,357 students. The intervention was over STI prevention and condom use. The education was aimed to increase the knowledge over STIs in the students who participated in the study (Borawski et al., 2015). According to Borawski et al. (2015), after the intervention was completed, reports of improvement over HIV/STI/condom awareness were documented. A study was conducted over health education, and the study revealed that health education has an important role in regulating the spread of STIs in society and that nurse's play an important role in delivering that education (Rufino et al., 2016). Furthermore, Rufino et al. (2016) suggested nurses include STI education into their daily practice to help decrease the prevalence of STI/AIDS.

Narasimhalu and Muhilan (2016) conducted a randomized questionnaire-based, cross-sectional study in a clinic to evaluate the awareness of STDs among individuals who completed high school versus those who did not. The study found that the participants who graduated from

high school had a better awareness of STDs and concluded that early initiation of STD education into schools could increase knowledge and prevention of STDs.

Brookmeyer et al. (2016) conducted a systematic review on behavioral counseling for STD prevention in a primary care setting. Ninety-one studies were reviewed, and only 13 studies were used for the analyses and of the 13 studies only five showed a decrease in the rate of STDs at the 9-month follow-up after the behavior counseling, eight studies showed no difference, and one group reported a higher rate of STDs (Brookmeyer et al., 2016). The researchers concluded that it was enough evidence to support that some STD clinic visitors would benefit from behavioral counseling interventions for STDs.

Summary

In summary, the research articles appraised provided the foundation for five recurrent themes in the literature: the prevalence and incidence of STIs, the financial burden of STIs, adverse effects on reproductive health, the positive effects of using protection/condoms, and the positive impacts of STI education. All of the studies concluded STI prevention education and treatment had a positive impact on reducing STIs. The data promotes the need for STI education to increase awareness.

Chapter 3. Method

Project Setting

This QI initiative project took place in the Woman's Clinic (WC) located in a large city in North Texas. The WC provides emergent and non-emergent services to more than 20,000 patients annually and provides for the underserved population in the community. The WC is operational 24 hours a day, seven days a week, and provide treatment to women for any obstetric or gynecology (OB/GYN) problem. The personnel that provides direct patient care includes: two

physicians, four nurse practitioners, five registered nurses, four medical assistants, one sonographer and the attending that oversees the providers and consultation as needed.

Approximately 65 patients are seen each day with 50% having obstetrical diagnoses and 50% gynecological. Some of the common obstetrical diagnoses seen in the WC are threatened miscarriages, discomforts of pregnancy, nausea, vomiting and sexually transmitted infection (STIs). Common gynecological diagnoses include urinary tract infection, abdominal pain, vaginal discharge, and STIs. Annually, over 10% of the combined population of obstetrics and gynecology patients are seen for STIs.

Sampling and Data Collection Plans

To determine the appropriate sample size for the project, a power analysis was completed before the data collection phase. The sample population consisted of obstetrics and gynecology patients age 18 and older who presented to the WC between February 11–March 8, 2019, that tested positive and were treated for chlamydia, gonorrhea, trichomoniasis, genital herpes, or syphilis. Men were excluded because the WC only provides services to women.

Approval was secured from the Office of Research Administration at the hospital and the university QI committee before the implementation and data collection phase. The timeframe allotted for the project was 4 weeks. The 4-week timeframe entailed providing an STI education from the Centers of Disease Control and Prevention (CDC) and a pretest and posttest that was created by the DNP student from the CDC fact sheet. The patients selected for the project were the patients that tested positive for an STI in the WC the same day through blood work or vaginal wet mount. The patients who were notified by one of the 10 clinics affiliated with the WC of a positive gonorrhea or chlamydia culture result who presented to the WC for treatment. The people excluded from the pretest and posttests were females under the age of 18 and men were

also excluded from the education and tests because the WC only provides care to females. The education and the pretest and posttest took place at the time the patient was diagnosed and treated for the STI. After the 4-week timeframe, the pretest and posttest scores were calculated to determine if there was a change or improvement in the patients' awareness after the education. Demographic data, such as age, race, and education level, were analyzed using descriptive statistics including means and standard deviation. Chi-square test using the Fisher's exact test evaluated categorical variables between the pretest and posttest questions, and continuous variables were evaluated using a paired *t*-test by the statistician.

To protect the patients' privacy, their social security number, address, phone number, and payer information was not collected for the purposes of maintaining confidentiality. The participants were de-identified and assigned a number, 001, 002 and so forth. Each participant demographic sheet included their age, ethnicity, education level, diagnosis, pretest, and posttest results. The documentation was entered into an excel spreadsheet, and only the DNP student and biostatistician had access to the data. Once the data were collected, it was stored on an encrypted USB drive.

Characteristics that Influence Improvement

The characteristics that were likely to influence the improvement of the STI prevention education project includes the patient's understanding of the information and the patient's willingness to take the pretest and posttest. Also, the education was tailored to the patient population. A copy of the education is located in Appendix B. Providing information in English and Spanish and using a translator had a significant impact on the success of the project. The hospital has certified Spanish-speaking translators onsite that translate to the Spanish speaking patients. The hospital also has access to certified translators of multiple languages if needed. The

education along with the pretest and posttest was delivered in the privacy of the patients' room while they waited for treatment and took about 15 minutes. A copy of the pretest and posttest in English and Spanish is located in Appendix C. The educational information came from the CDC, which provides up-to-date information on STIs. The patients were given literature from the CDC on their infection to take home. The pretest and posttest information came from CDC fact sheets and the Office on Women's Health. In order to keep the patient education consistent the test questions were used to guide the education. Since the patient consented for treatment on arrival, additional written consent was not needed since patient education is a part of the treatment plan. However, a standardized script was read to each patient letting them know that the pretest and posttest were optional. Also, a verbal consent was obtained from the patients for the pretest and posttest, and the patients were made aware that the pretest and posttest is not part of the standard patient education but are being used for a QI project. The script that was communicated to every patient is located in Appendix D.

Identification of the Interventions

The intervention was giving standardized, one-on-one evidence-based education from the CDC, regarding STIs to help increase the patient awareness on the modes of transmission, adverse effects on the reproductive system, and the prevention of STIs. The goal of the education was to increase the patients' awareness of STI prevention, evidence by increased scores on the posttest from the pretest.

Planning of the Intervention and its Components

The intervention involved gathering data for the STI education and creating the pretest and posttest from information obtained from the CDC and Office on Women's Health. The education was customized to the patient population and given in English and Spanish. The

pretest and posttest questions that are in Spanish were reviewed by a certified educator for proper wording, and the validity of the tests was reviewed by five experts that specialize in women's health. The reading level was evaluated by an 11-year-old. A certified translator for multiple languages was available for all non-English speaking patients which is about 75% of the patient population. For the patients that could not read the test questions were read to them. Once a patient was identified as testing positive for an STI by vaginal wet mount, blood work, or cultures, the DNP student conducting the QI project educated the patient on their infection and prevention. Before educating the patient using evidence-based guidelines from the CDC, the patient was asked to take a pretest to assess their awareness of STIs. Once tested, the patient received specific information reviewing the guidelines. A post-analysis was completed after the education was administered to determine if the patient retained the material. The DNP student reviewed test scores with the patient. Education along with the test questions and answers were given to the patient to take home for further review.

Planning the Study and Plans for Evaluation

First, permission from the institution was granted in writing in order to implement the project. Evidence-based information for the initiative came from the CDC and Office on Women's Health. The pretest and posttest were scored to determine if there was an increase in the patient's awareness of STI prevention after the education. After collecting the data, the information was entered into a Microsoft Excel spreadsheet. The data was coded into categories by age, ethnicity, education level, and diagnosis. Category variables were calculated using the Chi-square test with Fisher's exact test between the pretest and posttest questions. Continuous variables of the pretest and posttest were assessed using the paired *t*-test. The information was

stored on an encrypted USB drive, and only the researcher and biostatistician had access to the data.

Study Design and Approaches for Implementation

The QI project had a 4-week timeframe. The data collected over the 4-weeks was examined to determine if the STI prevention education was effective in increasing the patient's awareness. A demographic sheet was created, and each patient was de-identified and assigned a number to protect patient privacy. The demographic sheet included (a) age, (b) ethnicity, (c) language, (d) infection, and the scores from the pretest and posttest. The posttest questions were the same questions as the pretest but in a different order.

The implementation steps for the project began once a patient was identified as having an STI by the provider. The provider notified the DNP student conducting the project, and the patient was given evidence-based information from the CDC on their diagnosis. Before the evidence-based information was given, the patient took the pretest to assess their knowledge, and after the education was administered, the patient was given the posttest to determine if the patient retained the evidence-based information.

Project Objectives

The primary objectives of STI education include:

- Provide evidence-based informational guidelines on STIs and prevention based on the CDC to patients that are diagnosed with an STI in the WC.
- Increase the patients' awareness by a 20% increase on pretest and posttest scores.

Timeline

The timeline for this project was from October 2018–April 2019 when the findings will be presented to the project committee as shown in Table 1.

Table 1

Timeline for Project

Date	Process
September 14, 2018	Initial meeting with the academic chair over the topic
October 17, 2018	Submitted Office of Research Administration approval
January 25, 2019	First defense proposal
February 11, 2019	Data collection
March 8, 2019	Complete data collection
	Analyze and complete data results
April 8, 2019	Defend project results

Strengths, Weakness, Opportunities, and Threats (SWOT) Analysis

According to White, Dudley-Brown, and Terhaar (2016), the SWOT analysis is an assessment tool used to help identify the strengths, weakness, opportunities, and threats of a project. The strengths of the project are improving on a process that is already in place. The location; supportive organization; supportive medical staff; the patient population—the underserved community; tailoring the education to fit the patient population by having the information in English, Spanish, and using a certified translator; and providing evidence-based standardized STI education.

There were several weaknesses to the project. Weaknesses include not treating the male partner for the infection, not offering the education to the male partner, and focusing only on education and not on behavioral changes.

Opportunities included educating the patient on their infection at the time of diagnosis, same-day treatment for patients diagnosed with an STI, as well as testing the patient for other infections. The threats include literacy, how well the patient understood the information, not knowing if the patient had a behavioral change, not knowing if the partner received treatment and the unwillingness of provider participation. The SWOT analysis diagram is located in Appendix E.

Congruence of Project to Organization Strategic Plan

The WC within the hospital system is dedicated to the individuals' and communities' health and well-being entrusted to the care of the hospital. The hospital strives to achieve healthcare excellence for the patients and community by the guiding principles of (a) compassion, (b) integrity, (c) respect, (d) collaboration, (e) leadership, (f) excellence, and (g) stewardship. Moreover, the vision of the hospital defines the standards of excellence for a public, academic health system. The hospital is a teaching facility grounded in research and evidence-based practice focusing on the quality, safety, and services provided to the patients. The QI aligns with the hospital mission of being dedicated to individuals' health and well-being.

The QI model used for this project was the Plan-Do-Study-Act (PDSA), which is the model adopted by the organization. The organization regularly looks for ways to improve healthcare and patient outcomes within the hospital system, and the PDSA model helps with that process. The QI project aligns with the organization for the reason that the QI project is improving upon a practice that is already in place. Shewhart introduced the model as a method for continuous, systemic improvement (White et al., 2016). The model focuses on small-scale change implemented within rapid phases that are finished sequentially to accomplish sustainable improvement (White et al., 2016).

The four phases of the PDSA model include: (a) Plan—Identify the problem and develop the plan; (b) Do—Implement the project, analyze the data, and document problems encountered and any unexpected findings; (c) Study—Complete data analysis, compare the outcome of the data to the prediction, and summarize results; and (d) Act—Execute the improved project (Institute for Healthcare Improvement, 2018).

Cost-Benefit Analysis

STIs are a significant health concern and pose a financial burden on the healthcare system. The education has the potential to decrease STIs in the patient population seen in the WC. Educating the patients on their diagnosis is part of the nurse's role in the WC. By educating the patients, the nurses are increasing the patient awareness on their infection and on ways to prevent the infection which will ultimately lead to a decrease in STI in the women seen in the WC. The QI project is to reduce STIs and improve the quality of life in those patients who present to WC for evaluation and treatment. There is no financial overhead to implement this project. The project will be conducted on scheduled work days. The evidence-based information from the CDC (2017c) and Office on Women's Health (2014) will be used as part of the patient teaching and discharge instruction.

Guiding Framework

The PDSA model was the guiding framework used for the project. The project was to educate patients diagnosed with an STI in the WC to increase their awareness on STIs and prevention. To educate each patient effectively that is diagnosed with an STI in the WC, standardized STI education needed to be implemented. Each patient that tests positive for an STI was given the education along with a pretest and posttest to assess their awareness and the

effectiveness of the education. The PDSA model, as shown in Figure 1, allowing for modification and refinement of the education.



Figure 1. PDSA model. Tribal Evaluation Institute (2016).

The evidence-based model used for the guiding framework for this project was the Iowa model. In May 2018, the hospital adopted the Iowa model, which is widely used in healthcare for evidence-based practice QI projects. The model has seven steps to guide the actions of developing an evidence-based practice project (White et al., 2016). The steps are (a) identify a topic of priority, (b) form a team, (c) collect research and literature, (d) critique and evaluated the research for use in practice, (e) determine if the research is sufficient to implement into practice, (f) is the change appropriate to adopt into practice, and (g) disseminate result (White et al., 2016).

The QI project followed the steps of the Iowa model for the implementation of the STI education. The model was used to help identify the priority in the WC. The nurse practitioner performing the research conducted the QI process and literature review. Once the literature was evaluated and determined that the research supports the need for the QI project, the project was implemented. After the project was implemented and determined that the project was appropriate to adopt into practice, the information was disseminated. The Iowa model allows for the promotion of practice change based on using the best evidence regarding the quality of patient care (White et al., 2016).

Lewin's change model was used to help guide the process (White et al., 2016). The model has three phases to promote change: (a) unfreeze—creating the need for change from the current situation, (b) change—the process of moving towards the change, and (c) refreeze—implementing and sustaining the change (White et al., 2016). The unfreeze phases will help to determine what changes need to be made in the WC along with gaining support from management. The change phase was used to help communicate the idea of the change. The refreeze phase allowed the change to become permanent if the QI project was successful. The refreeze phases will also allow for ongoing changes to the QI project as needed.

All three of the guiding frameworks used for the project were chosen because they help to determine if the change is needed in the organization. If change is needed the framework helps to guide the research process, the implementation phase, evaluation of the practice change, and dissemination into practice if deemed appropriate with allowance for continuous improvement as needed.

Chapter 4. Results and Outcomes

The Study Question

Does providing specific, standard education using the CDC Fact Sheet and the Fact Sheet from the Office on Women's Health on prevention of STIs improve scores by 20% on pre-post testing questions of females diagnosed with STIs seen in the WC?

Phases of Study

The PDSA was the model used to guide the QI project. The model consists of four stages which are: *Plan*—Identify the problem and develop the plan; *Do*—Implement the project, analyze the data as well as document problems encountered, and any unexpected findings; *Study*—Complete data analysis, compare the outcome of the data to the prediction, and summarize results; and *Act*—Execute the improved project (Institute for Healthcare Improvement, 2018).

Plan. During the planning stage, the DNP student noticed a lack of consistency in educating the patient diagnosed with an STI in the WC. In September 2018, a thorough discussion with the unit manager and medical director over the current process was initiated. The team decided to standardize the STI education to improve patient care. In October 2018, the DNP student submitted the project topic to the medical facility for approval, and the project approval was granted the same month. During this phase, the DNP conducted the research and evaluated the data. The DNP student decided to educate the females according to the CDC guidelines since the treatment for the infection are based on the CDC guidelines. The pretest and posttest were developed from the CDC fact sheet. On January 25, 2019, the DNP student successfully completed the first defense of the project. Changes to the project were determined, and the DNP student completed the revisions. The project was sent to the university QI committee for approval. During the planning phase, the DNP student identified the problem,

examined the current process, formed a team, researched and evaluated data. The DNP student received authorization to start the data collection phase on February 10, 2019.

Do—Data collection. A team of nurse practitioners was educated on the importance of using evidence-based information to educate the patients who are diagnosed with a sexually transmitted infection along with providing a pretest and posttest to assess the patient awareness of STIs. The data collection began on February 11, 2019. The participants were women 18 years and older who presented to the women's clinic for treatment and had a positive STI diagnosis. Also included were the women who came to the WC for treatment due to a positive STI diagnosis at one of the 10 clinics affiliated with the WC. The STI education was conducted over a 4-week time frame and completed on March 8, 2019. Each female that participated in the QI project was given a pretest to assess their awareness before the education and a posttest after the education to identify if there was an increase in awareness after the education. Although, the nurse practitioners in the WC were educated on the QI project, the DNP student provided the education and tests to every participant used for this QI project. The nurse practitioners who were educated on the QI project informed the DNP student when they had a female with a positive STI test so the DNP student could give the education.

Study—Analyze data. On March 18, 2019, the DNP student analyzed the data collected; the information was put into an excel spreadsheet. After the data was entered on the spreadsheet, the DNP student worked with the biostatistician who used statistical methods to analyze the collected data. The data revealed an overall increase in awareness.

Act—Plan for dissemination. The DNP student discussed the results with the WC medical director and manager. The results were presented to the WC QI committee. The QI committee along with the medical director and manager of the WC decided to continue using the

standardized, evidence-based education for all patients diagnosed with an STI in the WC. Other recommendations such as providing condoms and partner treatment were discussed with the leaders of the WC. The committee will determine the changes to the intervention. The project the DNP student completed the final defense on April 8, 2019, and on April 10, 2019, the project was presented at the TWU Graduate Student Research Symposium by the DNP student.

Defended DNP scholarly project. The DNP student successfully defended the project on April 8, 2019, to the TWU DNP scholarly project committee.

Measurements of Objectives

- To encourage safe sex practices by educating a minimum sample size of 99 patients who presented to the WC and had a positive STI result.
- To determine if the evidence-based education from the CDC on STIs provided awareness and education to the patients by a 20% increase pretest and posttest intervention.

Statistical methods and analysis. To help determine the minimum sample size a power analysis was conducted prior to the start of the project. It was established that a sample size of 99 would be needed to achieve 80% power in order to detect the mean of paired differences of 0.2 (pre: 0.30; post: 0.50) along with an approximate standard deviation difference of 0.7 and a significance level (alpha) of 0.05 using a two-sided paired *t*-test. Descriptive analysis was used to evaluate the percentages and means of standard deviations to describe the demographic data. The categorical variables were assessed by using the chi-square table using Fisher's exact test between the pretest and posttest questions. Continuous variables were also evaluated using paired *t*-test between the percentage of pre- and post-proportion correct.

Ethical implications. The project was presented to the hospital Office of Research Administration and was identified as a QI project and IRB exempt after reviewing the application and summary of the project proposal. The QI project was also reviewed by the institution's QI committee and considered exempt from IRB review. The risk to the participants was minimal in that no identifying information was collected and each participant was de-identified and assigned an ID number. The participants were also informed that they did not have to participate in the QI project and their decision not to participate would not affect their education or care.

Descriptive Statistics for Patient Demographics

The demographic data were collected from patients 18 years of age and older. The descriptive data of each participant included their age, language, ethnicity, educational level, and diagnosis. The QI project was conducted over a four-week timeframe with a total of 100 participants from a women's clinic located in a North Texas hospital. The data resource dictionary with the variables such as the age group, language, race, education, diagnosis, pretest and posttest questions with the answers is included in (Appendix F).

The participants in the project were all females. The participants spoke either English or Spanish with the majority of the participants speaking English at 73.0% as shown in Table 2.

Table 2

Language

Language	Frequency	%
English	73	73.0
Spanish	27	27.0
Total	100	100.0

The age range for the participants were divided into four age categories with the majority of the participants being in the 18–25 age range at (33.0%), followed by the 41 and over at (26.0%), and the smallest age group at (18.0%) was the 31–40 as shown in Table 3.

Table 3

Age Group

Age Group	Frequency	%
18–25	33	33.0
26–30	23	23.0
31–40	18	18.0
41+	26	26.0
Total	100	100.0

Race/Ethnicity groups that were represented in the project were White/Caucasian, Black/African American, and Hispanic/Latino. Most of the participants were Hispanic/Latino (49.0%), and the smallest category was White/Caucasian at (10.0%) as shown in Table 4.

Table 4

Race/Ethnicity

Race/Ethnicity	Frequency	%
White/Caucasian	10	10.0
Black/African American	41	41.0
Hispanic/Latino	49	49.0
Total	100	100.0

The level of education was divided into six categories: None representing no education, Middle School, Some High School, High School/GED, Some College, and College Graduate as

shown in Table 5. Majority of the participants were high school graduates or had a GED at 46.0%, and the smallest group were the college graduates at 2.0%, and four participants did not answer the level of education question. The level of education was important since a pretest and posttest was given along with the education. The goal of the education was to increase awareness, and the participants with a low level of education may not comprehend the information.

Table 5

Education

Education	Frequency	%
Missing	4	4.0
None	6	6.0
Middle School	15	15.0
Some High School	17	17.0
High School/GED	46	46.0
Some College	10	10.0
College Graduate	2	2.0
Total	100	100.0

The last description was the diagnosis which was divided into four categories: chlamydia, gonorrhea, genital herpes, and trichomoniasis. Most of the participants were diagnosed with Trichomoniasis at 61.0%, and Gonorrhea had the smallest group at 9.0% as shown in Table 6.

After the completion and review of the demographic data the data represent the patient demographics seen in the WC. However, one thing noted of interest was the percentage of participants over the age of 40 (26.0%). That age range was the second highest among the participants in this project.

Table 6

Diagnosis

Diagnosis	Frequency	%
Chlaymidia	20	20.0
Gonorrhea	9	9.0
Genital Herpes	10	10.0
Trichomoniasis	61	61.0
Total	100	100.0

Instruments used to assess effectiveness. A pretest and posttest was developed by the DNP student and used to evaluate the efficacy of the evidence-based education. The same questions were used for the pretest and posttest with the posttest questions rearranged in a different order as shown in Appendix C. The Spanish version of the test was reviewed by a certified educator for the proper wording and the reading level of both the test was evaluated by an 11-year-old. Five experts on the subject matter reviewed the test questions and answers and to ensure the test reliability and validity; the validity was tested through Texas Women's University using the Lynn (1986) method of analysis which produce a content validity index (CVI) of 100% relevancy as shown in Appendix G.

Methods used to ensure quality. To ensure the quality, the DNP student collected the information daily and entered the data into a Microsoft Excel spreadsheet. To ensure the information was correct, the DNP student rechecked the data before meeting with the biostatistician. Once all the data was transferred into Excel, the DNP student met with the biostatistician for the statistical analysis of the data.

Data analysis and statistical methods. There were 100 females used for this project. The data was collected from the pretest and posttest and put into a Microsoft Excel spreadsheet to be analyzed. Demographic data, such as age, race, and education level, were analyzed using descriptive statistics including means of standard deviation. Chi-square test using the Fisher's exact test was used to evaluate categorical variables between the pretest and posttest questions, and continuous variables were assessed using a paired t-test by the statistician. In order for the data to be statistically significant, the two-sided p-value has to be < 0.05 . To explore the pretest and posttest questions a chi-square test for independence using Fisher exact test and crosstabulation tables were used for each test question.

The question regarding, *Sexually transmitted infections are contracted by having sexual intercourse with an infected person*, using the crosstabulation figure, 85 participants answered that question correct on the pretest and 15 answered the question incorrect on the pretest. After the education was given 98 of the participants answered the question correctly, and two participants answered the question wrong on the posttest as shown in Figure 2. A chi-square test for independence using Fisher exact test was used to determine the level difference between the pretest and posttest questions. The exact sig. (2-sided) $p = 1.000$ which indicates no significant level difference in the question level pretest and posttest because 1.000 is not less than $p < .05$ as shown in Table 7.

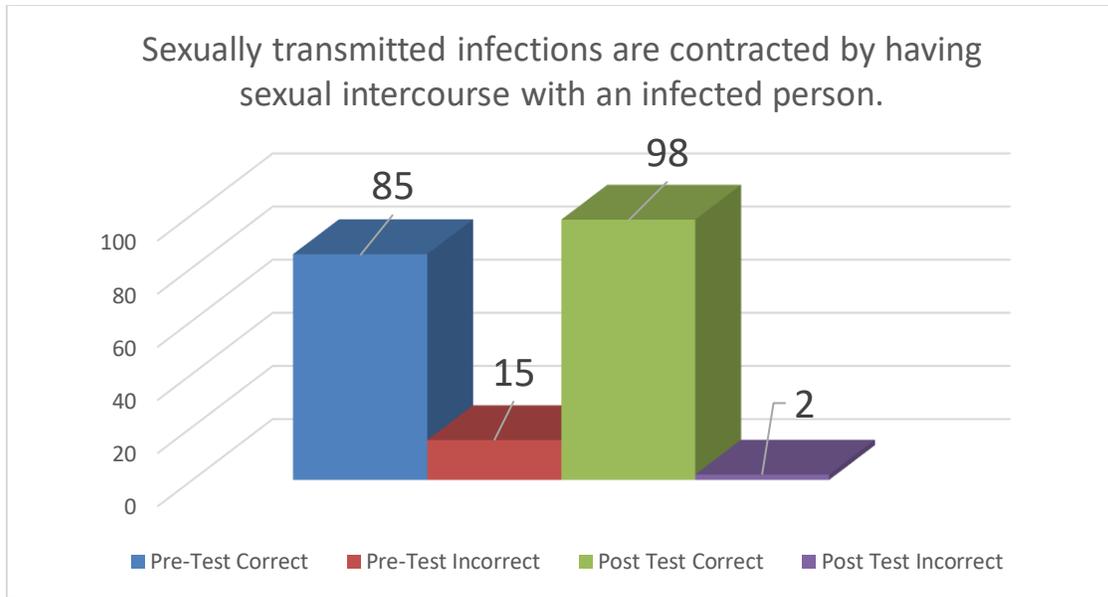


Figure 2. Crosstabulation 2x2 with chi-square test—Sexually transmitted infections are contracted by having sexual intercourse with an infected person.

Table 7

Chi-Square Tests—Sexually Transmitted Infections are Contracted by Having Sexual Intercourse with an Infected Person

Chi-Square Tests	Value	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Fisher’s Exact Test		1.000	.721
N of Valid Cases	100		

The question regarding, *If you test positive for a sexually transmitted infection and receive treatment, does your partner need treatment*, using the crosstabulation table 86 participants answered the question correctly on the pretest, and 14 participants answered the question wrong. After the education was given all 14 of the participants, who answered the question incorrectly answered the question right on the posttest. This question did not have a Chi-square test because all of the participants answered the question correctly on the posttest as shown in Figure 3.

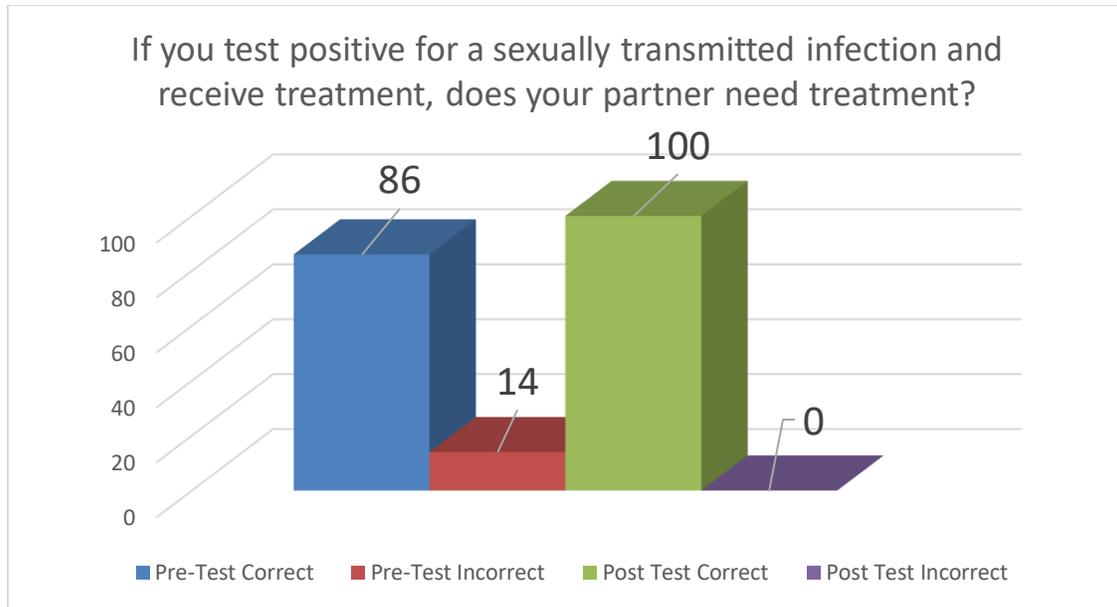


Figure 3. Crosstabulation—If you test positive for a sexually transmitted infection and receive treatment, does your partner need treatment? No chi-square was performed because every participant answered the test question correctly on the posttest.

Figure 3 is not a 2x2 crosstabulation, so a chi-square test is not required when all participants answered the question correctly on the posttest.

The question regarding, *Can condoms help to reduce the risk of contracting a sexually transmitted infection*, using the crosstabulation table, 74 participants answered the question correct on the pretest and 26 answered the question incorrect on the pretest. After the education was given 97 participants answered the question correctly on the posttest, and three participants answered the question incorrectly on the posttest as shown in Figure 4. A chi-square test for independence using Fisher exact test was used to determine the level difference between the pretest and posttest questions. The exact sig. (2-sided) $p = .165$ which indicates no level difference in the question pretest and posttest because the .165 is not less than $p < .05$ as shown in Table 8.

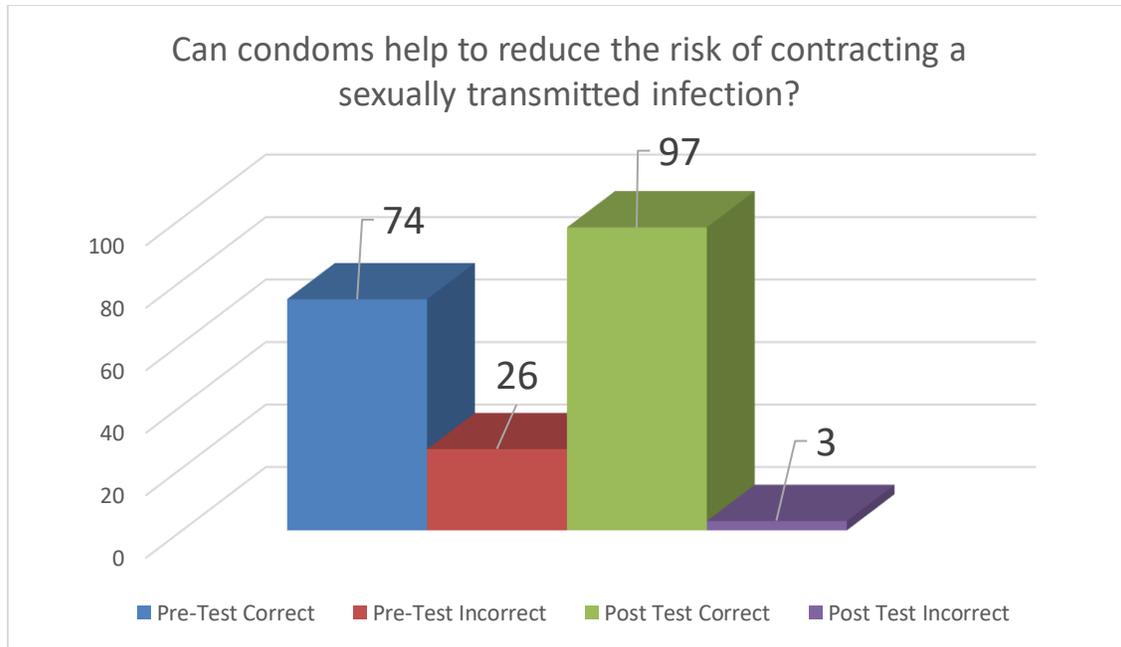


Figure 4. Crosstabulation 2x2 with chi-square test—Can condoms help to reduce the risk of contracting a sexually transmitted infection?

Table 8

Chi-Square Tests—Can Condoms Help to Reduce the Risk of Contracting a Sexually Transmitted Infection?

Chi-Square Tests	Value	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Fisher’s Exact Test		.165	.165
N of Valid Cases	100		

The question regarding, *Sexually transmitted infections that are not treated can cause health problems in women*, using the crosstabulation table 98 participants answered the question correct on the pretest, and two answered the question incorrect on the pretest. After the education was given both participants, who answered the question incorrectly got the question correct on the posttest. This chart did not have a chi-square test because the table is not 2x2. All of the participants answered the question correctly on the posttest as shown in Figure 5.

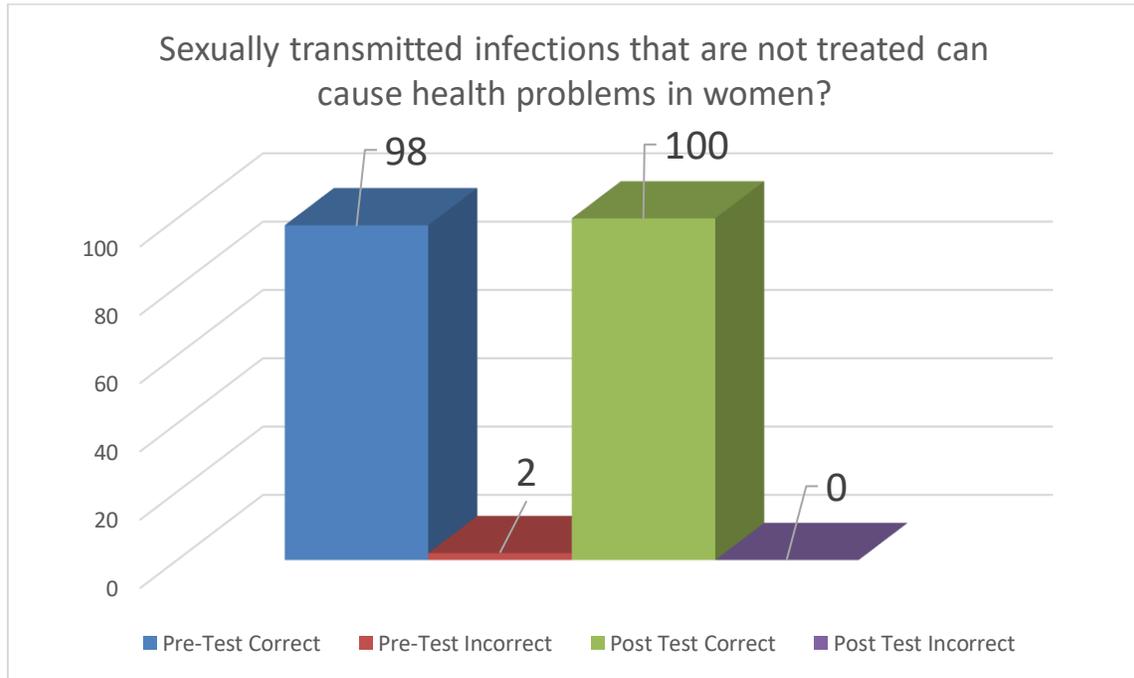


Figure 5. Crosstabulation—sexually transmitted infections that are not treated can cause health problems in women. No chi-square tests required, the table is not 2x2. Everyone answered the question correctly.

The question regarding, *Untreated sexually transmitted infections can cause harm to a newborn*, using the crosstabulation figure participants answered that question correct on the pretest and 13 participants answered the question incorrect on the pretest. After the education was given 98 participants answered the question correctly on the posttest. However, two participants answered the question incorrect on the posttest as shown in Figure 6. A chi-square test for independence using Fisher exact test was used to determine the level difference between the pretest and posttest questions. The exact sig. (2-sided) $p = 1.000$ which indicates no significant level difference in the question level pretest and posttest because 1.000 is not less than $p < .05$ as shown in Table 9.

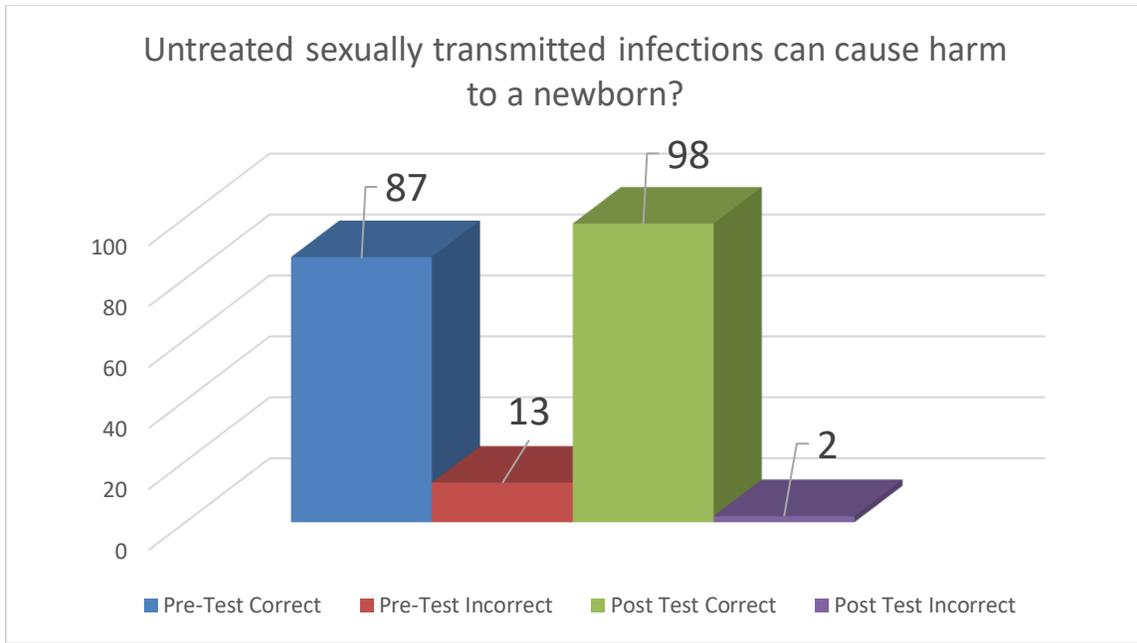


Figure 6. Crosstabulation with 2x2 chi-square test—untreated sexually transmitted infections can cause harm to a newborn.

Table 9

Chi-Square Tests—Untreated Sexually Transmitted Infections can Cause Harm to a Newborn

Chi-Square Tests	Value	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Fisher’s Exact Test		1.000	.756
N of Valid Cases	100		

The paired sample test was used to compare the pre correct percentage, and the post correct percentages of the tests are shown in Tables 10 and 11. The pretest ($M = .8600, SD = .169$) posttest ($M = .9860, SD = .051$), $t(99) = -.8.006, p < 0.00$ (two-tailed). The mean increase for pre and post correct percentage was 13% which is statistically significant.

Table 10

Paired Samples Statistics—Pre-Correct–Post Correct

Pair 1	<i>M</i>	<i>N</i>	<i>SD</i>	Std. Error Mean
Pre-Correct %	.8600	100	.16937	.01694
Post-Correct %	.9860	100	.05129	.00513

Table 11

Paired Samples Test—Pre-Correct–Post Correct

Pair 1	<i>t</i>	<i>df</i>	Sig. (2-tailed)	<i>M</i>	<i>SD</i>	St. Error Diff.	Paired Differences 95% Confidence Interval of the Diff.	
							Lower	Upper
Pre-Correct–Post Correct	-8.006	99	.000	-.12600	.15739	.01574	-13.3959	-.09477

Expected versus actual outcomes. The expected outcome was to increase awareness of STIs and STI prevention after receiving the evidence-based education by 20% pretest and posttest. The participants scored high on the pretest at 86%, making it impossible to have a 20% increase. However, the data show that it was a significant increase in awareness at 13%.

Quality Indicators and Resources

Quality indicator for the project was to increase awareness of STIs and STI prevention by providing an evidence-based education on sexually transmitted infections. The long term goal would be to decrease STIs in the females who received the education. The available resources for the success of the project included the institution which offers an environment that promotes QI projects. Also, included were the supportive staff members which included the medical director, managers, the auxiliary staff members of the WC who encourage the project, and the assistance

from the institution biostatistician. The statistician ensured that all the results from the statistical analysis were accurate.

Barriers

Barriers encountered during the implementation of the projects included some of the nurse practitioners refusing to participate in the QI project. Other barriers were the patients who declined to take the pretest and posttest. There were seven females total that declined to take the pretest and posttest. However, that number was not part of the 100 participants that took the pretest and posttest. The literacy level of some the patients was an expected barrier, and the DNP student along with the interpreters was prepared to read the pretest and posttest questions to the patients that could not read. One of the questions for the descriptive data was the level of education which helped to identify those participants with a low literacy level.

Chapter 5. Discussion

Interpretation of Findings

STIs are unduly affecting young men and women worldwide. STI education has been shown to be effective in increasing awareness and decreasing the incidence of STIs. The primary purpose of the quality improvement project was to educate the women who presented to the WC, tested positive and treated for an STI. The education was used to inform the participants on the mode of transmission, the dangers of untreated STIs, the effects that STIs have on the reproductive organs and STI prevention.

The QI initiative took place in the WC over a four-week time-frame. The methodological framework used to guide the initiative was the PDSA, IOWA model and Lewin's change theory. All three methods were instrumental in guiding the research process, the implementation phase, evaluation of the practice change, and the dissemination into practice.

The initiative consisted of an STI education along with a pretest and posttest. The pretest was used to evaluate the participant's awareness of STIs and STI prevention before the education, and the posttest was used to assess the participants' awareness after receiving the STI education. The pretest and posttest consisted of the same five questions with the posttest question rearranged in a different order to prevent memorization.

A chi-square test for independence using Fisher exact test and crosstabulation tables was used to explore the relationship between the pretest and posttest questions. It was anticipated that the QI initiative would increase the participant's awareness of STIs and STI prevention by at least 20%. However, the mean average on the pretest test was 86% which makes achieving a 20% increase impossible. The finding suggests that the participants who participated in the QI initiative were knowledgeable on STIs and STI prevention. Although the 20% increase in awareness was not met due to the high scores on the pretest, there was a 13% increase in awareness which is still statistically significant.

The Fisher exact test was used to determine if there was a level of difference between the pretest and posttest after the education. The results revealed that there was no level of difference between the pretest and posttest after the education. For there to have been a level of difference between the pretest and posttest the p-value had to be $< .05$. Each of the five questions had a p-value $> .05$.

The finding of the QI initiative revealed that the participants are aware of the mode of transmission, the dangers of untreated STIs, the effects that STIs have on the reproductive organs and STI prevention. The findings from the study along with the methodological framework can be used to help guide and implement future project on STI prevention.

Recommendations

When conducting this initiative, the DNP student anticipated statistically significant improvement in awareness from the pretest to posttest after the education. At the completion, of the initiative, the results revealed that the participant's had a high awareness of STIs and STI prevention with a mean average of 86% on the pretest before the education. However, the anticipated outcome of an increase in awareness after the education was still met as expected.

For future studies, the recommendation would be to extend the timeframe for a larger sample size. Offer the pretest and posttest to every female that test positive for an STI in the WC, not just the females 18 years and older. The DNP student would recommend providing condoms to the patients that test positive for an STI along with providing treatment and education to their partners. Also, future studies need to assess the patients' readiness for change. The results of the initiative showed that the participants were knowledgeable about STIs and STI prevention. Therefore, this DNP student recommends that the WC implement a behavioral assessment tool to assess the participant's readiness for change.

Limitations

There were several limitations noted in the study. One being a small sample size since the study did not include every patient that tested positive for a STI in the WC. The study did not include females under the age of 18. The WC provides STI testing and treatment to female under the age of 18, and those females may have benefited significantly from the pretest and posttest information. By eliminating that age group, along with the small sample size may have caused aberration in the test results. The timeframe was another limitation. Having a more extended timeframe would have yielded a more substantial number of participants for the project. Not having prevention measures such as condoms available for the participants to take home was a

limitation and finally not having a behavioral assessment tool in place to assess the participant's readiness for change was a limitation.

Future Directions

Continuous QI initiatives in the WC targeting STI prevention can provide beneficial information to improve the education and treatment process in the WC. The long-term goals for this project might include (a) providing condoms, (b) educating the partners, (c) providing treatment to the partner, (d) decrease the incidence in the women who present to the WC and test positive for an STI, and (f) developing a tool to assess readiness to change. As a result, the long term goals can be evaluated in 1-, 3-, and 5-year intervals. The results will be useful to the WC to determine what changes need to be made to the current STI education and treatment process. Future QI initiatives can be utilized to find solutions to improve STI awareness, prevention, and readiness to change to improve the overall health outcome of the patients that present to the WC and treated for an STI.

NP Role Consideration and Implications

The evidence-based QI initiative Increasing Awareness of Sexually Transmitted Infection Through Education has a solid foundation consistent with the Doctor of Nursing Practice (DNP) Essentials. The QI initiative addressed DNP Essentials I, II, III, VI, VII, VIII, which are summarized by the American Association of Colleges of Nursing (AACN, 2006).

Essential I: Scientific underpinnings for practice. Essential I is related to the integration of organizational science, nursing science, biophysical, analytical, ethics, and psychosocial knowledge as the foundation for the highest level of nursing (AACN, 2006). The initiative allowed the DNP student to review current educational practices and acknowledge the

need for a standardized, evidence-based education on sexually transmitted infections to be implemented and reviewed to improve the current process.

Essential II: Organizational and systems leadership for quality improvement and systems thinking. Essential II is related to addressing healthcare needs based on scientific findings and clinical sciences (AACN, 2006). The DNP student focused on the healthcare needs of the patient population she serves to develop a QI initiative to improve the health and well-being of the patients. The DNP student was able to implement and evaluated the QI initiative using the PDSA model, IOWA model, and the Lewin's change model to help improve the patient's outcome in the WC.

Essential III: Clinical scholarship and analytical methods for evidence-based practice. Essential III is related to implementing evidence-based research into practice and evaluating the outcome (AACN, 2006). The DNP student was able to develop, design, and implement a QI project, which allowed the DNP student to translate nursing research into practice and evaluate the outcome. The initiative helped the DNP student deliver patient-centered care using current evidence-based information.

Essential VI: Interprofessional collaboration for improving patient and population health outcomes. Essential VI is related to utilizing effective communication skills to collaborate with other professionals to improve health outcomes (AACN, 2006). The DNP student was able to collaborate with Advanced Practice Providers, registered nurses, and support staff for the design and implementation of the QI initiative. The Collaboration with other professionals allowed the DNP student to deliver a higher quality of care to the participants.

Essential VII: Clinical prevention and population health for improving the nation's health. Essential VII focuses on scientific data related to health promotion (AACN, 2006). The

DNP student was able to analyze data on sexually transmitted infection as it relates to disease prevention and implement a QI initiative in an effort to promote health. The project is in line with the hospital mission which strives to achieve healthcare excellence for the patients and the community it serves.

Essential VIII: Advanced nursing practice. Essential VIII was related to conducting a comprehensive assessment of health in complex situations, evaluating interventions while employing a culturally sensitive approach (AACN, 2006). The DNP student was able to design, implement, and evaluate a QI intervention based on nursing science. The DNP student was also able to establish a therapeutic relationship with the patients to raise awareness about sexually transmitted infections and prevention.

Plan for Dissemination

This project will be instrumental in educating the women that test positive for an STI in the WC. The project findings will be presented on April 10, 2019, at the Student creative arts research Symposium at TWU in Denton.

Conclusion

Worldwide over one million sexually transmitted infections are acquired each day (WHO, 2018). These infections are causing serious health problems in women worldwide and continue to be one of the main causes of infant morbidity and mortality with a higher prevalence among disadvantaged groups in the U.S. (Ickovics et al., 2016). The QI initiative was conducted to evaluate the effectiveness of providing standardized evidence-based STI education to the women in the clinic that tested positive for an STI. Once identified as having a positive STI test the evidence-based education was provided along with a pretest and a posttest. For the participants that could not read, the material was read to them. The DNP student was present at

all times to answer, read or clarify any information if needed. The initiative had a positive impact on increasing STI awareness in the women who participated in the project. The success of the initiative took a multidisciplinary team which consisted of nurse practitioners, physicians, registered nurses, and medical assistants who were all instrumental during the implementation phase. The QI initiative showed that it is feasible to implement a standardized, evidence-based STI education in the women's clinic. However, in the future, there is a need to evaluate the participant's readiness for change because the QI initiative revealed that the participants were knowledgeable about STIs and STI prevention before the education evident by high test scores on the pretest. Once these findings were discussed with the manager of the WC, plans are in place to develop a project that will evaluate readiness for change, since women are presenting to the WC with positive STI diagnosis in spite of being aware on how to prevent these infections.

References

- American Association of Colleges of Nursing. (2006). *The essentials of doctoral education for advanced nursing practice*. Retrieved from <https://www.aacnnursing.org/Portals/42/Publications/DNPEssentials.pdf>
- Borawski, E. A., Tufts, K. A., Trapl, E. S., Hayman, L. L., Yoder, L. D., & Lovegreen, L. D. (2015). Effectiveness of health education teachers and school nurses teaching sexually transmitted infections/human immunodeficiency virus prevention knowledge and skills in high school. *Journal of School Health*, 85(3), 189–196. doi:10.1111/josh.12234
- Brookmeyer, K. A., Hogben, M., & Kinsey, J. (2016). The role of behavioral counseling in sexually transmitted disease prevention program settings. *Sexually Transmitted Diseases*, 43(2 Suppl 1), S102–S112.
- Centers for Disease Control and Prevention. (2017a). *Adolescents and young adults*. Retrieved from <https://www.cdc.gov/std/life-stages-populations/adolescents-youngadults.htm>
- Centers for Disease Control and Prevention. (2017b). *Chlamydia*. Retrieved from <https://www.cdc.gov/std/chlamydia/stdfact-chlamydia.htm>
- Centers for Disease Control and Prevention. (2017c). *Clinical prevention guidance: 2015 sexually transmitted diseases treatment guidelines*. Retrieved from <https://www.cdc.gov/std/tg2015/clinical.htm>
- Centers for Disease Control and Prevention. (2017d). *Genital herpes*. Retrieved from <https://www.cdc.gov/std/herpes/default.htm>
- Centers for Disease Control and Prevention. (2017e). *Gonorrhea*. Retrieved from <https://www.cdc.gov/std/gonorrhea/default.htm>

Centers for Disease Control and Prevention. (2017f). *National Center for HIV/AIDS, Viral Hepatitis, STD, TB prevention*. Retrieved from

<https://www.cdc.gov/nchhstp/stateprofiles/default.htm>

Centers for Disease Control and Prevention. (2017g). *STDs & infertility*. Retrieved from

<https://www.cdc.gov/std/infertility/default.htm>

Centers for Disease Control and Prevention. (2017h). *Trichomoniasis*. Retrieved from

<https://www.cdc.gov/std/trichomonas/default.htm>

Centers for Disease Control and Prevention. (2018). *Syphilis*. Retrieved from

<https://www.cdc.gov/std/syphilis/default.htm>

Dallas County Health and Human Services. (2016). *Dallas county community health needs assessment*. Retrieved from <http://www.dallascounty.org/>

[department/hhs/documents/DallasCountyCommunityHealthNeedsAssessment2016-FINAL.PDF](http://www.dallascounty.org/department/hhs/documents/DallasCountyCommunityHealthNeedsAssessment2016-FINAL.PDF)

Dallas County Health and Human Services. (2017). *2017 profile of sexually transmitted infections in Dallas County*. Retrieved from [http://www.dallascounty.org/department](http://www.dallascounty.org/department/hhs/documents/STI2017DiseaseProfileDCHHS.pdf)

[/hhs/documents/STI2017DiseaseProfileDCHHS.pdf](http://www.dallascounty.org/department/hhs/documents/STI2017DiseaseProfileDCHHS.pdf)

Hull, S., Kelley, S., & Clarke, J. L. (2017). Sexually transmitted infections: Compelling case for an improved screening strategy. *Population Health Management, 20*(S1), S1–S11.

doi:10.1089/pop.2017.0132

Ickovics, J. R., Earnshaw, V., Lewis, J. B., Kershaw, T. S., Magriples, U., Stasko, E., . . . , Tobin, J. N. (2016). Cluster randomized controlled trial of group prenatal care: Perinatal outcomes among adolescents in New York City health centers. *American Journal Of Public Health, 106*(2), 359–365.

- Institute for Healthcare Improvement. (2018). *Science of improvement: Testing changes*. Retrieved from <http://www.ihl.org/resources/Pages/HowtoImprove/ScienceofImprovementTestingChanges.aspx>
- Keegan, M. B., Diedrich, J. T., & Peipert, J. F. (2014). Chlamydia trachomatis infection: Screening and management. *Journal of Clinical Outcomes Management*, 21(1), 30–38.
- Lynn, M. R. (1986). Determination and quantification of content validity. *Nursing Research*, 35(6), 382–385. doi:10.1097/00006199-198611000-00017
- Malavika J., Prabhudev, P., & Bandamma. N. (2017). A clinical study of ectopic pregnancy: A five-year institutional experience. *International Journal of Reproduction, Contraception, Obstetrics and Gynecology*, 6, 2168–2173. doi:10.18203/2320-1770.ijrcog20172298
- Marcus, C. (2014). Strategies for improving the quality of verbal patient and family education: A review of the literature and creation of the EDUCATE model. *Health Psychology and Behavioral Medicine*, 2, 482–495. doi:10.1080/21642850.2014.900450
- Marfatia, Y. S., Pandya, I., & Mehta, K. (2015). Condoms: Past, present, and future. *Indian Journal of Sexually Transmitted Diseases and AIDS*, 36(2), 133–139. doi:10.4103/0253-7184.167135
- Marotta, P. (2017). Assessing spatial relationships between race, inequality, crime, and gonorrhea and chlamydia in the United States. *Journal of Urban Health: Bulletin of the New York Academy of Medicine*, 94(5), 683–698. doi:10.1007/s11524-017-0179-5
- Mayo Clinic. (2018). *Sexually transmitted diseases (STDs)*. Retrieved from <https://www.mayoclinic.org/diseases-conditions/sexually-transmitted-disease-stds/symptoms-cause/syc-20351240>

- Melnyk, B. M., & Fineout-Overholt, E. (2005). *Evidence-based practice in nursing and healthcare: A guide to best practice* (2nd ed.). Philadelphia, PA: Wolters Kluwer/Lippincott Williams & Wilkins.
- Narasimhalu, C. R., & Muhilan, J. (2016). Randomized questionnaire based cross-sectional research study on awareness of sexually transmitted diseases amongst the general population between those who completed their high school education and those who have not. *Indian Journal of Sexually Transmitted Diseases*, 37(1), 17–20. doi:10.4103/0253-7184.176222
- Newman, L., Rowley, J., Vander Hoorn, S., Wijesooriya, N. S., Unemo, M., Low, N., . . . Temmerman, M. (2015). Global estimates of the prevalence and incidence of four curable sexually transmitted infections in 2012 based on systematic review and global reporting. *PLoS One*, 10(12), e0143304. doi:10.1371/journal.pone.0143304
- O'Connor, E., A., Lin, J. S., Burda, B. U., Henderson, J. T., Walsh, E. S., & Whitlock, E. P. (2014). Behavioral sexual risk-reduction counseling in primary care to prevent sexually transmitted infections: A systematic review for the U.S. preventive services task force. *Annals of Internal Medicine*, 161, 874–883. doi:10.7326/M14-0475
- Office of Disease Prevention and Health Promotion. (2018). *Sexually transmitted diseases*. Retrieved from <https://www.healthypeople.gov/2020/topics-objectives/topic/sexually-transmitted-diseases>
- Office on Women's Health. (2014). *Sexually transmitted infections (STIs)*. Retrieved from <https://www.womenshealth.gov/files/documents/fact-sheets-stis.pdf>
- Owusu-Edusei, K., Chesson, H. W., Gift, T. L., Tao, G., Mahajan, R., Ocfemia, M. C., & Kent, C. K. (2013). The estimated direct medical cost of selected sexually transmitted

- infections in the United States, 2008. *Sexually Transmitted Diseases*, 40(3), 197–201.
doi:10.1097/olq.0b013e318285c6d2
- Pereboom, M. T., Spelten, E. R., Mannin, J., Rours, G. I., Morr, S., A., Schellevis, F. G., & Hutton, E. K. (2014). Knowledge and acceptability of chlamydia trachomatis screening among pregnant women and their partners: A cross-sectional study. *BioMed Central Public Health*, 14(1), 704–712. doi:10.1186/1471-2458-14-704
- Relias Media. (2017). States with EPT laws may see most success in STI treatment. *Contraceptive Technology Update*, 38(8), 12–13.
- Rufino, É. C., Sgren, S., Andrade, D., Leadebal, C. P., Deyze, O., De Brito, G., . . . & Helena, S. (2016). Women's knowledge about STI/AIDS: Working with health education. *AIDS Education and Prevention*, 15, 304–311.
- Smith, M. (2013). *STDs linked to preterm birth, stillbirth*. Retrieved from <https://www.medpagetoday.com/obgyn/pregnancy/41403>
- Stover, J., Rosen, J., Carvalho M., Korenromp, E., Friedman, H., Cogan, M., & Deperthes, B. (2017). The case for investing in the male condom. *PLoS One*, 12(5), e0177108.
doi:10.1371/journal.pone.0177108
- Taylor, T., Middlebrooks, L., & Marco, C. A. (2017). Sexually transmitted infections in adolescents. *ED Legal Letter*, 28(7), 125–139.
- Tribal Evaluation Institute. (2016). *Plan-do-study-act (PDSA)*. Retrieved from <http://www.tribaleval.org/cqi/plan-do-study-act-pdsa/>
- U.S. Department of Health and Human Services. (2017). *What is the link between sexually transmitted diseases or sexually transmitted infections (STDs/STIs) and infertility?* Retrieved from <https://www.nichd.nih.gov/health/topics/stds/conditioninfo/infertility>

- Warr, A. J., Pintye, J., Kinuthia, J., Drake, A. L., Unger, J. A., McClelland, R. S., . . . John-Stewart, G. (2018, September 18). Sexually transmitted infections during pregnancy and subsequent risk of stillbirth and infant mortality in Kenya: A prospective study. *Sexually Transmitted Infections* [epub ahead of print]. doi:10.1136/sextrans-2018-053597
- White, K. M., Dudley-Brown, S., & Terhaar, M. F. (2016). *Translation of evidence into nursing and health care practice* (2nd ed.). New York, NY: Springer.
- Workowski, K. A., & Bolan, G. A. (2015). Sexually transmitted diseases treatment guidelines, 2015. *Morbidity and Mortality Weekly Report: Recommendations and Reports*, 64, 924–1061.
- World Health Organization. (2018). *Sexually transmitted infections (STIs): Key facts*. Retrieved from [http://www.who.int/news-room/fact-sheets/detail/sexually-transmitted-infections-\(stis\)](http://www.who.int/news-room/fact-sheets/detail/sexually-transmitted-infections-(stis))
- Zakher, B., Cantor, A. G., Pappas, M., Daeges, M., & Nelson, H. D. (2014). Screening for gonorrhea and chlamydia: A systematic review for the U.S. Preventive Services Task Force. *Annals of Internal Medicine*, 161, 884–893.

Appendix A

Synthesis of Literature

Table A1

Synthesis of Literature

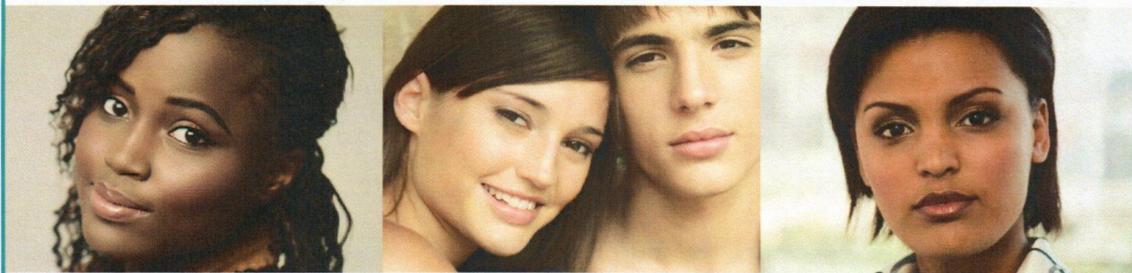
Specific Themes	Variations: Concepts	Variations: Methods and Design	Citations: Author and Year	Level of Evidence
Prevalence and incidence of STIs	Increasing rate of STIs	Systematic review	Newman et al., 2015	I
		Exploratory analysis	Marotta, P., 2017	V
The financial burden of STIs	Financial hardship of STIs	Study	Owusu-Edusei et al., 2013	IV
The adverse effect on reproductive health	Reproductive outcomes	Study	Hull et al., 2017	IV
		Nested longitudinal analysis	Warr et al., 2018	III
Positive effect of using protection/condoms	Safe sex promotion	Primary research	Stover et al., 2017	VII
		Research Study	Marfatia et al., 2015	IV
Positive impacts of STI education	Increasing knowledge	Group-randomized intervention study	Borawski et al., 2015	I
		Systematic review	Brookmeyer et al., 2016	I
		Cross-sectional research study	Narasimhalu et al., 2016	IV
		Systematic review	O'Connor et al., 2014	I
		Descriptive research (quantitative approach)	Rufino et al., 2016	VI

Note. Key to Evidence Levels: I = From systematic review or meta-analysis of all relevant randomized controlled trials (RCT's), or evidence-based clinical practice guidelines based on systematic reviews of RCT's; II = From at least one well-designed RCT; III = From well-designed controlled trials without randomization; IV = From well-designed case-control and cohort studies; V = From systematic reviews of descriptive and qualitative studies; VI = From single descriptive or qualitative study; VII = From the opinion of authorities and/or reports of expert committees. Adapted from Melnyk & Fineout-Overholt, 2005, p. 10.

Appendix B

CDC Fact Sheets

Chlamydia - CDC Fact Sheet



Chlamydia is a common sexually transmitted disease (STD) that can be easily cured. If left untreated, chlamydia can make it difficult for a woman to get pregnant.

What is chlamydia?

Chlamydia is a common STD that can infect both men and women. It can cause serious, permanent damage to a woman's reproductive system. This can make it difficult or impossible for her to get pregnant later on. Chlamydia can also cause a potentially fatal ectopic pregnancy (pregnancy that occurs outside the womb).

How is chlamydia spread?

You can get chlamydia by having vaginal, anal, or oral sex with someone who has chlamydia.

If your sex partner is male you can still get chlamydia even if he does not ejaculate (cum).

If you've had chlamydia and were treated in the past, you can still get infected again. This can happen if you have unprotected sex with someone who has chlamydia.

If you are pregnant, you can give chlamydia to your baby during childbirth.

How can I reduce my risk of getting chlamydia?

The only way to avoid STDs is to not have vaginal, anal, or oral sex.

If you are sexually active, you can do the following things to lower your chances of getting chlamydia:

- Be in a long-term mutually monogamous relationship with a partner who has been tested and has negative STD test results;
- Use latex condoms the right way every time you have sex. (<https://www.cdc.gov/condomeffectiveness/>)

Am I at risk for chlamydia?

Anyone who has sex can get chlamydia through unprotected vaginal, anal, or oral sex. However, sexually active young people are at a higher risk of getting chlamydia. This is due to behaviors and biological factors common among young people. Gay, bisexual, and other men who have sex with men are also at risk since chlamydia can spread through oral and anal sex.

Have an honest and open talk with your health care provider. Ask whether you should be tested for chlamydia or other STDs.

If you are a sexually active woman younger than 25 years, you should get a test for chlamydia every year. If you are an older woman with risk factors such as new or multiple sex partners, or a sex partner who has an STD, you should get a test for chlamydia every year. Gay, bisexual, and other men who have sex with men; as well as pregnant women should also get tested for chlamydia.

I'm pregnant. How does chlamydia affect my baby?

If you are pregnant and have chlamydia, you can pass the infection to your baby during delivery. This could cause an eye infection or pneumonia in your newborn. Having chlamydia may also make it more likely to deliver your baby too early.

If you are pregnant, you should get tested for chlamydia at your first prenatal visit. Testing and treatment are the best ways to prevent health problems.

National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention
Division of STD Prevention



How do I know if I have chlamydia?

Most people who have chlamydia have no symptoms. If you do have symptoms, they may not appear until several weeks after you have sex with an infected partner. Even when chlamydia causes no symptoms, it can damage your reproductive system.

Women with symptoms may notice

- An abnormal vaginal discharge;
- A burning sensation when urinating.

Symptoms in men can include

- A discharge from their penis;
- A burning sensation when urinating;
- Pain and swelling in one or both testicles (although this is less common).

Men and women can also get infected with chlamydia in their rectum. This happens either by having receptive anal sex, or by spread from another infected site (such as the vagina). While these infections often cause no symptoms, they can cause

- Rectal pain;
- Discharge;
- Bleeding.

You should be examined by your doctor if you notice any of these symptoms or if your partner has an STD or symptoms of an STD. STD symptoms can include an unusual sore, a smelly discharge, burning when urinating, or bleeding between periods.

How will my doctor know if I have chlamydia?

Laboratory tests can diagnose chlamydia. Your health care provider may ask you to provide a urine sample or may use (or ask you to use) a cotton swab to get a sample from your vagina to test for chlamydia.

Can chlamydia be cured?

Yes, chlamydia can be cured with the right treatment. It is important that you take all of the medication your doctor prescribes to cure your infection. When taken properly it will stop the infection and could decrease your chances of having complications later on. You should not share medication for chlamydia with anyone.

Repeat infection with chlamydia is common. You should be tested again about three months after you are treated, even if your sex partner(s) was treated.

I was treated for chlamydia. When can I have sex again?

You should not have sex again until you and your sex partner(s) have completed treatment. If your doctor prescribes a single dose of medication, you should wait seven days after taking the medicine before having sex. If your doctor prescribes a medicine for you to take for seven days, you should wait until you have taken all of the doses before having sex.

What happens if I don't get treated?

The initial damage that chlamydia causes often goes unnoticed. However, chlamydia can lead to serious health problems.

If you are a woman, untreated chlamydia can spread to your uterus and fallopian tubes (tubes that carry fertilized eggs from the ovaries to the uterus). This can cause pelvic inflammatory disease (PID). PID often has no symptoms, however some women may have abdominal and pelvic pain. Even if it doesn't cause symptoms initially, PID can cause permanent damage to your reproductive system. PID can lead to long-term pelvic pain, inability to get pregnant, and potentially deadly ectopic pregnancy (pregnancy outside the uterus).

Men rarely have health problems linked to chlamydia. Infection sometimes spreads to the tube that carries sperm from the testicles, causing pain and fever. Rarely, chlamydia can prevent a man from being able to have children.

Untreated chlamydia may also increase your chances of getting or giving HIV – the virus that causes AIDS.

Where can I get more information?

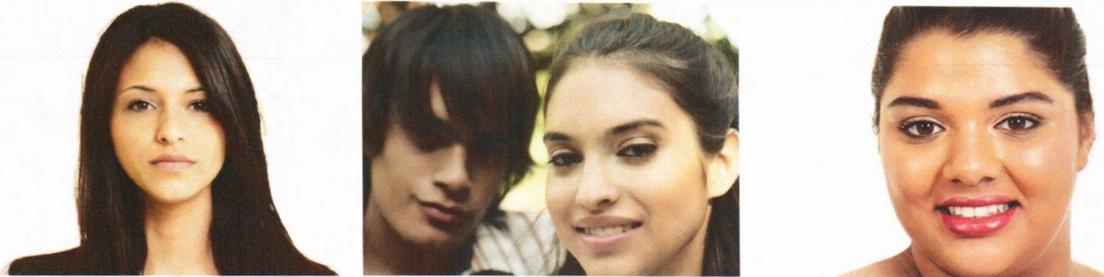
Division of STD Prevention
(DSTDP)
Centers for Disease Control and
Prevention
www.cdc.gov/std

CDC-INFO Contact Center
1-800-CDC-INFO
(1-800-232-4636)
[https://wwwn.cdc.gov/dcs/
ContactUs/Form](https://wwwn.cdc.gov/dcs/ContactUs/Form)

CDC National Prevention
Information Network (NPIN)
<https://npin.cdc.gov/disease/stds>
P.O. Box 6003
Rockville, MD 20849-6003 E-
mail: npin-info@cdc.gov

American Sexual Health
Association (ASHA)
[http://
www.ashasexualhealth.org/
stdsstis/](http://www.ashasexualhealth.org/stdsstis/)
P. O. Box 13827
Research Triangle Park, NC
27709-3827
1-800-783-9877

Clamidia: Hoja informativa de los CDC



La infección por clamidia es una enfermedad de transmisión sexual (ETS) común que es fácil de curar. Si se deja sin curar, puede hacer más difícil que una mujer quede embarazada.

¿Qué es la infección por clamidia?

La infección por clamidia es una ETS común que puede infectar tanto a los hombres como a las mujeres. Puede causar daños graves y permanentes en el aparato reproductor de una mujer y hacer más difícil o imposible que quede embarazada en el futuro. La infección por clamidia también puede provocar un embarazo ectópico (embarazo que ocurre fuera del útero) que puede ser mortal.

¿Cómo se propaga la infección por clamidia?

Usted puede contraer la infección por clamidia al tener relaciones sexuales anales, vaginales u orales con una persona que tenga esta infección.

Si su pareja sexual es hombre, usted puede contraer la infección por clamidia aunque él no eyacule (acabe).

Si ya ha tenido la infección por clamidia y recibió tratamiento en el pasado, usted puede todavía volver a infectarse si tiene relaciones sexuales sin protección con una persona infectada.

Si está embarazada, usted puede transmitírsela a su bebé durante el parto.

¿Cómo puedo evitar contraer la infección por clamidia?

Usted puede protegerse de contraer la infección por clamidia si:

- no tiene relaciones sexuales;
- tiene una relación mutuamente monógama a largo plazo con una pareja a quien se le hayan realizado pruebas y haya tenido resultados negativos para las ETS;
- usa condones de látex y diques dentales en forma correcta cada vez que tiene relaciones sexuales.

¿Tengo riesgo de contraer la infección por clamidia?

Cualquier persona que tenga relaciones sexuales puede contraer la infección por clamidia mediante relaciones sexuales anales,

vaginales u orales sin protección. No obstante, las personas jóvenes sexualmente activas tienen mayor riesgo de contraer esta infección. Esto se debe a factores conductuales y biológicos comunes entre las personas jóvenes. Los homosexuales, bisexuales y otros hombres que tienen relaciones sexuales con hombres también corren riesgo debido a que la infección por clamidia puede propagarse mediante las relaciones sexuales orales y anales.

Hable con su proveedor de atención médica de manera honesta y abierta y pregúntele si debe hacerse la prueba de detección de la clamidia o de otras ETS. Si es una mujer sexualmente activa menor de 25 años, o una mujer mayor con factores de riesgo —como el tener una nueva pareja sexual o múltiples parejas sexuales, o una pareja sexual con una infección de transmisión sexual—, debe hacerse una prueba de detección de la clamidia todos los años. Los homosexuales, bisexuales y otros hombres que tienen relaciones sexuales con hombres y las mujeres embarazadas también deben hacerse la prueba de detección de la clamidia.

Estoy embarazada. ¿Cómo afecta a mi bebé la infección por clamidia?

Si está embarazada y tiene la infección por clamidia, puede transmitírsela a su bebé durante el parto. Esto podría causar una infección en los ojos o neumonía en el recién nacido. Tener la infección por clamidia puede también aumentar su probabilidad de dar a luz a su bebé de manera prematura.

National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention
Division of STD Prevention



Si está embarazada, usted debe hacerse la prueba de detección de la clamidia en su primera visita prenatal. Las pruebas y los tratamientos son las mejores maneras de prevenir problemas de salud.

¿Cómo sé si tengo la infección por clamidia?

La mayoría de las personas que tienen la infección por clamidia no presentan síntomas. Si usted presenta síntomas, es posible que no aparezcan por varias semanas después de que haya tenido relaciones sexuales con una persona infectada. Incluso cuando no causa síntomas, la infección por clamidia puede dañar su aparato reproductor.

Las mujeres con síntomas podrían notar los siguientes:

- secreción vaginal anormal;
- sensación de ardor al orinar.

Los síntomas en los hombres pueden ser los siguientes:

- secreción del pene;
- sensación de ardor al orinar;
- dolor e inflamación de uno o ambos testículos (aunque esto es menos común).

Los hombres y las mujeres también pueden infectarse por clamidia en el recto, ya sea mediante las relaciones sexuales anales receptivas o la propagación desde otra parte infectada (como la vagina). Aunque por lo general estas infecciones no causan síntomas, pueden provocar:

- dolor en el recto;
- secreciones;
- sangrado.

Debe hacerse revisar por un médico si nota cualquiera de estos síntomas o si su pareja tiene una ETS o síntomas de una ETS, como dolor inusual, secreción con olor, ardor al orinar o sangrado entre periodos.

¿Cómo sabrá mi médico si tengo la infección por clamidia?

Existen pruebas de laboratorio para diagnosticar la infección por clamidia. Es posible que su proveedor de atención médica le pida una muestra de orina o use (o le pida que use) un hisopo para obtener una muestra de las secreciones de su vagina para hacerle una prueba para detectar la clamidia.

¿La infección por clamidia se puede curar?

Sí, la infección por clamidia se puede curar con el tratamiento correcto. Es importante que tome todos los medicamentos que su médico le recete para curar su infección. Cuando se toman de manera adecuada, detienen la infección y pueden disminuir su probabilidad de tener complicaciones en el futuro. Los medicamentos contra la infección por clamidia no se deben compartir con nadie.

La recurrencia de la infección por clamidia es común. Debe volver a hacerse la prueba unos tres meses después del tratamiento, incluso si su pareja sexual o parejas sexuales recibieron tratamiento.

¿Qué pasa si no recibo tratamiento?

A menudo, el daño que inicialmente causa la clamidia pasa desapercibido. Sin embargo, la infección por clamidia puede causar problemas de salud graves.

Si usted es mujer, la infección por clamidia que no se trata puede propagarse al útero y a las trompas de Falopio (los conductos que transportan los óvulos fecundados desde los ovarios hasta el útero), y causar enfermedad inflamatoria pélvica (EIP). La enfermedad inflamatoria pélvica por lo general no presenta síntomas; sin embargo, algunas mujeres pueden tener dolor abdominal y pélvico. Aun cuando no cause síntomas iniciales, la enfermedad inflamatoria pélvica puede causar daño permanente al aparato reproductor y dolor pélvico crónico, imposibilidad de quedar embarazada y embarazo ectópico (embarazo fuera del útero) que puede causar la muerte.

Los hombres raramente tienen problemas de salud asociados a la infección por clamidia. En ocasiones, la infección se propaga al conducto que transporta el semen desde los testículos, lo cual causa dolor y fiebre. La clamidia, en muy pocos casos, puede causar que un hombre no pueda tener hijos.

Una infección por clamidia que no se trate también puede aumentar su probabilidad de contraer o transmitir el VIH, el virus que causa el SIDA.

Recibí tratamiento contra la infección por clamidia. ¿Cuándo puedo tener relaciones sexuales nuevamente?

Usted no debe tener relaciones sexuales de nuevo hasta que usted y su pareja sexual o sus parejas sexuales hayan completado el tratamiento. Si su médico le recetó un medicamento de una sola dosis, deberá esperar siete días después de haberlo tomado, antes de volver a tener relaciones sexuales. Si su médico le recetó un medicamento que debe tomar durante siete días, deberá esperar a terminar todas las dosis antes de tener relaciones sexuales.

¿Dónde puedo obtener más información?

División de Prevención de Enfermedades de Transmisión Sexual (DSTDP)

Centros para el Control y la Prevención de Enfermedades

<https://www.cdc.gov/std/spanish/default.htm>

Centro de información de los CDC
1-800-CDC-INFO (1-800-232-4636)

Comuníquese con CDC-INFO

<https://www.cdc.gov/dcs/espanol>

Quiero Saber (ASHA)

<http://www.quierosaber.org/ets.html>

P.O. Box 13827

Research Triangle Park, NC 27709-3827

1-800-783-9877

Gonorrhea - CDC Fact Sheet



Anyone who is sexually active can get gonorrhea. Gonorrhea can cause very serious complications when not treated, but can be cured with the right medication.

What is gonorrhea?

Gonorrhea is a sexually transmitted disease (STD) that can infect both men and women. It can cause infections in the genitals, rectum, and throat. It is a very common infection, especially among young people ages 15-24 years.

How is gonorrhea spread?

You can get gonorrhea by having vaginal, anal, or oral sex with someone who has gonorrhea. A pregnant woman with gonorrhea can give the infection to her baby during childbirth.

How can I reduce my risk of getting gonorrhea?

The only way to avoid STDs is to not have vaginal, anal, or oral sex.

If you are sexually active, you can do the following things to lower your chances of getting gonorrhea:

- Being in a long-term mutually monogamous relationship with a partner who has been tested and has negative STD test results;
- Using latex condoms the right way every time you have sex. (<https://www.cdc.gov/condomeffectiveness/>)

Am I at risk for gonorrhea?

Any sexually active person can get gonorrhea through unprotected vaginal, anal, or oral sex.

If you are sexually active, have an honest and open talk with your health care provider and ask whether you should be tested for gonorrhea or other STDs. If you are a sexually active man who is gay, bisexual, or who has sex with men, you should be tested for gonorrhea every year. If you are a sexually active woman younger than 25 years or an older woman with risk factors such as new or multiple sex partners, or a sex partner who has a sexually transmitted infection, you should be tested for gonorrhea every year.

I'm pregnant. How does gonorrhea affect my baby?

If you are pregnant and have gonorrhea, you can give the infection to your baby during delivery. This can cause serious health problems for your baby. If you are pregnant, it is important that you talk to your health care provider so that you get the correct examination, testing, and treatment, as necessary. Treating gonorrhea as soon as possible will make health complications for your baby less likely.

How do I know if I have gonorrhea?

Some men with gonorrhea may have no symptoms at all. However, men who do have symptoms, may have:

- A burning sensation when urinating;
- A white, yellow, or green discharge from the penis;
- Painful or swollen testicles (although this is less common).

National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention
Division of STD Prevention



Most women with gonorrhea do not have any symptoms. Even when a woman has symptoms, they are often mild and can be mistaken for a bladder or vaginal infection. Women with gonorrhea are at risk of developing serious complications from the infection, even if they don't have any symptoms.

Symptoms in women can include:

- Painful or burning sensation when urinating;
- Increased vaginal discharge;
- Vaginal bleeding between periods.

Rectal infections may either cause no symptoms or cause symptoms in both men and women that may include:

- Discharge;
- Anal itching;
- Soreness;
- Bleeding;
- Painful bowel movements.

You should be examined by your doctor if you notice any of these symptoms or if your partner has an STD or symptoms of an STD, such as an unusual sore, a smelly discharge, burning when urinating, or bleeding between periods.

How will my doctor know if I have gonorrhea?

Most of the time, urine can be used to test for gonorrhea. However, if you have had oral and/or anal sex, swabs may be used to collect samples from your throat and/or rectum. In some cases, a swab may be used to collect a sample from a man's urethra (urine canal) or a woman's cervix (opening to the womb).

Can gonorrhea be cured?

Yes, gonorrhea can be cured with the right treatment. It is important that you take all of the medication your doctor prescribes to cure your infection. Medication for gonorrhea should not be shared with anyone. Although medication will stop the infection, it will not undo any permanent damage caused by the disease.

It is becoming harder to treat some gonorrhea, as drug-resistant strains of gonorrhea are increasing. If your symptoms continue for more than a few days after receiving treatment, you should return to a health care provider to be checked again.

I was treated for gonorrhea. When can I have sex again?

You should wait seven days after finishing all medications before having sex. To avoid getting infected with gonorrhea again or spreading gonorrhea to your partner(s), you and your sex partner(s) should avoid having sex until you have each completed treatment. If you've had gonorrhea and took medicine in the past, you can still get infected again if you have unprotected sex with a person who has gonorrhea.

What happens if I don't get treated?

Untreated gonorrhea can cause serious and permanent health problems in both women and men.

In women, untreated gonorrhea can cause pelvic inflammatory disease (PID). Some of the complications of PID are

- Formation of scar tissue that blocks fallopian tubes;
- Ectopic pregnancy (pregnancy outside the womb);
- Infertility (inability to get pregnant);
- Long-term pelvic/abdominal pain.

In men, gonorrhea can cause a painful condition in the tubes attached to the testicles. In rare cases, this may cause a man to be sterile, or prevent him from being able to father a child.

Rarely, untreated gonorrhea can also spread to your blood or joints. This condition can be life-threatening.

Untreated gonorrhea may also increase your chances of getting or giving HIV – the virus that causes AIDS.

Where can I get more information?

Division of STD Prevention
(DSTDP)
Centers for Disease Control and
Prevention
www.cdc.gov/std

CDC-INFO Contact Center
1-800-CDC-INFO
(1-800-232-4636)
[https://wwwn.cdc.gov/dcs/
ContactUs/Form](https://wwwn.cdc.gov/dcs/ContactUs/Form)

CDC National Prevention
Information Network (NPIN)
<https://npin.cdc.gov/disease/stds>
P.O. Box 6003
Rockville, MD 20849-6003 E-
mail: npin-info@cdc.gov

American Sexual Health
Association (ASHA)
[http://
www.ashasexualhealth.org/
stdsstis/](http://www.ashasexualhealth.org/stdsstis/)
P. O. Box 13827
Research Triangle Park, NC
27709-3827
1-800-783-9877

Gonorrea: Hoja informativa de los CDC



Cualquier persona que tenga relaciones sexuales puede contraer gonorrea. La gonorrea puede causar complicaciones muy graves cuando no se trata, pero se puede curar con los medicamentos correctos.

¿Qué es la gonorrea?

La gonorrea es una enfermedad de transmisión sexual (ETS) que puede infectar tanto a los hombres como a las mujeres. Puede causar infecciones en los genitales, el recto y la garganta. Es una infección muy común, especialmente en las personas jóvenes de 15 a 24 años.

¿Cómo se transmite la gonorrea?

Usted puede contraer gonorrea al tener relaciones sexuales anales, vaginales y orales con una persona que tenga esta enfermedad.

Una mujer embarazada con gonorrea puede transmitírsela a su bebé durante el parto.

¿Cómo puedo evitar contraer gonorrea?

Usted puede evitar contraer gonorrea si:

- no tiene relaciones sexuales;
- tiene una relación mutuamente monógama a largo plazo con una pareja a quien se le hayan realizado pruebas y haya tenido resultados negativos para las ETS;
- usa condones de látex y diques dentales en forma correcta cada vez que tiene relaciones sexuales.

¿Tengo riesgo de contraer gonorrea?

Cualquier persona que tenga relaciones sexuales puede contraer gonorrea mediante las relaciones sexuales anales, vaginales u orales sin protección.

Si usted es sexualmente activo, hable con su proveedor de atención médica de manera honesta y abierta, y pregúntele si debe hacerse la prueba de detección de la gonorrea o de otras ETS. Si es una mujer sexualmente activa menor de 25 años, o una mujer mayor con factores de riesgo —como el tener una nueva pareja sexual o múltiples parejas sexuales, o una pareja

sexual con una infección de transmisión sexual—, debe hacerse una prueba de detección de la gonorrea todos los años. Si usted es un hombre sexualmente activo, homosexual, bisexual o tiene relaciones con hombres y es sexualmente activo, debe hacerse la prueba de detección de la gonorrea anualmente.

Estoy embarazada. ¿Cómo afecta a mi bebé la gonorrea?

Si está embarazada y tiene gonorrea, puede transmitirle la infección a su bebé durante el parto. Esto puede causarle problemas graves de salud a su bebé. Si está embarazada, es importante que hable con su proveedor de atención médica para que le hagan los exámenes físicos y las pruebas adecuadas y reciba el tratamiento correcto, según sea necesario. Tratar la gonorrea lo antes posible disminuirá las probabilidades de que su bebé tenga complicaciones de salud.

¿Cómo sé si tengo gonorrea?

Es posible que algunos hombres con gonorrea no presenten ningún síntoma. Sin embargo, los hombres que presentan síntomas pueden tener:

- sensación de ardor al orinar;
- secreción de color blanco, amarillo o verde del pene;
- dolor o inflamación en los testículos (aunque esto es menos común).

National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention
Division of STD Prevention



La mayoría de las mujeres con gonorrea no tienen síntomas. Incluso cuando tienen síntomas, por lo general, son leves y se pueden confundir con los síntomas de una infección vaginal o de la vejiga. Las mujeres con gonorrea corren el riesgo de tener complicaciones graves por la infección, aun cuando no presenten ningún síntoma.

Los síntomas en las mujeres pueden ser los siguientes:

- dolor o sensación de ardor al orinar;
- aumento de la secreción vaginal;
- sangrado vaginal entre periodos.

Las infecciones del recto pueden no causar síntomas tanto en los hombres como en las mujeres o pueden causarles los siguientes:

- secreciones;
- picazón anal;
- dolores;
- sangrado;
- dolor al defecar.

Debe hacerse revisar por un médico si nota cualquiera de estos síntomas o si su pareja tiene una ETS o síntomas de una ETS, como dolor inusual, secreción con olor, ardor al orinar o sangrado entre periodos.

¿Cómo sabrá mi médico si tengo gonorrea?

En la mayoría de los casos, se puede utilizar una muestra de orina para detectar la gonorrea. Sin embargo, si usted ha tenido relaciones sexuales orales o anales, se puede usar un hisopo para obtener muestras de la garganta o del recto. En algunos casos, se deben tomar muestras de la uretra del hombre (canal urinario) o del cuello uterino de la mujer (la abertura de la matriz) con un hisopo.

¿Se puede curar la gonorrea?

Sí, la gonorrea se puede curar con el tratamiento correcto. Es importante que tome todos los medicamentos que su médico le recete para curar su infección. Los medicamentos contra la gonorrea no se deben compartir con nadie. Si bien los medicamentos detendrán la infección, no repararán ninguna lesión permanente que haya causado la enfermedad.

Es cada vez más difícil tratar algunos casos de gonorrea debido a que las cepas de gonorrea resistentes a los medicamentos están aumentando. Si sus síntomas continúan por más de unos días después del tratamiento, debe regresar a su proveedor de atención médica para que le hagan otro chequeo.

Recibí tratamiento contra la gonorrea. ¿Cuándo puedo tener relaciones sexuales nuevamente?

Debe esperar siete días después de terminar todos los medicamentos antes de tener relaciones sexuales. Para evitar que se infecte de gonorrea nuevamente o que se la transmita a su pareja sexual o sus parejas sexuales, debe evitar tener relaciones sexuales hasta que cada persona haya completado el tratamiento. Si usted ya ha tenido gonorrea y tomó medicamentos en el pasado, todavía se puede infectar nuevamente si tiene relaciones sexuales sin protección con una persona que tenga gonorrea.

¿Qué pasa si no recibo tratamiento?

Cuando la gonorrea no se trata, puede ocasionar problemas de salud graves y permanentes tanto en los hombres como en las mujeres.

En las mujeres, la gonorrea sin tratar puede causar la enfermedad inflamatoria pélvica (EIP). Algunas de las complicaciones de la EIP son las siguientes:

- formación de tejido cicatricial que obstruye las trompas de Falopio;
- embarazo ectópico (embarazo afuera del útero);
- infertilidad (incapacidad para quedar embarazada);
- dolor pélvico o abdominal crónico.

En los hombres, la gonorrea puede causar una afección dolorosa en los conductos de los testículos. En casos muy poco comunes, esto puede causarle a un hombre infertilidad o hacer que no pueda tener hijos.

La gonorrea que no se trata puede también rara vez propagarse a la sangre o las articulaciones. Esta afección puede ser mortal.

La gonorrea que no se trata también puede aumentar sus probabilidades de contraer o transmitir el VIH, el virus que causa el SIDA.

¿Dónde puedo obtener más información?

División de Prevención de Enfermedades de Transmisión Sexual (DSTDP)
Centros para el Control y la Prevención de Enfermedades
<https://www.cdc.gov/std/spanish/default.htm>

Centro de información de los CDC
1-800-CDC-INFO (1-800-232-4636)
Comuníquese con CDC-INFO
<https://wwwn.cdc.gov/dcs/espanol>

Quiero Saber (ASHA)
<http://www.quierosaber.org/ets.html>
P.O. Box 13827
Research Triangle Park, NC 27709-3827
1-800-783-9877

Trichomoniasis - CDC Fact Sheet



Most people who have trichomoniasis do not have any symptoms.

What is trichomoniasis?

Trichomoniasis (or “trich”) is a very common sexually transmitted disease (STD). It is caused by infection with a protozoan parasite called *Trichomonas vaginalis*. Although symptoms of the disease vary, most people who have the parasite cannot tell they are infected.

How common is trichomoniasis?

Trichomoniasis is the most common curable STD. In the United States, an estimated 3.7 million people have the infection. However, only about 30% develop any symptoms of trichomoniasis. Infection is more common in women than in men. Older women are more likely than younger women to have been infected with trichomoniasis.

How do people get trichomoniasis?

The parasite passes from an infected person to an uninfected person during sex. In women, the most commonly infected part of the body is the lower genital tract (vulva, vagina, cervix, or urethra). In men, the most commonly infected body part is the inside of the penis (urethra). During sex, the parasite usually spreads from a penis to a vagina, or from a vagina to a penis. It can also spread from a vagina to another vagina. It is not common for the parasite to infect other body parts, like the hands, mouth, or anus. It is unclear why some people with the infection get symptoms while others do not. It probably depends on factors like a person’s age and overall health. Infected people without symptoms can still pass the infection on to others.

What are the signs and symptoms of trichomoniasis?

About 70% of infected people do not have any signs or symptoms. When trichomoniasis does cause symptoms, they can range from mild irritation to severe inflammation. Some people with symptoms get them within 5 to 28 days after being infected. Others do not develop symptoms until much later. Symptoms can come and go.

Men with trichomoniasis may notice:

- Itching or irritation inside the penis;
- Burning after urination or ejaculation;
- Discharge from the penis.

Women with trichomoniasis may notice:

- Itching, burning, redness or soreness of the genitals;
- Discomfort with urination;
- A change in their vaginal discharge (i.e., thin discharge or increased volume) that can be clear, white, yellowish, or greenish with an unusual fishy smell.

Having trichomoniasis can make it feel unpleasant to have sex. Without treatment, the infection can last for months or even years.

National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention
Division of STD Prevention



What are the complications of trichomoniasis?

Trichomoniasis can increase the risk of getting or spreading other sexually transmitted infections. For example, trichomoniasis can cause genital inflammation that makes it easier to get infected with HIV, or to pass the HIV virus on to a sex partner.

How does trichomoniasis affect a pregnant woman and her baby?

Pregnant women with trichomoniasis are more likely to have their babies too early (preterm delivery). Also, babies born to infected mothers are more likely to have a low birth weight (less than 5.5 pounds).

How is trichomoniasis diagnosed?

It is not possible to diagnose trichomoniasis based on symptoms alone. For both men and women, your health care provider can examine you and get a laboratory test to diagnose trichomoniasis.

What is the treatment for trichomoniasis?

Trichomoniasis can be treated with medication (either metronidazole or tinidazole). These pills are taken by mouth. It is safe for pregnant women to take this medication. It is not recommended to drink alcohol within 24 hours after taking this medication.

People who have been treated for trichomoniasis can get it again. About 1 in 5 people get infected again within 3 months after receiving treatment. To avoid getting reinfected, make sure that all of your sex partners get treated. Also, wait 7- 10 days after you and your partner have been treated to have sex again. Get checked again if your symptoms come back.

How can trichomoniasis be prevented?

The only way to avoid STDs is to not have vaginal, anal, or oral sex.

If you are sexually active, you can do the following things to lower your chances of getting trichomoniasis:

- Be in a long-term mutually monogamous relationship with a partner who has been tested and has negative STD test results;
- Use latex condoms the right way every time you have sex. This can lower your chances of getting trichomoniasis. But the parasite can infect areas that are not covered by a condom - so condoms may not fully protect you from getting trichomoniasis.

Another approach is to talk about the potential risk of STDs before you have sex with a new partner. That way you can make informed choices about the level of risk you are comfortable taking with your sex life.

If you or someone you know has questions about trichomoniasis or any other STD, talk to a health care provider.

Where can I get more information?

Division of STD Prevention (DSTDP)
Centers for Disease Control and Prevention
www.cdc.gov/std

CDC-INFO Contact Center
1-800-CDC-INFO
(1-800-232-4636)
<https://wwwn.cdc.gov/dcs/ContactUs/Form>

CDC National Prevention Information Network (NPIN)
<https://npin.cdc.gov/disease/stds>
P.O. Box 6003
Rockville, MD 20849-6003
E-mail: npin-info@cdc.gov

American Sexual Health Association (ASHA)
<http://www.ashasexualhealth.org/stdsstis/>
P. O. Box 13827
Research Triangle Park, NC 27709-3827
1-800-783-9877

11/01/17

Tricomoniasis: Hoja informativa de los CDC



¿Qué es la tricomoniasis?

La tricomoniasis (o "tric") es una enfermedad de transmisión sexual (ETS) muy común causada por la infección transmitida por el parásito protozoario llamado *Trichomonas vaginalis*. Los síntomas de la enfermedad pueden variar, y la mayoría de hombres y mujeres que tienen el parásito no saben que están infectados.

¿Qué tan frecuente es la tricomoniasis?

La tricomoniasis es considerada la enfermedad de transmisión sexual curable más común. En los Estados Unidos, se calcula que 3.7 millones de personas tienen esa infección, pero solo alrededor de un 30% presenta algún síntoma. Es más frecuente en las mujeres que en los hombres y las mayores son más propensas que las jóvenes a tener la infección.

¿Cómo se contrae la tricomoniasis?

Una persona infectada puede transmitirle el parásito a otra persona que no tenga la infección durante las relaciones sexuales. En las mujeres, el área del cuerpo infectada con más frecuencia es la parte baja del aparato genital (la vulva, la vagina o la uretra) y en los hombres es la parte interna del pene (uretra). Durante las relaciones sexuales, el parásito por lo general se transmite del pene a la vagina o de la vagina al pene, pero también se puede transmitir de una vagina a otra. No es frecuente que el parásito infecte otras partes del cuerpo, como las manos, la boca o el ano. No está claro por qué algunas personas con la infección presentan síntomas y otras no, pero probablemente depende de factores como la edad de la persona y su salud en general. Las personas infectadas que no tengan síntomas de todos modos pueden transmitirles la infección a otras.

¿Cuáles son los signos y síntomas de la tricomoniasis?

Alrededor del 70% de las personas infectadas no presentan signos ni síntomas. Cuando la tricomoniasis causa síntomas, pueden variar entre irritación leve e inflamación grave. Algunas

personas presentan los síntomas durante los 5 a 28 días después de haberse infectado, pero otras los presentan mucho más tarde. Los síntomas pueden aparecer y desaparecer.

Los hombres con tricomoniasis pueden sentir picazón o irritación dentro del pene, ardor después de orinar o eyacular, o pueden tener alguna secreción del pene.

Las mujeres con tricomoniasis pueden notar picazón, ardor, enrojecimiento o dolor en los genitales, molestia al orinar, o una secreción clara con un olor inusual que puede ser transparente, blanca, amarillenta o verdosa.

Tener tricomoniasis puede provocar molestias al tener relaciones sexuales. Si no se trata, la infección puede durar meses y hasta años.

¿Cuáles son las complicaciones de la tricomoniasis?

La tricomoniasis puede aumentar el riesgo de contraer o propagar otras infecciones de transmisión sexual. Por ejemplo, puede causar inflamación genital que hace más fácil infectarse con el virus del VIH o transmitírselo a una pareja sexual.

¿Qué efectos tiene la tricomoniasis en una mujer embarazada y en su bebé?

Las mujeres embarazadas que tienen tricomoniasis son más propensas a tener sus bebés antes de tiempo (parto prematuro). Además, los bebés nacidos de madres infectadas tienen más probabilidades de tener bajo peso al nacer, según los parámetros oficiales (menos de 5.5 libras).

National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention
Division of STD Prevention



¿Cómo se diagnostica la tricomoniasis?

Es imposible diagnosticar la tricomoniasis basándose únicamente en los síntomas. Tanto a los hombres como a las mujeres, el médico de atención primaria u otro proveedor de atención médica tiene que hacerles un examen y una prueba de laboratorio para diagnosticar la tricomoniasis.

¿Cuál es el tratamiento de la tricomoniasis?

La tricomoniasis se puede curar con una sola dosis de un antibiótico recetado (puede ser metronidazol o tinidazol), en pastillas que se pueden tomar por la boca. Las mujeres embarazadas pueden tomar este medicamento. Algunas personas que consuman alcohol durante las 24 horas después de tomar este tipo de antibiótico pueden tener efectos secundarios molestos.

Las personas que hayan sido tratadas por tricomoniasis pueden contraerla de nuevo. Aproximadamente 1 de cada 5 personas se infectan otra vez dentro de los 3 meses después del tratamiento. Para evitarlo, asegúrese de que todas sus parejas sexuales también reciban tratamiento y espere para tener relaciones sexuales nuevamente hasta que todos sus síntomas hayan desaparecido (alrededor de una semana). Hágase examinar otra vez si le vuelven los síntomas.

¿Cómo se puede prevenir la tricomoniasis?

Usar condones de látex correctamente todas las veces que tenga relaciones sexuales le ayudará a reducir el riesgo de contraer o transmitir la tricomoniasis. Sin embargo, los condones no cubren toda el área y es posible contraer o transmitir esta infección incluso cuando se utiliza uno.

La única manera segura de prevenir las infecciones de transmisión sexual es evitar por completo las relaciones sexuales. Otra manera de abordarlo es hablar acerca de esta clase de infecciones antes de tener relaciones sexuales con una nueva pareja, para tomar decisiones fundamentadas acerca del nivel de riesgo con que la persona se siente cómoda en su vida sexual.

Si usted o alguna persona que conozca tiene preguntas acerca de la tricomoniasis o cualquier otra enfermedad de transmisión sexual, especialmente con síntomas como una secreción inusual, ardor al orinar o una úlcera en el área genital, consulte a un proveedor de atención médica para obtener respuestas.



¿Dónde puedo obtener más información?

División de Prevención de Enfermedades de Transmisión Sexual (DSTDP)
Centros para el Control y la Prevención de Enfermedades

www.cdc.gov/std/spanish/default.htm

Centro de Información de los CDC
1-800-CDC-INFO (1-800-232-4636)

Comuníquese con CDC-INFO

<https://www.cdc.gov/dcs/espanol>

Quiero Saber (ASHA)

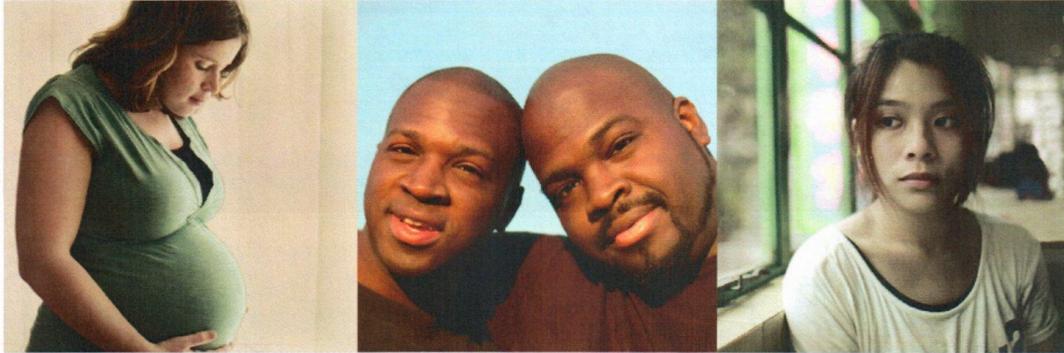
<http://www.quierosaber.org/ets.html>

P.O. Box 13827

Research Triangle Park, NC 27709-3827

1-800-783-9877

Syphilis – CDC Fact Sheet



Syphilis is a sexually transmitted disease (STD) that can have very serious complications when left untreated, but it is simple to cure with the right treatment.

What is syphilis?

Syphilis is a sexually transmitted infection that can cause serious health problems if it is not treated. Syphilis is divided into stages (primary, secondary, latent, and tertiary). There are different signs and symptoms associated with each stage.

How is syphilis spread?

You can get syphilis by direct contact with a syphilis sore during vaginal, anal, or oral sex. You can find sores on or around the penis, vagina, or anus. You can also find them in the rectum, on the lips, or in the mouth. Syphilis can spread from an infected mother to her unborn baby.

What does syphilis look like?

Syphilis is divided into stages (primary, secondary, latent, and tertiary), with different signs and symptoms associated with each stage. A person with **primary syphilis** generally has a sore or sores at the original site of infection. These sores usually occur on or around the genitals, around the anus or in the rectum, or in or around the mouth. These sores are usually (but not always) firm, round, and painless. Symptoms of **secondary syphilis** include skin rash, swollen lymph nodes, and fever. The signs and symptoms of primary and secondary syphilis can be mild, and they might not be noticed. During the **latent stage**, there are no signs or symptoms. **Tertiary syphilis** is associated with severe medical problems. A doctor can usually diagnose tertiary syphilis with the help of multiple tests. It can affect the heart, brain, and other organs of the body.

How can I reduce my risk of getting syphilis?

The only way to avoid STDs is to not have vaginal, anal, or oral sex.

If you are sexually active, you can do the following things to lower your chances of getting syphilis:

- Being in a long-term mutually monogamous relationship with a partner who has been tested for syphilis and does not have syphilis;

National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention
Division of STD Prevention



- Using latex condoms, the right way, (<https://www.cdc.gov/condomeffectiveness/male-condom-use.html>) every time you have sex. Condoms prevent transmission of syphilis by preventing contact with a sore. Sometimes sores occur in areas not covered by a condom. Contact with these sores can still transmit syphilis.



Example of a primary syphilis sore.

Am I at risk for syphilis?

Any sexually active person can get syphilis through unprotected vaginal, anal, or oral sex. Have an honest and open talk with your health care provider and ask whether you should be tested for syphilis or other STDs.

- All pregnant women should be tested for syphilis at their first prenatal visit.
- You should get tested regularly for syphilis if you are sexually active and
 - o are a man who has sex with men;
 - o are living with HIV; or
 - o have partner(s) who have tested positive for syphilis.

I'm pregnant. How does syphilis affect my baby?

If you are pregnant and have syphilis, you can give the infection to your unborn baby. Having syphilis can lead to a low birth weight baby. It can also make it more likely you will deliver your baby too early or stillborn (a baby born dead). To protect your baby, **you should be tested for syphilis at least once during your pregnancy. Receive immediate treatment if you test positive.**

An infected baby may be born without signs or symptoms of disease. However, if not treated immediately, the baby may develop serious problems within a few weeks. Untreated babies can have health problems such as cataracts, deafness, or seizures, and can die.

What are the signs and symptoms of syphilis?

Symptoms of syphilis in adults vary by stage:

Primary Stage

During the first (primary) stage of syphilis, you may notice a single sore or multiple sores. The sore is the location where syphilis entered your body. Sores are usually (but not always) firm, round, and painless. Because the sore is painless, it can easily go unnoticed. The sore usually lasts 3 to 6 weeks and heals regardless of whether or not you receive treatment. Even after the sore goes away, you must still receive treatment. This will stop your infection from moving to the secondary stage.



Secondary rash from syphilis on palms of hands.

Secondary Stage

During the secondary stage, you may have skin rashes and/or mucous membrane lesions. Mucous membrane lesions are sores in your mouth, vagina, or anus. This stage usually starts with a rash on one or more areas of your body. The rash can show up when your primary sore is healing or several weeks after the sore has healed. The rash can look like rough, red, or reddish brown spots on the palms of your hands and/or the bottoms of your feet. The rash usually won't itch and it is sometimes so faint that you won't notice it. Other symptoms you may have can include fever, swollen lymph glands, sore throat, patchy hair loss, headaches, weight loss, muscle aches, and fatigue (feeling very tired). The



Secondary rash from syphilis on torso.

symptoms from this stage will go away whether or not you receive treatment. Without the right treatment, your infection will move to the latent and possibly tertiary stages of syphilis.

Latent Stage

The latent stage of syphilis is a period of time when there are no visible signs or symptoms of syphilis. If you do not receive treatment, you can continue to have syphilis in your body for years without any signs or symptoms.

Tertiary Stage

Most people with untreated syphilis do not develop tertiary syphilis. However, when it does happen it can affect many different organ systems. These include the heart and blood vessels, and the brain and nervous system. Tertiary syphilis is very serious and would occur 10–30 years after your infection began. In tertiary syphilis, the disease damages your internal organs and can result in death.

Neurosyphilis and Ocular Syphilis

Without treatment, syphilis can spread to the brain and nervous system (neurosyphilis) or to the eye (ocular syphilis). This can happen during any of the stages described above.

Symptoms of neurosyphilis include:

- severe headache;
- difficulty coordinating muscle movements;
- paralysis (not able to move certain parts of your body);
- numbness; and
- dementia (mental disorder).

Symptoms of ocular syphilis include changes in your vision and even blindness.

How will I or my doctor know if I have syphilis?

Most of the time, a blood test is used to test for syphilis. Some health care providers will diagnose syphilis by testing fluid from a syphilis sore.

Can syphilis be cured?

Yes, syphilis can be cured with the right antibiotics from your health care provider. However, treatment might not undo any damage that the infection has already done.

I've been treated. Can I get syphilis again?

Having syphilis once does not protect you from getting it again. Even after you've been successfully treated, you can still be re-infected. Only laboratory tests can confirm whether you have syphilis. Follow-up testing by your health care provider is recommended to make sure that your treatment was successful.

It may not be obvious that a sex partner has syphilis because syphilis sores can be hidden in the vagina, anus, under the foreskin of the penis, or in the mouth. Unless you know that your sex partner(s) has been tested and treated, you may be at risk of getting syphilis again from an infected sex partner.

Where can I get more information?

Syphilis and MSM - Fact Sheet
<https://www.cdc.gov/std/syphilis/stdfact-msm-syphilis.htm>

Congenital Syphilis - Fact Sheet
<https://www.cdc.gov/std/syphilis/stdfact-congenital-syphilis.htm>

STDs during Pregnancy - Fact Sheet
<https://www.cdc.gov/std/pregnancy/stdfact-pregnancy.htm>

STD information and referrals to STD Clinics

CDC-INFO Contact Center
 1-800-CDC-INFO (1-800-232-4636)
 TTY: (888) 232-6348
 Contact CDC-INFO
<https://www.cdc.gov/dcs/ContactUs/Form>



Darkfield micrograph of Treponema pallidum.

Last reviewed: June 2017

Sífilis: Hoja informativa de los CDC



La sífilis es una enfermedad de transmisión sexual (ETS) que puede tener complicaciones muy graves cuando se deja sin tratar, pero es fácil de curar con el tratamiento adecuado.

¿Qué es la sífilis?

La sífilis es una infección de transmisión sexual que puede causar problemas graves en la salud si no se la trata. La sífilis está dividida en fases (primaria, secundaria, latente y terciaria). Cada una de ellas tiene diferentes signos y síntomas asociados.

¿Cómo se propaga la sífilis?

Usted puede contraer sífilis mediante el contacto directo con una llaga sifilítica durante las relaciones sexuales vaginales, anales u orales. Las llagas se pueden encontrar en el pene, la vagina, el ano, o alrededor de ellos, o en el recto, los labios o la boca. La sífilis puede propagarse de una madre infectada a su bebé en gestación.

¿Cuál es la apariencia de la sífilis?

La sífilis está dividida en fases (primaria, secundaria, latente y terciaria). Cada una de ellas tiene diferentes signos y síntomas asociados. Las personas con sífilis primaria generalmente tienen una o varias llagas en el lugar original de la infección. Estas llagas suelen estar en los genitales o a su alrededor, alrededor del ano o en el recto, o en la boca o a su alrededor. Por lo general (aunque no siempre) son firmes, redondas e indoloras. Los síntomas de la sífilis secundaria incluyen sarpullido en la piel, ganglios linfáticos inflamados y fiebre. Los signos y los síntomas de la sífilis primaria y secundaria pueden ser leves y quizás no se noten. Durante la fase latente no hay signos ni síntomas. La sífilis terciaria está asociada a problemas médicos graves. Un médico puede generalmente diagnosticarla con la ayuda de numerosas pruebas. Puede afectar el corazón, el cerebro y otros órganos del cuerpo.

¿Cómo puedo reducir mi riesgo de contraer sífilis?

La única manera de evitar las ETS es no tener relaciones sexuales vaginales, anales ni orales.

Si usted es sexualmente activo, puede hacer lo siguiente para reducir las probabilidades de contraer sífilis:

- Tener una relación duradera mutuamente monógama con una persona que se haya hecho la prueba de detección de la sífilis y no la tenga.

- Usar condones de látex de manera correcta cada vez que tenga relaciones sexuales. Los condones previenen la transmisión de la sífilis al evitar el contacto con las llagas, pero a veces, las llagas pueden estar en áreas que el condón no cubre. La sífilis aún se puede transmitir al tener contacto con estas llagas.

¿Tengo riesgo de contraer sífilis?

Cualquier persona sexualmente activa puede contraer sífilis mediante las relaciones sexuales vaginales, anales u orales sin usar protección. Hable con su proveedor de atención médica de manera honesta y abierta y pregúntele si debe hacerse la prueba de detección de la sífilis o de otras ETS.

- A todas las mujeres embarazadas se les debería hacer la prueba de detección de la sífilis en su primera visita prenatal.
- Usted debería hacerse pruebas de detección de la sífilis con regularidad si es sexualmente activo y
 - es un hombre que tiene relaciones sexuales con hombres;
 - está infectado por el VIH; o
 - tiene una pareja, o varias, que tuvieron un resultado positivo en la prueba de sífilis.

National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention
Division of STD Prevention



Estoy embarazada. ¿Cómo afecta la sífilis a mi bebé?

Si está embarazada y tiene sífilis, puede transmitirle la infección a su bebé en gestación. Tener sífilis puede provocar que el peso del bebé al nacer sea bajo. También aumenta las probabilidades de que dé a luz muy prematuramente o de que el bebé nazca muerto. Para proteger a su bebé, **deberían hacerle la prueba de detección de la sífilis al menos una vez durante el embarazo. Si el resultado de la prueba es positivo, debe recibir tratamiento de inmediato.**

El bebé infectado puede nacer sin signos o síntomas de la enfermedad. Sin embargo, si no es sometido a un tratamiento de inmediato, el bebé puede presentar graves problemas al cabo de unas cuantas semanas. Los bebés que no reciben tratamiento pueden tener problemas de salud como cataratas, sordera o convulsiones, y pueden morir.

¿Cuáles son los signos y síntomas de la sífilis?

Los síntomas de la sífilis en adultos varían por fase:

Fase primaria

Durante la primera fase (primaria) de la sífilis, es posible que note una única llaga o muchas. Las llagas aparecen en el sitio por donde la sífilis entró al cuerpo. Por lo general (aunque no siempre) son firmes, redondas e indoloras. Debido a que no causan dolor es posible que pasen desapercibidas. Las llagas permanecen por lo general de 3 a 6 semanas y se curan independientemente de que usted reciba tratamiento o no. Aun después de que las llagas desaparezcan, usted todavía necesita recibir tratamiento. Esto impedirá que la infección avance hacia la fase secundaria.

Fase secundaria

Durante la fase secundaria, es posible que tenga sarpullidos en la piel o lesiones en las membranas mucosas. Las lesiones en las membranas mucosas son llagas en la boca, la vagina o el ano. Esta fase suele comenzar con la aparición de un sarpullido en una o más áreas del cuerpo. Los sarpullidos pueden aparecer cuando la llaga primaria se está curando o varias semanas después de que se haya curado. El sarpullido puede tomar el aspecto de manchas o granitos ásperos, de color rojo o marrón rojizo, en la palma de las manos o en la planta de los pies. Por lo general no pica y a veces es tan poco visible que es posible que ni se dé cuenta de que lo tiene. Otros síntomas que es posible que tenga pueden incluir fiebre, inflamación de las glándulas linfáticas, dolor de garganta, pérdida parcial del cabello, dolores de cabeza, pérdida de peso, dolores musculares y fatiga (sentirse muy cansado). Los síntomas de esta fase desaparecerán, reciba o no tratamiento. Sin el tratamiento adecuado, la infección progresará a una fase latente y posiblemente a las fases terciarias de la enfermedad.

Fase latente

La fase latente de la sífilis es un período en el cual no hay signos ni síntomas de la sífilis. Si no recibió tratamiento, usted puede seguir teniendo sífilis en su cuerpo por años sin presentar ningún signo o síntoma.

Fase terciaria

La mayoría de las personas con sífilis sin tratar no evolucionan a la fase terciaria de esta enfermedad. Sin embargo, cuando esto sucede, puede afectar a varios de los sistemas de órganos. Esto incluye el corazón y los vasos sanguíneos, el cerebro y el sistema nervioso. La sífilis terciaria es muy grave y ocurriría entre 10 y 30 años después de haber comenzado su infección. En esta fase, la enfermedad daña sus órganos internos y puede causar la muerte.

La neurosífilis y la sífilis ocular

Sin tratamiento, la sífilis se puede propagar al cerebro y al sistema nervioso (neurosífilis) o al ojo (sífilis ocular). Esto puede suceder durante cualquiera de las fases descritas anteriormente.

Los síntomas de la neurosífilis incluyen:

- dolor de cabeza intenso,
- dificultad para coordinar los movimientos musculares,
- parálisis (no poder mover ciertas partes del cuerpo),
- adormecimiento y
- demencia (trastorno mental).

Los síntomas de la sífilis ocular incluyen cambios en la vista y hasta la ceguera.

¿Cómo sabré yo o sabrá mi médico si tengo sífilis?

En la mayoría de los casos, se hace un análisis de sangre para detectar la sífilis. Algunos proveedores de atención médica la diagnosticarán mediante el análisis del líquido de una llaga sifilítica.

¿Se puede curar la sífilis?

Sí, la sífilis se puede curar con los antibióticos correctos que le recete su proveedor de atención médica. Sin embargo, es posible que el tratamiento no revierta el daño que la infección ya le haya causado.

He recibido tratamiento. ¿Puedo contraer sífilis nuevamente?

Haber tenido sífilis una vez no lo protege de contraerla de nuevo. Aun después de haber sido tratado de manera exitosa, usted puede volver a infectarse. Solamente las pruebas de laboratorio pueden confirmar si tiene sífilis. Las pruebas de seguimiento llevadas a cabo por un proveedor de atención médica son recomendables para asegurarse de que su tratamiento haya sido eficaz.

Es posible que no sea evidente que una pareja sexual tenga sífilis. Esto se debe a que las llagas sifilíticas pueden estar ocultas en la vagina, el ano, debajo de la piel que recubre el pene, o en la boca. A menos que sepa que sus parejas sexuales han sido evaluadas y tratadas, puede estar en riesgo de contraer sífilis otra vez de una pareja infectada.

¿Dónde puedo obtener más información?

División de Prevención de Enfermedades de Transmisión Sexual (DSTDP)
Centros para el Control y la Prevención de Enfermedades
www.cdc.gov/std/spanish/default.htm

Centro de información de los CDC
1-800-CDC-INFO (1-800-232-4636)
Comuníquese con CDC-INFO
<https://www.cdc.gov/dcs/espanol>

Quiero Saber (ASHA)
<http://www.quierosaber.org/ets.html>
P.O. Box 13827
Research Triangle Park, NC 27709-3827
1-800-783-9877

Genital Herpes – CDC Fact Sheet



Genital herpes is a common sexually transmitted disease (STD) that any sexually active person can get. Most people with the virus don't have symptoms. Even without signs of the disease, herpes can still be spread to sex partners.

What is genital herpes?

Genital herpes is an STD caused by two types of viruses. The viruses are called herpes simplex type 1 (HSV-1) and herpes simplex type 2 (HSV-2).

What is oral herpes?

Oral herpes is usually caused by HSV-1 and can result in cold sores or fever blisters on or around the mouth. However, most people do not have any symptoms. Most people with oral herpes were infected during childhood or young adulthood from non-sexual contact with saliva.

Is there a link between genital herpes and oral herpes?

Oral herpes caused by HSV-1 can be spread from the mouth to the genitals through oral sex. This is why some cases of genital herpes are caused by HSV-1.

How common is genital herpes?

Genital herpes is common in the United States. More than one out of every six people aged 14 to 49 years have genital herpes.

How is genital herpes spread?

You can get genital herpes by having vaginal, anal, or oral sex with someone who has the disease.

If you do not have herpes, you can get infected if you come into contact with the herpes virus in:

- A herpes sore;
- Saliva (if your partner has an oral herpes infection) or genital secretions (if your partner has a genital herpes infection);
- Skin in the oral area if your partner has an oral herpes infection, or skin in the genital area if your partner has a genital herpes infection.

You can get herpes from a sex partner who does not have a visible sore or who may not know he or she is infected. It is also possible to get genital herpes if you receive oral sex from a sex partner who has oral herpes.

National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention
Division of STD Prevention



You will not get herpes from toilet seats, bedding, or swimming pools, or from touching objects around you such as silverware, soap, or towels. If you have additional questions about how herpes is spread, consider discussing your concerns with a healthcare provider.

How can I reduce my risk of getting genital herpes?

The only way to avoid STDs is to not have vaginal, anal, or oral sex.

If you are sexually active, you can do the following things to lower your chances of getting genital herpes:

- Be in a long-term mutually monogamous relationship with a partner who is not infected with an STD (e.g., a partner who has been tested and has negative STD test results);
- Use latex condoms [the right way](#) every time you have sex.

Be aware that not all herpes sores occur in areas that are covered by a latex condom. Also, herpes virus can be released (shed) from areas of the skin that do not have a visible herpes sore. For these reasons, condoms may not fully protect you from getting herpes.

If you are in a relationship with a person known to have genital herpes, you can lower your risk of getting genital herpes if:

- Your partner takes an anti-herpes medication every day. This is something your partner should discuss with his or her doctor.
- You avoid having vaginal, anal, or oral sex when your partner has herpes symptoms (i.e., when your partner is having an outbreak).

I'm pregnant. How could genital herpes affect my baby?

If you are pregnant and have genital herpes, it is very important for you to go to prenatal care visits. Tell your doctor if you have ever had symptoms of, or have been diagnosed with, genital herpes. Also tell your doctor if you have ever been exposed to genital herpes. There is some research that suggests that genital herpes infection may lead to miscarriage, or could make it more likely for you to deliver your baby too early.

Herpes infection can be passed from you to your unborn child before birth but is more commonly passed to your infant during delivery. This can lead to a potentially deadly infection in your baby

(called neonatal herpes). It is important that you avoid getting herpes during pregnancy. If you are pregnant and have genital herpes, you may be offered anti-herpes medicine towards the end of your pregnancy. This medicine may reduce your risk of having signs or symptoms of genital herpes at the time of delivery. At the time of delivery, your doctor should carefully examine you for herpes sores. If you have herpes symptoms at delivery, a 'C-section' is usually performed.

How do I know if I have genital herpes?

Most people who have genital herpes have no symptoms, or have very mild symptoms. You may not notice mild symptoms or you may mistake them for another skin condition, such as a pimple or ingrown hair. Because of this, most people who have herpes do not know it.

Herpes sores usually appear as one or more blisters on or around the genitals, rectum or mouth. The blisters break and leave painful sores that may take a week or more to heal. These symptoms are sometimes called "having an outbreak." The first time someone has an outbreak they may also have flu-like symptoms such as fever, body aches, or swollen glands.

People who experience an initial outbreak of herpes can have repeated outbreaks, especially if they are infected with HSV-2. Repeat outbreaks are usually shorter and less severe than the first outbreak. Although the infection stays in the body for the rest of your life, the number of outbreaks may decrease over time.

You should be examined by your doctor if you notice any of these symptoms or if your partner has an STD or symptoms of an STD. STD symptoms can include an unusual sore, a smelly genital discharge, burning when urinating, or (for women) bleeding between periods.

How will my doctor know if I have herpes?

Your healthcare provider may diagnose genital herpes by simply looking at your symptoms. Providers can also take a sample from the sore(s) and test it. In certain situations, a blood test may be used to look for herpes antibodies. Have an honest and open talk with your health care provider and ask whether you should be tested for herpes or other STDs.

Please note: A herpes blood test can help determine if you have herpes infection. It cannot tell you who gave you the infection or how long you have been infected.

Can herpes be cured?

There is no cure for herpes. However, there are medicines that can prevent or shorten outbreaks. One of these anti-herpes medicines can be taken daily, and makes it less likely that you will pass the infection on to your sex partner(s).

What happens if I don't get treated?

Genital herpes can cause painful genital sores and can be severe in people with suppressed immune systems.

If you touch your sores or the fluids from the sores, you may transfer herpes to another part of your body, such as your eyes. Do not touch the sores or fluids to avoid spreading herpes to another part of your body. If you do touch the sores or fluids, immediately wash your hands thoroughly to help avoid spreading your infection.

If you are pregnant, there can be problems for you and your developing fetus, or newborn baby. See "I'm pregnant. How could genital herpes affect my baby?" above for information about this.

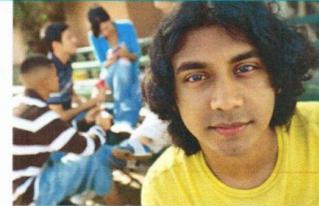
Can I still have sex if I have herpes?

If you have herpes, you should talk to your sex partner(s) and let him or her know that you do and the risk involved. Using condoms may help lower this risk but it will not get rid of the risk completely. Having sores or other symptoms of herpes can increase your risk of spreading the disease. Even if you do not have any symptoms, you can still infect your sex partners.

You may have concerns about how genital herpes will impact your overall health, sex life, and relationships. It is best for you to talk to a health care provider about those concerns, but it also is important to recognize that while herpes is not curable, it can be managed with medication. Daily suppressive therapy (i.e., daily use of antiviral medication) for herpes can also lower your risk of spreading genital herpes to your sex partner. Be sure to discuss treatment options with your healthcare provider. Since a genital herpes diagnosis may affect how you will feel about current or future sexual relationships, it is important to understand how to [talk to sexual partners about STDs](#).

What is the link between genital herpes and HIV?

Herpes infection can cause sores or breaks in the skin or lining of the mouth, vagina, and rectum. This provides a way for HIV to enter the body. Even without visible sores, having genital herpes increases the number of CD4 cells (the cells that HIV targets for entry into the body) found in the lining of the genitals. When a person has both HIV and genital herpes, the chances are higher that HIV will be spread to an HIV-uninfected sex partner during sexual contact with their partner's mouth, vagina, or rectum.



Where can I get more information?

Division of STD Prevention (DSTDP)
Centers for Disease Control and Prevention
www.cdc.gov/std

CDC-INFO Contact Center
1-800-CDC-INFO
(1-800-232-4636)
www.cdc.gov/dcs/ContactUs/Form

CDC National Prevention Information Network (NPIN)
npin.cdc.gov/disease/stds
P.O. Box 6003
Rockville, MD 20849-6003

American Sexual Health Association (ASHA)
www.ashasexualhealth.org/stdsstis/
P. O. Box 13827
Research Triangle Park, NC 27709-3827
1-800-783-9877

Last reviewed: August 2017

Herpes genital: Hoja informativa de los CDC



Versión en línea: <https://www.cdc.gov/std/spanish/herpes/stdfact-herpes-s.htm>

El herpes genital es una enfermedad de transmisión sexual (ETS) común que puede contraer cualquier persona sexualmente activa. La mayoría de las personas con el virus no tiene síntomas. Incluso sin tener signos de la enfermedad, se puede transmitir el herpes a las parejas sexuales.

¿Qué es el herpes genital?

El herpes genital es una ETS causada por dos tipos de virus. Estos virus se llaman virus del herpes simple tipo 1 (VHS-1) y virus del herpes simple tipo 2 (VHS-2).

¿Qué es el herpes oral?

Por lo general, el herpes oral es causado por el VHS-1 y puede producir fuegos o herpes labial, o ampollas febriles en la boca o a su alrededor. Sin embargo, la mayoría de las personas no presenta ningún síntoma. La mayoría de las personas con herpes oral se infectó durante la infancia o de adultos jóvenes por contacto no sexual con la saliva.

¿Existe un vínculo entre el herpes genital y el herpes oral?

El herpes oral causado por el VHS-1 se puede transmitir de la boca a los genitales mediante las relaciones sexuales orales. Esta es la razón por la cual algunos casos de herpes genital son causados por el VHS-1.

¿Qué tan común es el herpes genital?

El herpes genital es común en los Estados Unidos. Más de una de cada seis personas de 14 a 49 años de edad tiene herpes genital.

¿Cómo se propaga el herpes genital?

El herpes genital se puede contraer al tener relaciones sexuales vaginales, anales u orales con alguien que tenga esta enfermedad. Si no tiene herpes, usted puede infectarse si entra en contacto con el virus del herpes presente en:

- Una llaga de herpes.
- Saliva (si su pareja tiene una infección de herpes oral) o secreciones genitales (si su pareja tiene una infección de herpes genital).
- La piel de la zona bucal si su pareja tiene una infección de herpes oral o la piel de la zona genital si su pareja tiene una infección de herpes genital.

Se puede contraer el herpes de una pareja sexual que no tenga una llaga visible o que no sepa que está infectada. También es posible contraer herpes genital al recibir sexo oral de una pareja sexual que tenga herpes oral.

No se puede contraer el herpes a través de asientos de inodoros, ropa de cama o piscinas, ni al tocar objetos a su alrededor como cubiertos, jabón o toallas. Si tiene preguntas adicionales acerca de cómo se transmite el herpes, considere hablar sobre sus preocupaciones con un proveedor de atención médica.

¿Cómo puedo reducir mi riesgo de contraer herpes genital?

La única manera de evitar las ETS es no tener relaciones sexuales vaginales, anales ni orales.

Si usted es sexualmente activo, puede hacer lo siguiente para reducir sus probabilidades de contraer herpes genital:

- Tener una relación mutuamente monógama a largo plazo con una pareja que no esté infectada con una enfermedad de transmisión sexual (p. ej., una pareja que se haya hecho la prueba de ETS y haya obtenido resultados negativos).
- Usar condones de látex de manera correcta cada vez que tenga relaciones sexuales.

Tenga en cuenta que no todas las llagas del herpes se presentan en las áreas que están cubiertas por un condón de látex. Además, el virus del herpes puede liberarse (esparcirse) de áreas de la piel que no tengan una llaga de herpes visible. Por estas razones, es posible que los condones no lo protejan completamente de contraer el virus.

Si está en una relación con una persona que se sabe que tiene herpes genital, puede reducir su riesgo de contraer la infección si:

- Su pareja toma un medicamento contra el herpes todos los días. Esto es algo que su pareja debe consultar con el médico.
- Usted evita tener relaciones sexuales vaginales, anales u orales cuando su pareja tenga síntomas de herpes (es decir, cuando esté teniendo un brote).

Estoy embarazada. ¿Cómo podría el herpes genital afectar a mi bebé?

Si está embarazada y tiene herpes genital, es muy importante que vaya a sus citas de atención médica prenatales. Dígame a su médico si alguna vez ha tenido síntomas o se le ha diagnosticado esta infección. También, dígame si alguna vez ha estado expuesta



U.S. Department of Health and Human Services
Centers for Disease Control and Prevention

al herpes genital. Algunas investigaciones parecen indicar que esta infección podría llevar al aborto espontáneo o hacer más probable que el bebé nazca demasiado temprano.

Usted le puede pasar la infección por herpes a su bebé en gestación antes del nacimiento, pero es más frecuente la transmisión a los bebés durante el parto. Esto puede producir una infección potencialmente mortal en su bebé (llamada herpes neonatal). Es importante que evite contraer el herpes durante el embarazo. Si está embarazada y tiene herpes genital, es posible que le ofrezcan medicamentos para tratarlo hacia el final del embarazo. Estos medicamentos pueden reducir su riesgo de tener signos o síntomas de herpes genital al momento del parto, cuando su médico debe examinarla atentamente para detectar si tiene llagas de herpes. Si tiene síntomas de herpes durante el parto, por lo general se realiza una cesárea.

¿Cómo sé si tengo herpes genital?

La mayoría de las personas que tienen herpes no presenta síntomas o si los tiene son muy leves. Es posible que no se dé cuenta de los síntomas leves o que los confunda con otra afección de la piel como un grano o pelo encarnado. Es por esto que la mayoría de las personas que tienen herpes no lo sabe.

Las llagas del herpes por lo general se ven como una o más ampollas en los genitales, el recto o la boca, o a su alrededor. Las ampollas se abren y dejan llagas dolorosas que pueden tardar una semana o más en curarse. A estos síntomas a veces se les conoce como "tener un brote". La primera vez que una persona tiene un brote es probable que también presente síntomas similares a los de la influenza (gripe) como fiebre, dolores corporales e inflamación de glándulas.

Las personas que presentan un brote inicial de herpes pueden tener otros brotes, especialmente si están infectadas con el VHS-2. Los siguientes brotes generalmente duran menos tiempo y son menos graves que el primero. Aunque la infección permanece en el cuerpo por el resto de la vida, la cantidad de brotes tiende a disminuir con los años.

Debería hacerse examinar por su médico si nota alguno de estos síntomas o si su pareja tiene una ETS o síntomas de alguna. Los síntomas de las ETS pueden incluir una llaga inusual, una secreción genital con olor, ardor al orinar o sangrado entre los periodos menstruales (en las mujeres).

¿Cómo sabrá mi médico si tengo herpes?

Su proveedor de atención médica puede diagnosticar el herpes genital simplemente al ver los síntomas. También pueden tomar una muestra de la llaga y hacerle una prueba. En algunas situaciones, se puede hacer un análisis de sangre para detectar anticuerpos del herpes. Hable con su proveedor de atención médica de manera franca y abierta, y pregúntele si debe hacerse la prueba de detección del herpes o de otras ETS.

Tenga en cuenta que: Un análisis de sangre para detectar el herpes puede ayudar a determinar si usted tiene esta infección, pero no le indicará quién se la transmitió ni hace cuánto que la tiene.

¿Se puede curar el herpes?

No existe una cura para el herpes. No obstante, hay medicamentos que pueden prevenir o disminuir la duración de los brotes. Uno de estos medicamentos puede tomarse todos los días y reduce la probabilidad de que usted les pase la infección a su pareja o parejas sexuales.

¿Qué pasa si no recibo tratamiento?

El herpes genital puede causar llagas genitales dolorosas y puede ser grave en personas con el sistema inmunitario deprimido.

Si se toca las llagas o toca el líquido de estas, puede pasar el herpes a otras partes de su cuerpo, como a los ojos. No se toque las llagas ni toque el líquido para evitar propagar el herpes a otra parte del cuerpo. Si se toca las llagas o toca el líquido, lávese bien las manos inmediatamente para evitar propagar la infección.

Si está embarazada, tanto usted como su bebé en gestación o recién nacido pueden tener problemas. Vea la información anterior sobre el tema "Estoy embarazada. ¿Cómo podría el herpes genital afectar a mi bebé?".

¿Puedo tener relaciones sexuales aunque tenga herpes?

Si tiene herpes, debería decírselo a su pareja o parejas sexuales y hablarles de los riesgos que tienen. Usar condones puede ayudar a disminuir el riesgo, pero no lo desaparecerá por completo. Tener llagas u otros síntomas de herpes puede aumentar su riesgo de transmitir la enfermedad. Incluso si no tiene ningún síntoma, de todos modos puede infectar a sus parejas sexuales.

Es posible que le preocupe de qué manera el herpes genital afectará su salud en general, su vida sexual y las relaciones. Es mejor que hable con un proveedor de atención médica acerca de estas preocupaciones, pero también es importante saber que aunque el herpes no tenga cura, se puede controlar con medicamentos. El tratamiento inhibitorio diario (es decir, el uso diario de un medicamento antiviral) para el herpes también puede reducir su riesgo de transmitirle el herpes genital a su pareja sexual. Asegúrese de hablar sobre las opciones de tratamiento con su proveedor de atención médica. Como el diagnóstico del herpes genital puede afectar cómo se sienta sobre las relaciones sexuales existentes o futuras, es importante saber cómo hablar con sus parejas sexuales sobre las ETS.

¿Cuál es el vínculo entre el herpes genital y el VIH?

La infección por el herpes puede causar llagas o heridas abiertas en la piel o en el recubrimiento interno de la boca, la vagina y el recto. Esto propicia una forma para que el VIH entre en el cuerpo. Incluso sin llagas visibles, tener herpes genital aumenta el número de células CD4 (las células que el VIH busca para entrar al cuerpo) que se encuentran en el recubrimiento de los genitales. Cuando una persona tiene tanto el VIH como el herpes genital, son mayores las probabilidades de que el VIH se transmita a una pareja sexual que no esté infectada durante el contacto sexual con la boca, la vagina o el recto de la pareja.

¿Dónde puedo obtener más información?

División de Prevención de Enfermedades de Transmisión Sexual (DSTDP)

Centros para el Control y la Prevención de Enfermedades
www.cdc.gov/std

Centro de información de los CDC

1-800-CDC-INFO

(1-800-232-4636)

www.cdc.gov/dcs/ContactUs/Form

Quiero Saber (de ASHA)

www.quierosaber.org/ets.html

P. O. Box 13827

Research Triangle Park, NC 27709-3827

1-800-783-9877

Appendix C

Sexually Transmitted Infection Pretest and Posttest

Pretest

By filling out the exam, you are giving consent for the findings to be used in a quality improvement project.

Client: _____

Age: _____

Ethnicity: (Circle one): White/Caucasian Black/African American Hispanic/Latino

Native American/American Indian Asian/Pacific Islander Other

Diagnosis: _____

Level of education: (circle one)

None Middle School Some High School High School/GED

Some college College Graduate Master/Doctorates

Pretest score: _____ Posttest score: _____

1. Sexually transmitted infections are contracted by having sexual intercourse with an infected person

True/False

2. If you test positive for a sexually transmitted infection and receive treatment, does your partner need treatment?

A. Yes

B. No

3. Can condoms help to reduce the risk of contracting a sexually transmitted infection?

A. No

B. Yes

4. Sexually transmitted infections that are not treated can cause health problems in women

True/False

5. Untreated sexually transmitted infections can cause harm to a newborn.

True/ False

Pretest: Infección de transmisión Sexual

Al completar este examen usted está dando consentimiento para que los resultados puedan ser utilizados en un proyecto para mejorar la calidad.

Cliente: ____

Edad: ____

Etnicidad: (Circule uno): Blanco/Caucásico Negro/Africano-Aamericano Hispano/Latino

Nativo Americano/American Indio Asiático/Isleño del Pacífico Otros

Diagnóstico: ____

Nivel de educación: (circule uno)

No escuela Primaria Secundaria Preparatoria/Bachillerato/GED

Algo de Universidad Licenciatura Maestría Postgrado/doctorados

Puntuación pretest: _____ Puntuación de posttest _____

1. Las infecciones de transmisión sexual se contraen teniendo relaciones sexuales con una persona infectada.

Verdadero/falso

2. Si el resultado de una infección de transmisión sexual es positiva y usted recibe tratamiento ¿necesita su pareja también recibir tratamiento?

R. sí

B. No

3. ¿Pueden los condones ayudar a reducir el riesgo de contraer una infección de transmisión sexual?

A. No

B. sí

4. Infecciones de transmisión sexual sin tratar, pueden causar problemas de salud en la mujer.

Verdadero/falso

5. Las infecciones de transmisión sexual sin tratar ¿pueden causar daño al recién nacido?

Verdadero / falso

Sexually Transmitted Infection Posttest

Client: _____

Posttest score: _____

1. Untreated sexually transmitted infections can cause harm to a newborn.

True/ False

2. Sexually transmitted infections that are not treated can cause health problems in women.

True/False

3. Can condoms help to reduce the risk of contracting a sexually transmitted infection?

A. No

B. Yes

4. If you test positive for a sexually transmitted infection and receive treatment, does your partner need treatment?

A. Yes

B. No

5. Sexually transmitted infections are contracted by having sexual intercourse with an infected person

True/False

Posttest: Infección de transmisión Sexual

Cliente: _____ puntuación de posttest _____

1. Las infecciones de transmisión sexual sin tratar ¿pueden causar daño al recién nacido?

Verdadero / falso

2. Infecciones de transmisión sexual sin tartar, pueden causar problemas de salud en la mujer.

Verdadero/falso

3. ¿Pueden los condones ayudar a reducir el riesgo de contraer una infección de transmisión sexual?

A. No

B. sí

4. Si el resultado de una infección de transmisión sexual es positiva y usted recibe tratamiento ¿necesita su pareja también recibir tratamiento?

R. sí

B. No

5. Las infecciones de transmisión sexual se contraen teniendo relaciones sexuales con una persona infectada

Verdadero/falso

Appendix D

Script

Hello, my name is Dennia, and I will be educating you today on your diagnosis. I am also conducting a quality improvement project for this clinic to ensure that the clinic is providing an excellent education to the patient treated in the WC. With your permission, I would like for you to take a pretest and posttest to assess your awareness of sexually transmitted infections and a posttest to assess awareness after education. You will remain anonymous, and the information will be used to help improve patient education in this clinic. If you chose not to participate in the pretest and posttest, it does not affect your care, and you will still receive the education.

Appendix E

SWOT Analysis

<p>Strengths</p> <ul style="list-style-type: none"> • Location • Staff • Providing services to the underserved • English and Spanish 	<p>Weakness</p> <ul style="list-style-type: none"> • Male partners not treated • Male partners not educated • Not knowing if it was a behavioral change • No Standardized STI education • Not able to assess literacy
<p>Opportunities</p> <ul style="list-style-type: none"> • Educate the patient at the time of diagnosis • Treatment • Testing the patient for other infections • Standardized STI education • Providing information on where the partner can go for treatment 	<p>Threats</p> <ul style="list-style-type: none"> • Literacy • No behavioral change • Partner not getting treatment • Unwillingness of provider participation

Appendix F

Data Dictionary

Test#/English or Spanish				
CID	Client identification			
Sex		Female		
Language		1=English 2=Spanish 3=Other		
PreQ1	Sexually transmitted infections are contracted by having sexual intercourse with an infected person.	1=True 2=False		Answer: True
PreQ2	If you test positive for a sexually transmitted infection and receive treatment, does your partner need treatment?	1=Yes 2=No		Answer: Yes
PreQ3	Can condoms help to reduce the risk of contracting a sexually transmitted infection?	1=Yes 2=No		Answer: Yes
PreQ4	Sexually transmitted infections that are not treated can cause health problems in women?	1=True 2=False		Answer: True
PreQ5	Untreated sexually transmitted infections can cause harm to a newborn?	1=True 2=False		Answer: True
PostQ1	Untreated sexually transmitted infections can cause harm to a newborn?	1=True 2=False		Answer: True
PostQ2	Sexually transmitted infections that are not treated can cause health problems in women?	1=True 2=False		Answer: True
PostQ3	Can condoms help to reduce the risk of contracting a sexually transmitted infection?	1=Yes 2=No		Answer: Yes
PostQ4	If you test positive for a sexually transmitted infection and receive treatment, does your partner need treatment?	1=Yes 2=No		Answer: Yes
PostQ5	Sexually transmitted infections are contracted by having sexual intercourse with an infected person.	1=True 2=False		Answer: True

Age Group	1=(18-25) 2=(26-30) 3=(31-40) 4=(41+)		
0=No response			
Race/Ethnicity	1=White/Caucasian 2=Black/African American 3=Hispanic/Latino 4=Native American/American Indian 5=Asian/Pacific Islander 6=Other		
Education	1=None 2= Middle School 3=Some High School 4=High School/GED 5=Some College 6=College Graduate 7=Masters/Doctorates		
Diagnosis	1=Chlamydia 2=Gonorrhea 3=Genital Herpes 4=Syphilis 5= Trichomoniasis		

Appendix G

Content Validity Testing

Texas Woman’s University, College of Nursing – Dallas Center

**Content Validity Testing:
Survey of: Increasing Awareness of Sexually Transmitted Infection Through
Education: A Quality Improvement Initiative**

Concept: Increase the patients’ awareness on the mode of transmission, negative effects on the body and prevention by a 15% increase on test scores pretest and posttest scores.

Target population: Women 18 years and older, who are diagnosed and treated for a sexually transmitted infection in the clinic.

Instructions:

Read each of the following items, then for each item, consider the extent to which it may or may not apply to the concept described above.

Using the 1 to 4 rating scale below, mark (X) in the column of the number that best reflects the relevance of each item to the above named concept. The relevance score is the 1 – 4 scale is:

- 1 = Item does not measure concept
- 2 = Item measures concept but is not clearly stated
- 3 = Item needs minor revision for clarity
- 4 = Item measures concept and it is clearly stated
- UK = Unknown/No opinion can be used when you cannot assess the relevance

If you believe that an item is not clearly stated or needs revision for clarity, please make your suggestions or changes on the form. Feel free to add any items that you think are missing.

1 = Item does not measure concept
 2 = Item measures concept but is not clearly stated
 UK = Unknown/No opinion

3 = Item needs minor revision for clarity
 4 = Item measures concept and it is clearly stated

#	Survey question	1	2	3	4	U K	Please feel free to comment
I. SECTION ONE: :							
1.	Sexually transmitted infections are contracted by having sexual intercourse with an infected person. True/False						
2.	If you test positive for a sexually transmitted infection and receive treatment, does your partner need treatment? A. Yes B. No						
3.	Can condoms help to reduce the risk of contracting a sexually transmitted infection? A. No B. Yes						
4.	Sexually transmitted infections that are not treated can cause health problems in women. True/False						
5.	Untreated sexually transmitted infections can cause harm to a newborn. True/ False						
6.							
7.							
8.							
9.							
15.							
16.							
17.							
18.							
II. SECTION TWO:							
10.							
11.							
12.							
13.							
14.							
19.							

THANK YOU!

Copy of CV\calcthomsonMFT.xlsx [Read-Only] - Microsoft Excel (Product Activation Failed)

File Home Insert Page Layout Formulas Data Review View Acrobat

Clipboard Font Alignment Number Styles Cells Editing

Q55

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL	AM																												
1		1	2	3	4	UK	1	2	3	4	UK	1	2	3	4	UK	1	2	3	4	UK	1	2	3	4	UK	1	2	3	4	UK	1	2	3	4	UK				Exclude																											
2		0	0	0	5	0	0	0	0	5	0	0	0	0	5	0	0	0	0	5	0	0	0	0	5	0	0	0	0	0	0	0	0	0	25	0	0																														
3		Expert #1				Expert #2				Expert #3				Expert #4				Expert #5				Expert #6				Summary				3/4 cnt	%Total																																				
4	Item #	Relevancy Rating				Relevancy Rating				Relevancy Rating				Relevancy Rating				Relevancy Rating				Relevancy Rating				Relevancy Rating																																									
7	1			1					1						1																																																				
8	2				1					1																																																									
9	3					1																																																													
10	4								1																																																										
11	5									1																																																									
12	6																																																																		
13	7																																																																		
14	8																																																																		
15	9																																																																		
16	10																																																																		
17	11																																																																		
18	12																																																																		
19	13																																																																		
20	14																																																																		
21	15																																																																		
22	16																																																																		
23	17																																																																		
24	18																																																																		
25	19																																																																		
26	20																																																																		
27																																																																			
28	Total																																																																		
29	20																																																																		
30																																																																			
31	INSTRUCTIONS: For each item, enter a "1" in the appropriate column [1 thru 4 or UK] for each expert. Then email to Dr. Tietze along with the "expert" forms																																																																		
32																																																																			
33																																																																			
34																																																																			
35																																																																			
36																																																																			
37																																																																			
38																																																																			
39																																																																			
40																																																																			
41																																																																			
42																																																																			
43																																																																			
44																																																																			
45																																																																			
46																																																																			
47																																																																			
48																																																																			
49																																																																			
50																																																																			
51																																																																			
52																																																																			
53																																																																			
54																																																																			
55																																																																			
56																																																																			

STI Awareness Education SAMPLE

80%