Care CEUs

Continuing Education for Nursing Home Administrators

Sexually Transmitted Infections (STIs)

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Section 1: Introduction

Sexually transmitted infections affect millions of people worldwide. The World Health Organization estimates that one million new infections are acquired daily among people ages 15-49 (WHO, 2024b). In the United States alone, over 2.4 million cases of gonorrhea, syphilis, and chlamydia were diagnosed in 2023. The number of STIs in the US increased by 1.8% in 2023 from the previous year (CDC, 2024c).

In 2021, the Centers for Disease Control and Prevention released updated guidelines regarding sexually transmitted infections (STIs). This update includes new treatment recommendations, expanded risk factors, and updated screening guidelines (CDC, 2021). While the number of people diagnosed with STIs in the US is increasing, there has been a significant slowing of the STI epidemic. The rate is still too high, and population disparities persist (CDC, 2024c). Nurses knowledgeable regarding new screening guidelines and treatment practices can provide up-to-date, evidence-based care in their community.

Section 2: Types of Sexually Transmitted Infections

Many microbes can cause STIs. These include bacteria, viruses, and parasites. STIs are spread through oral, anal, and vaginal contact. Rarely, they can also be spread through intimate, though not sexual, physical contact (CDC, 2024b). This course will review the most common STIs diagnosed.

Bacterial Vaginosis (BV)

The vagina is colonized with many bacteria; however, when there is an imbalance in the microflora, bacterial vaginosis (BV) can occur. BV is the most common vaginal condition for women ages 15-44 and can be caused by douching,

unprotected sex, and new or multiple sexual partners. Symptoms of BV include grey or white vaginal discharge, pain, itching or burning in the vagina, a strong foul odor, dysuria, and itching outside of the vagina (CDC, 2024b). Clinical criteria are used to diagnose BV, though gram stain of vaginal fluid can also be used. If criteria are being used for diagnosis, the patient must experience at least three of the following: thin discharge that coats the vaginal walls, vaginal epithelial cells studded with bacteria on a microscopic exam, vaginal fluid pH greater than 4.5, or a fishy odor of vaginal discharge (CDC, 2021).

Chancroid

Chancroid is also known as “soft chancre” (Cleveland Clinic, 2022) and is caused by the bacterium *Haemophilus ducreyi* (Garcia et al., 2024). Chancroid is highly contagious and symptoms include ulcers on the genitals and swollen lymph glands, which may be painful. The incubation period for chancroid is typically about 3-7 days. It is believed that chancroid is spread through small abrasions in the skin (Cleveland Clinic, 2022). Chancroid is diagnosed through culture, though the cultures are not very sensitive and require special media, which is difficult to obtain. Chancroid can also be diagnosed when there is the presence of one or more deep genital ulcers accompanied by swollen lymph nodes in the groin (CDC, 2021).

Chlamydia

Chlamydia is the most common cause of bacterial infection in the US and the leading cause of infection-related blindness worldwide (Mohseni et al., 2023). Chlamydia is caused by the bacteria Chlamydia trachomatis and affects both men and women. This STI is usually asymptomatic, but individuals may experience discharge from the vagina or penis, dysuria, painful vaginal intercourse or bleeding

with intercourse, and testicular pain (Mayo Clinic Staff, 2024). Chlamydia is diagnosed using a urethral swab or testing first-void urine for nucleic acids associated with the bacterium (CDC, 2021). It most commonly affects the cervix of women but can also cause urethritis, epididymitis, and prostatitis in men. Through anal intercourse, chlamydia can cause proctitis (Mohseni et al., 2023). Chlamydia can also infect the eyes and throat. This infection can spread to the fetus during pregnancy or birth, often causing conjunctivitis or pneumonia in the newborn (Mayo Clinic Staff, 2024). Chlamydia is transmitted through contact with infected tissues (Mohseni et al., 2023).

Herpes

This STI is caused by two different viruses, herpes simplex virus type 1 (HSV-1) and herpes simplex virus type 2 (HSV-2). HSV is associated with oral and genital herpes and can be acquired easily through non-sexual contact, including through saliva. HSV is highly contagious and is spread through skin-to-skin contact. HSV causes fluid-filled blisters to occur in the affected area. These blisters crust over and may be painful. HSV can spread to any part of the body and also cause HSV encephalitis or meningitis (Mayo Clinic, 2023). Diagnosis is often difficult unless ulcerative lesions are present during the assessment. Viral testing of lesions or blood tests can be used to diagnose the condition (CDC, 2021). Herpes is common in the United States, with 572,000 new cases of genital herpes diagnosed in 2018 among individuals ages 14-49 (CDC, 2024b).

Gonorrhea

Gonorrhea is common among people ages 15-24 and can infect the genitals, rectum, and throat (CDC, 2024b). Gonorrhea is caused by the bacterium *Neisseria gonorrhoeae* and is spread through vaginal fluid and semen. It can be transmitted

during sexual activity or through childbirth (Mayo Clinic, 2023). Gonorrhea is often asymptomatic but can cause dysuria, increased vaginal discharge, and vaginal bleeding between menstrual cycles in women. Men may experience dysuria, white, yellow, or green discharge from the penis, and sometimes epididymitis. Rectal infections of gonorrhea are also often asymptomatic, but possible symptoms may include discharge, anal itching, soreness, bleeding, and painful bowel movements (CDC, 2024b). Infections of gonorrhea in the throat can cause itchiness, soreness, or difficulty swallowing (Cleveland Clinic, 2023). Gonorrhea is diagnosed using culture or nucleic acid testing. Point-of-care testing is available (CDC, 2021).

Hepatitis B

Hepatitis B is a virus spread through bodily fluids. It is usually an acute illness but can become a chronic condition. Hepatitis B affects the liver and, left untreated, can cause cirrhosis and liver failure. Patients may be asymptomatic, or they may experience fever, loss of appetite, nausea, vomiting, abdominal pain, weakness, fatigue, and joint pain. In advanced cases, patients may exhibit symptoms of liver failure. Since Hepatitis B is transmitted through bodily fluids, it can be spread through sexual contact, childbirth, or any other activity where the body fluids of an infected individual enter the body of another individual. Hepatitis is not easily transmitted through saliva (Cleveland Clinic, 2023). Hepatitis B is diagnosed using a blood test to evaluate for the presence of a specific antibody that only occurs due to an actual infection, not vaccination (CDC, 2021).

HIV/AIDS

Human Immunodeficiency virus (HIV) destroys the helper T-cells (CD4 cells) of the immune system, which reduces the number of white blood cells. Eventually, HIV

may lead to acquired immune deficiency syndrome (AIDS). HIV is a retrovirus, which means it inserts its RNA into the DNA of healthy cells and causes the cell to function using the RNA of the virus. The rate of new infections of HIV has declined in the last several years due to pre- and post-exposure therapies, though 1.2 million Americans were still living with HIV in 2019 (Cleveland Clinic, 2023).

HIV is categorized into three stages. Stage I, or Acute HIV, occurs 1-2 months after the initial infection and includes flu-like symptoms that last 1-4 weeks. During Stage II, the clinical latency stage, an individual is asymptomatic. They can still transmit the virus during this time, and this stage may last several years. Stage III is AIDS, which is when the immune system has been critically weakened, and opportunistic infections occur that would not typically affect someone with a healthy immune system. Cancer is also more likely to occur in individuals with AIDS. To be diagnosed with AIDS, the individual must have HIV and an AIDS-defining illness, which are illnesses that typically only happen to individuals with HIV. Symptoms of AIDS include any symptoms associated with the opportunistic infection or cancer that occurs (Cleveland Clinic, 2023).

HIV can be spread in multiple ways. Body fluids, such as blood, semen, vaginal fluids, breast milk, and rectal fluids, can transmit HIV. The virus can be introduced into the body through the oral route, anus, penis, vagina, broken skin, or through mother-to-child transmission during pregnancy. HIV is not spread through saliva; however, bleeding gums could potentially transmit the disease (Cleveland Clinic, 2023). HIV is diagnosed through a blood test (CDC, 2021).

Human immunodeficiency virus (HIV) continues to be a global health problem, with disease transmission continuing to occur in all countries. In 2023, 39.9 million people worldwide were living with HIV, with 65% of those individuals living in the African region. In that same year, 630,000 died from HIV-related causes, and 1.3 million new cases of HIV were diagnosed (WHO, 2024a).

Human Papillomavirus (HPV)

Human Papillomavirus (HPV) is the most common sexually transmitted infection in the United States, and about 85% of people will acquire a HPV infection in their lifetime. Most HPV infections are asymptomatic, though individuals may experience anogenital warts, precancers, or cancer. There are over thirty strains of HPV, though not all are associated with cancer (CDC, 2024b). Tests for some types of HPV are done during cervical cancer screening but not as a routine STI test (CDC, 2021). HPV is usually spread through anal or vaginal intercourse but can also be spread during close skin-to-skin contact. The virus can be transmitted even if the infected individual is not experiencing symptoms (CDC, 2024b).

Mycoplasma genitalium (Mgen)

Mycoplasma genitalium (Mgen) affects both men and women. Patients may be asymptomatic, or men may experience urethritis, while women may experience cervicitis, pelvic inflammatory disease, infertility, miscarriage, or preterm delivery. For women with cervicitis, 10-30% of cases can be attributed to Mgen. Rectal and pharyngeal infections of Mgen tend to be asymptomatic. M. genitalium is a very slow-growing organism, and cultures may take up to six months. Nucleic acid testing can be used for diagnosis using urine or urethral, penile meatal, endocervical, or vaginal swab samples (CDC, 2021).

Pelvic Inflammatory Disease (PID)

When an STI is untreated in a female patient, it can lead to pelvic inflammatory disease (PID). Individuals may have mild symptoms or be asymptomatic. They may experience pain, fever, abnormal discharge and odor, bleeding with sex, and dysuria (CDC, 2024b). PID can be difficult to diagnose because there is a wide variation in symptoms, so diagnosis is usually made based on clinical findings

(CDC, 2021). While PID can be treated, any damage to the reproductive organs due to PID cannot be changed. These may include fallopian tube blockage from scar tissue, ectopic pregnancy, infertility, and chronic pelvic pain (CDC, 2024b).

Pubic Lice

Pubic lice, often called “crabs,” are the parasite pediculosis pubis found in the pubic and genital areas (CDC, 2021). They are different from lice that infest the scalp as they have short bodies and crab-like legs. They are usually spread through sexual contact. Symptoms include itching in the genital area, visible nits (lice eggs), and lice. Pubic lice do not cause disease but can contribute to medical problems through sores and infections from intense itching (CDC, 2024a). Diagnosis is based on the visualized presence of public lice and nits (CDC, 2021).

Syphilis

Syphilis is caused by an infection of the bacterium Treponema pallidum (Mayo Clinic, 2024b) and can be spread through contact with a syphilis sore during vaginal, anal, or oral sex. It is not passed through casual contact. It enters the body through minor cuts, sores, or the mucosal lining of body parts. It can also be passed to infants through pregnancy, birth, and breastfeeding. Syphilis bacteria can be latent for many years before symptoms emerge (CDC, 2024b). Syphilis is diagnosed using a specialized microscopic technique or blood tests. Two tests should be used for diagnosis because false-negative and false-positive tests can occur (Prevention, 2021). Syphilis can be treated, but if left untreated it can cause serious and irreversible damage to the heart, brain, and other organs (Mayo Clinic, 2024b). In 2023, 209,253 cases of syphilis were reported, which is the most since 1950, and a 1% increase from 2022. From 2022 to 2023, there was a 3% increase in cases of congenital syphilis (CDC, 2024c).

Syphilis occurs in stages. In the primary stage, a small, painless chancre appears where the bacteria enters the body. This is typically about three weeks after exposure, and the sore heals in about 3-6 weeks. This stage may go undetected if the sore is within the vagina or rectum. In the secondary stage, a rash occurs. This is usually when the chancre has healed or is in the healing process. The rash is usually not itchy, is rough and reddish-brown, starts on the trunk, and is often faint. During the secondary phase, an individual may also experience wart-like sores in the mouth or genitals, hair loss, and flu-like symptoms. Symptoms of secondary-stage syphilis can resolve on their own but, if left untreated, may reoccur for several years. The latent stage of a syphilis infection is completely asymptomatic and may last for years. The tertiary stage, also known as late-stage syphilis, occurs when complications from the disease arise (Mayo Clinic, 2024b). This usually occurs 10-30 years after the initial infection (CDC, 2024b). Of those with latent stage syphilis, 30-40% will progress to tertiary syphilis. Symptoms include damage to the brain, nerves, eyes, heart, blood vessels, liver, bones, and joints (Mayo Clinic, 2024b). Tertiary syphilis can lead to death (CDC, 2024b).

For infants who have acquired congenital syphilis through pregnancy, childbirth, or breastfeeding, timely treatment is necessary to prevent symptoms from occurring. If the disease is left untreated, the infant may experience sores and rashes, fever, jaundice, anemia, hepatitis, splenitis, rhinitis, and bone changes. It can also lead to deafness, complications of the teeth, and saddle nose, a condition where the bridge of the nose collapses. Syphilis can also cause pre-term birth, stillbirth, or neonatal death (Mayo Clinic, 2024b).

When syphilis spreads to the neurological system, it is called neurosyphilis. Symptoms may include severe headaches, muscle weakness, and symptoms of dementia. Ocular syphilis occurs when the infection has spread to the eyes. It can cause eye pain or redness, visual changes, and blindness. Otosyphilis, which

affects the ears, can cause hearing loss, tinnitus, and vertigo. Syphilis can be diagnosed using a blood test or testing fluid from a syphilis sore (CDC, 2024b).

Trichomoniasis

Trichomoniasis, or “trich,” is a common STI, and most infected individuals do not have symptoms. Trichomonas vaginalis is a protozoan parasite that is more likely to infect women than men. Only about 30% of those with trichomoniasis develop symptoms. Men may experience burning with urination or ejaculation, as well as discharge from the penis. Women may experience dysuria and vaginal discharge with a foul odor. Since trich causes genital inflammation, it increases the risk of acquiring other STIs. It can also lead to preterm birth and low birth weight. Trich is usually spread to and from the vagina and penis and is not likely to occur in oral or anal areas. The parasite can be spread even when a person is asymptomatic (CDC, 2024b).

Section 2 Personal Reflection

What types of microbes can lead to an STI? What is the most commonly transmitted STI in the United States? Why do you think this is? Why are asymptomatic infections more easily spread?

Section 2 Key Words

Microbe - a microorganism, also called a germ

Sexual contact - contact, however slight, between the mouth, anus, or genital of an individual with the mouth, anus, or genital of another individual

Virus - a non-living complex molecule that typically contains a protein coat and either DNA or RNA that is able to infect living organisms

Bacterium - a round, spiral, or rod-shaped microorganism that lacks a nuclear membrane or membrane-bound organelles, and may or may not have a cell wall

Parasite - an organism that lives in, on, or with another organism, is dependent upon that organism for nutrients, growth, or reproductions, and directly or indirectly harms that organism

(Merriam-Webster, n.d.)

Section 3: Who is at risk?

Anyone sexually active can spread or acquire a sexually transmitted infection. Factors that affect the risk of acquiring or spreading STIs can be separated into behavioral and biological risks (CDC, 2021).

Behavioral risks are actions individuals engage in that increase their risk of acquiring an STI. Unprotected sex of any kind can lead to sexually transmitted infections (CDC, 2021). Vaginal or anal sex without a latex or polyurethane condom dramatically increases the risk of an STI. Condoms made from natural materials are not as effective at preventing some STIs. Condoms must be used correctly and consistently to reduce the risk of infection. While oral sex has a lower risk of transmitting an STI, not using a condom or dental dam increases the risk of acquiring an infection. Sexual contact with many partners, a new partner, or sex trafficking all increase the risk of STIs. Individuals who misuse alcohol or use recreational drugs are at increased risk for STIs due to impaired judgment. Some STIs, like hepatitis and HIV, can be spread through sharing needles while injecting drugs (Mayo Clinic, 2024a) Having sex with sex workers or individuals with multiple other partners also increases the risk (Yale Medicine, 2024).

Biologic risks are not based on behavior but on clinical status, age, or anatomy. They can be assessed through medical testing, such as STI screening. Those who currently have an STI or who have had an STI in the past are at higher risk for having an STI (CDC, 2021).

Some groups of people are at increased risk for acquiring or spreading sexually transmitted infections. Sex workers, MSM (men who have sex with men), people who inject drugs, prison inmates, mobile populations, and adolescents in countries where HIV is prevalent have the highest rates of STIs due to lack of access to healthcare (WHO, 2024b). Women are at higher risk for contracting STIs and tend to have more serious complications (Healthy People 2030, 2020). MSM are at increased risk for HIV infections. This is due to HIV transmission occurring more easily with receptive anal sex compared to other types of sexual activity (CDC, 2021).

Adolescents and young adults are at the highest risk for STIs. Individuals ages 15-24 account for nearly half of all new diagnoses of STIs each year. The rate of STIs in this population continues to increase (Tao et al., 2020). Individuals who engage in sex early in adolescence are at higher risk. Adolescents who engage in survival sex, which is exchanging sex for food, shelter, money, or drugs, are also at higher risk. Transgender youths and young men who have sex with other men have an increased prevalence of STIs. Lower socioeconomic status also affects adolescents and increases their risk for STIs (CDC, 2021).

New CDC screening and treatment recommendations refer to “high-risk pregnant women” throughout their guidelines. The CDC defines “high-risk pregnant women” as pregnant women who inject drugs, have an STI, have multiple sex partners during their pregnancy, have a new sex partner, have a partner with an STI infection, live in a community with a high prevalence of STIs, are incarcerated, or have signs of an STI. Based on previous data collection, the CDC has determined

that these women are at higher risk than other pregnant women for STIs (CDC, 2021).

Stigma and secrecy are risk factors for STIs. Anyone who feels marginalized or stigmatized about their sexual behaviors is at increased risk for STIs due to a lack of open conversations with providers and routine screening. The United States is affected by this stigmatization more than other industrial nations (Healthy People 2030, 2020).

Section 3 Personal Reflection

What are behavioral risks for acquiring an STI? What are biologic risks? How do behaviors increase risk? How do stigma and secrecy create increased risk for acquiring an STI? How can nurses reduce the stigma associated with STIs?

Section 4: Current Screening Guidelines

Screening guidelines were updated by the Centers for Disease Control and Prevention in 2021. These updates include screening recommendations for pregnant individuals, adolescents, incarcerated individuals, those with increased risk for HIV, and gender-nonconforming patients. While STI screening has been recommended annually, the CDC now recommends more frequent testing for those who engage in higher-risk behaviors, such as having multiple sex partners or injecting drugs (Thomas, 2022). Healthcare workers must understand that sexuality and gender identity are separate concepts. Clinically, individuals may be referred to MSM (men who have sex with men), WSW (women who have sex with women), and WSWM (women who have sex with women and men). The term MSM can vary in its inclusion of transgender men and women, depending on whether the categorization is based on sex at birth or current gender identity. It is

necessary that sexual orientation, as well as gender identity, be discussed when screening for STIs. Some STIs, like pubic lice, are not routinely screened, as testing is based on symptoms (CDC, 2021).

Screening Guidelines by Disease

Bacterial Vaginosis

Screening for bacterial vaginosis should be based on clinical symptoms consistent with the condition. All women diagnosed with bacterial vaginosis should be tested for HIV and other STIs (CDC, 2021).

Chancroid

Screening should be based on local prevalence and the presence of genital ulcers. If chancroid is diagnosed, the patient should also be tested for HIV (CDC, 2021).

Chlamydia

Annual screening of all sexually active women under age 25 should be conducted. Women older than age 25 should be tested if there is an increased risk, such as a new sex partner. Screening of young men should be considered in areas where the local prevalence of chlamydia is increased and when there is increased risk based on sexual practices (CDC, 2021).

Herpes

Routine screening of HSV-1 and HSV-2 is not recommended due to a lack of evidence demonstrating a reduction in transmission (Tuddenham et al., 2022).

Gonorrhea

All sexually active women under age 25 should be screened annually for gonorrhea. Women older than 25 should be screened annually based on risk. MSM should be screened annually and more frequently based on risk. Heterosexual men and women older than 25 who are not at high risk for infection do not need to be screened annually (CDC, 2021).

Hepatitis B

Pregnant women should be screened for Hepatitis B and vaccination should be offered to all individuals seeking STI testing (CDC, 2021).

HIV

All persons seeking STI evaluation who have not been previously diagnosed with HIV should receive HIV testing, regardless of risk factors or sexual practices. All persons aged 15-65 should be tested for HIV at least once. Individuals at higher risk should be screened annually (CDC, 2021). There is also a new recommendation to screen for HIV in all patients with genital or perianal ulcers (Thomas, 2022).

Human Papillomavirus (HPV)

Screening for HPV alone is not generally conducted, though cervical cancer screening is done, as some types of HPV can cause cervical cancer. For individuals ages 21-29 with average risk, screening for cervical cancer should occur every three years. For ages 30-65, women may undergo cervical cancer screening every three years or a test for HPV every five years. Women under age 21 with average risk do not need to be screened. Women who are vaccinated against HPV should be screened for cervical cancer at the same rate as those who have not been vaccinated (CDC, 2021).

Mycoplasma genitalium

Screening of asymptomatic M. Genitalium is not recommended, but men who experience recurrent urethritis and women with recurrent cervicitis should be tested (CDC, 2021).

Pelvic Inflammatory Disease (PID)

Since gonorrhea and chlamydia are the most common cause of PID, routine screening should be done for these infections per the recommendations (CDC, 2021).

Syphilis

There are no routine screening recommendations for men or non-pregnant women unless they have increased risk or live in a high prevalence area (CDC, 2021).

Trichomoniasis

There are no general screening guidelines for trichomoniasis, though women who present with vaginal discharge should be tested for the disease (CDC, 2021). Screening may be warranted for those with increased risk or who live in a high-prevalence community (Tuddenham et al., 2022).

Screening Guidelines for Special Populations

Pregnant Women

Changes were made to the CDC recommendations for screening for STIs during pregnancy due to increased rates of STIs among pregnant women and variations of screening guidelines among different states. Cases of congenital syphilis

increased 185% between 2014 and 2018. While syphilis has been previously screened for during pregnancy at the first prenatal appointment (CDC, 2021), the CDC recommended a standardized screening at 28 weeks gestation and again at delivery if the patient is at increased risk for syphilis or lives in a community with a high prevalence of the disease. The new screening guidelines also include universal screening for Hepatitis C in pregnant women and repeated screening with each pregnancy if the community prevalence is increased (Thomas, 2022). The recommendation for screening pregnant women for HIV is to test at the first prenatal visit, even if they have been tested in the past. For pregnant women at high risk for HIV, it is recommended there be additional testing in the third trimester. It is recommended that rapid HIV testing be performed for any woman in labor who has not been tested for HIV previously. It is also recommended to screen partners of pregnant women for STIs and test for HIV if their status is unknown (CDC, 2021).

Adolescents

Adolescent screening guidelines were updated in 2021, emphasizing specific aspects of the previous guidelines. Annual screening for chlamydia and gonorrhea for sexually active females under age 25 continues, but recommendations to include anorectal and pharyngeal testing for at-risk individuals were added. Annual screening of adolescent MSM for chlamydia and gonorrhea continues (Thomas, 2022). There is not enough evidence to support routine screening of adolescent men who have sex with women only for gonorrhea. Opt-out testing for chlamydia is recommended for all sexually active adolescents. HIV testing should be offered to all adolescents, with repeat testing at the provider's discretion based on risk factors. The CDC recommends having individualized discussions with adolescents to identify at-risk behaviors and screen for STIs as indicated (CDC, 2021).

Men who have Sex with Men (MSM)

Men who have sex with men continue not to be screened at appropriate rates, with approximately one-third of this population reporting they have not had STI testing in the past three years. MSM who had multiple sex partners reported even less screening. MSM should be tested for HIV if their status is unknown or if they or their partner has had another sex partner since their last HIV test. MSM who have had insertive intercourse should be tested annually for urethral infections of gonorrhea and chlamydia. A rectal test for these STIs should be performed if MSM have had receptive anal sex in the last year, and a pharyngeal test for gonorrhea should be done if they have had receptive oral sex. According to the CDC, there is not sufficient evidence to support annual pharyngeal testing for chlamydia. MSM should be screened for Hepatitis B, and those who are not vaccinated should be tested for Hepatitis B and then vaccinated. More frequent testing should occur for men who are at increased risk for STIs, which includes MSM who have multiple sex partners or their sex partner has had multiple partners, those taking pre-exposure prophylactic medications, and those with HIV. A Canadian testing model found that increased testing frequency significantly reduced the prevalence of STIs in this population (CDC, 2021).

Women who have Sex with Women (WSW) and Women who have Sex with Women and Men (WSWM)

This diverse group may be at increased risk for STIs due to a higher prevalence of risk-related behaviors. WSWM tend to have higher rates of STIs than WSW, though it is important that screening is not overlooked for WSW. Routine screening for cervical cancer should be offered to all women, regardless of sexual orientation and practices. Sexually active women are at risk for all types of STIs, and WSW should not be overlooked. All typical screening guidelines are recommended for this group (CDC, 2021).

Transgender and Gender-Diverse Individuals

Transgender and gender-diverse individuals experience STIs at increased rates, often due to stigma, socioeconomic challenges, and structural barriers that limit screening of this population. Screening of this population should be done based on sexual practices and anatomy, as sexual orientation is separate from gender identity. For example, transgender men who have not undergone a hysterectomy with removal of the cervix are still at risk for cervical cancer due to HPV, and testing techniques may vary if gender-affirmation surgery has been performed. Gender-based screening for sexually active females under age 25 should be extended to transgender men and nonbinary individuals who have a cervix (CDC, 2021). HIV screening for this population should be offered to all individuals, and repeat testing should be conducted based on risk factors. Transgender individuals with HIV who have sex with cisgender men and transgender women should be screened annually for syphilis, Hepatitis C, and urogenital and extragenital testing for chlamydia and gonorrhea. Transgender women who have undergone vaginoplasty should be offered STI testing for all exposed areas. Transgender men who retain a cervix should be screened for genital bacterial STIs with a cervical swab, as infections may not be detected through a urine sample (CDC, 2021).

Persons with HIV

Screening for gonorrhea and chlamydia should be done annually and more frequently for individuals engaging in increased-risk behaviors. All sites of contact should be tested. For individuals diagnosed with HIV, syphilis screening should be conducted annually. Women with HIV should also be screened annually for trichomoniasis (Tuddenham et al., 2022) and follow standard guidelines for cervical cancer screening (CDC, 2021).

Individuals taking PrEP

Individuals taking pre-exposure prophylaxis should be screened every 6 months for syphilis, regardless of sexual orientation. They should be screened every six months for gonorrhea and at least every 12 months for chlamydia. Women in high-prevalence areas should be screened annually for trichomoniasis (Tuddenham et al., 2022).

Incarcerated Individuals

Screening of this population is recommended in all correctional settings, including jails, prisons, and juvenile detention centers (CDC, 2021). The rates of gonorrhea, chlamydia, and trichomonas in incarcerated individuals remain high. Therefore, the CDC recommends an opt-out screening program for all incarcerated individuals, which means the screening will be standard, and the individual will have to elect not to participate (Thomas, 2022). Females ages 35 and younger and males ages 30 and younger should be screened at intake for chlamydia and gonorrhea. Females should also be screened for trichomoniasis. Opt-out syphilis screening upon entry to the facility should be conducted based on local prevalence. All incarcerated individuals should be screened for all types of viral hepatitis based on community prevalence and vaccination status. Women and transgender men should be screened for cervical cancer using the same guidelines as non-incarcerated women. Opt-out HIV screening should be conducted for all persons at entry to the facility (CDC, 2021).

Victims of Sexual Assault

When a person is sexually assaulted, their exposure to STIs is unknown. Prophylactic antibiotics for chlamydia, gonorrhea, and trichomoniasis should be prescribed, and testing for Hepatitis B, HIV, HPV, and syphilis should be performed (Garcia et al., 2024).

Section 4 Personal Reflection

Why are screening guidelines necessary? Why are there different guidelines for different populations? How do screening guidelines help to decrease the transmission rate of STIs? How can nurses improve screening practices?

Section 5: STI Implications

STIs have a significant impact on individuals and communities. Some STIs do not usually have lifelong implications. Pubic lice, for example, is an annoyance, but once treated, it is not likely to cause long-term problems. However, some untreated STIs can lead to serious health consequences, including neurological and cardiovascular disease. Individuals may also experience infertility, ectopic pregnancy, and stillbirths. Individuals with STIs are also at increased risk for acquiring HIV (WHO, 2024b). Some STIs can lead to genital cancers in both men and women (Washoe County Health District, 2023). Individuals who are already part of communities that experience healthcare disparities are at increased risk for morbidity due to STIs (Elendu et al., 2024).

Patients who have acquired STIs can have psychological consequences. The stress of an STI diagnosis can lead to anxiety and depression. Individuals may fear a recurrent outbreak or spreading their STI to their partner. They may have difficulty establishing new relationships due to their history of STI (Washoe County Health District, 2023). Individuals who have been diagnosed with an STI may fear judgment from others. If they feel unsupported or isolated, they may be more likely to experience depression. Low self-esteem can also be a consequence of an STI diagnosis (Hope Across the Globe, 2023).

STIs can cause social and economic consequences for individuals. They may experience stigma and discrimination due to their diagnosis. The need to seek

medical care for an STI can impact that person's productivity and availability to earn money. The cost of healthcare services may be burdensome for those without medical insurance. The shame of the diagnosis can lead to further social isolation and relationship problems. The cost of STIs can burden taxpayers in communities where STIs are prevalent. The cost of diagnosis, screening, treatment, and prevention often falls to tax-funded programs. Illness, disability, and absenteeism can cause problems for employees and students (Elendu et al., 2024).

Section 5 Personal Reflection

How does an STI diagnosis affect an individual? How do STI diagnoses affect a community? Why do individuals diagnosed with an STI often have psychological consequences? How can nurses help to decrease the psychological consequences these patients experience?

Section 6: Current Treatments and Prevention Methods

In 2021, the CDC updated the guidelines for treating STIs. Some treatment regimens may differ, as the guidelines for pregnant women may vary (CDC, 2021).

Bacterial Vaginosis (BV)

Women with bacterial vaginosis should be treated with oral metronidazole, intravaginal metronidazole gel 0.75%, or intravaginal clindamycin cream 2%. Alternatively, clindamycin, secnidazole, or tinidazole may be used. Women should abstain from sexual activity or use condoms while undergoing treatment for BV.

Women with BV should be tested for other STIs and treated as necessary (CDC, 2021).

Chancroid

Antimicrobial treatment of chancroid effectively cures infection, relieves symptoms, and prevents transmission to others. Azithromycin, ceftriaxone, ciprofloxacin, and erythromycin can treat chancroid. However, men who are uncircumcised or who have HIV may not respond to treatment as well as others. Patients should be reexamined 3-7 days after treatment initiation to evaluate its effectiveness (CDC, 2021).

Chlamydia

When treating chlamydia, it is necessary to treat sex partners to prevent reinfection. Delays in treatment can contribute to complications. Doxycycline is recommended, but azithromycin or levofloxacin may also be used. Doxycycline is more effective than azithromycin for treating rectal chlamydia infections in both men and women. If there is a concern for nonadherence, a 1g single dose of azithromycin may be given in the clinic (CDC, 2021).

Herpes

Antiviral medications manage symptoms and can prevent recurrent outbreaks. They do not cure the condition but can help manage it. The FDA has approved acyclovir, valacyclovir, and famciclovir for the treatment of genital herpes. Topical treatments are not recommended (CDC, 2021).

Gonorrhea

The bacteria that cause gonorrhea can become resistant to antimicrobial treatments. The recommended treatment for gonorrhea is a single dose of 500mg IM Ceftriaxone, but gentamicin, azithromycin, and cefixime may also be used. Ceftriaxone is also recommended for the treatment of pharyngeal gonorrhea infections (CDC, 2021).

Hepatitis B

Supportive care is recommended for hepatitis B infections (CDC, 2021).

HIV

The treatment for HIV is antiretroviral therapy (ART). HIV cannot be cured, but the risk of spreading the virus can be significantly reduced through medications when started as soon as possible after diagnosis. Early diagnosis and treatment are vital to the individual's health and prevent community spread. ART does not protect against other STIs, so condoms should continue to be used. Behavioral and psychosocial services are also recommended to help patients cope with their diagnosis (CDC, 2021).

Human Papillomavirus (HPV)

Treatment is determined by the symptoms present, such as genital warts or precancerous lesions (CDC, 2021). In approximately 90% of cases, HPV resolves without any treatment (CDC, 2024b).

Mycoplasma Genitalium

There has been increased resistance to azithromycin treatment in recent years. A two-stage therapy approach is recommended to treat this condition. Ideally, resistance testing should be done. If the bacteria are macrolide sensitive, a course of doxycycline followed by azithromycin is recommended. If the bacteria are macrolide-resistant or if resistance is unknown, doxycycline followed by moxifloxacin should be used. Follow-up testing is not necessary if the patient has followed the treatment regimen (CDC, 2021).

Pelvic Inflammatory Disease (PID)

PID is treated by treating the most likely causes of the condition with a broad-spectrum medication. Hospitalization is recommended for severe complications or when there is no response to oral therapy. Ceftriaxone and doxycycline can be used together for oral and IM treatment. If parenteral treatment is necessary, ceftriaxone plus doxycycline and metronidazole can be used together. Additionally, cefotetan and doxycycline or cefoxitin and doxycycline can be used. Alternatively, ampicillin and doxycycline or clindamycin and gentamicin may be used, if necessary, for parenteral treatment. Clinical improvement should be noted within three days of initiating therapy. If PID is due to chlamydia or gonorrhea, they should be retested within three months or when they next seek medical care (CDC, 2021).

Pubic Lice

This condition is treated using permethrin 1% cream or pyrethrin with piperonyl butoxide in the affected areas. Both treatments can be applied and rinsed off after ten minutes. However, resistance to permethrin and pyrethrin treatments has

increased. In that case, malathion 0.5% lotion or oral ivermectin can be used (CDC, 2021).

Syphilis

Syphilis in all stages is treated by penicillin G. The dose and duration of treatment depend on the symptoms present and the stage of syphilis. Since penicillin is the only proven treatment for syphilis, those who report a penicillin allergy should have the allergy validated, as they may no longer be allergic if the reaction was in the distant past (CDC, 2021).

Trichomoniasis

Medication to treat trichomoniasis can help to reduce symptoms and prevent transmission. Women are recommended to receive metronidazole 500mg orally twice a day for 7 days, and men are recommended to receive metronidazole 2g orally in a single dose. Alternatively, tinidazole 2g orally as a one-time dose can treat trichomoniasis. Tinidazole is generally better tolerated but is also more expensive. Retesting is recommended for women within three months of treatment (CDC, 2021).

Prevention

People can prevent an STI through safer sex practices. Actions such as reducing sex partners, undergoing regular STI testing, having partners who are regularly tested, being in a monogamous relationship, and using barrier methods, like condoms, consistently and correctly can reduce the risk of acquiring an STI (CDC, 2024b). It is recommended that individuals wait until both parties have been tested for STIs to engage in sex with a new partner. Oral sex is generally

considered to have less risk for STIs, but without the use of a condom or dental dam, pharyngeal STIs can still be acquired. Since excessive alcohol and drug use can impair judgment regarding safer sex practices, it is recommended to avoid these activities. Evidence has been found that male circumcision can reduce the risk of acquiring HIV and may help to prevent the spread of HPV and genital herpes (Mayo Clinic, 2024a). Vaccinations are available for hepatitis B and HPV (CDC, 2024b). The only way to completely avoid an STI is to completely abstain from vaginal, anal, and oral sex (CDC, 2024b).

Pre-exposure prophylaxis (PrEP) is recommended to lower the risk of HIV infections for individuals who are at an increased risk. The FDA has approved two combination medications for this use. These medications include emtricitabine plus tenofovir disoproxil fumarate, commercially known as Truvada, and emtricitabine plus tenofovir alafenamide fumarate, commercially known as Descovy. These medications must be taken as prescribed to be effective at preventing HIV. Patients taking PrEP should be tested for HIV every three months. In addition to PrEP, individuals should still use condoms to reduce the risk of acquiring other STIs (Mayo Clinic, 2024a). Post-exposure prophylaxis (PEP) may be used if exposure has occurred within the past 72 hours (CDC, 2021).

STI prevention is limited for some populations due to access to care, willingness to seek care, and social norms regarding sex and sexuality. Past experiences with segregation and discrimination also lead to health disparities among populations. Some racial groups, such as African American, Hispanic, American Indian, and Native Alaskans, have higher rates of STIs due to lack of access to healthcare, poverty, and living in communities with high rates of STIs. Groups who lack access to healthcare are less likely to be screened for STIs or educated regarding how to prevent them (Healthy People 2030, 2020).

Healthcare workers can help prevent the transmission of STIs through accurate risk assessment and education. Identification of individuals with asymptomatic infections can also help to decrease transmission. Evaluating and treating partners of infected individuals is also an effective strategy to prevent STIs (CDC, 2021). Multipurpose prevention technologies, like microbicides, are being studied (Thomas, 2022).

Section 6 Key Terms

Condom - a sheath, usually made of rubber, that covers the penis during sexual intercourse

Dental Dam - the term often used for a female condom that is shaped like a square, made of rubber, and acts as a barrier method

Pre-exposure prophylaxis - a preventative treatment used for individuals at high risk of acquiring a disease

Post-exposure prophylaxis - a preventative treatment administered after a potential or confirmed contact with a disease

Risk assessment - the evaluation of the potential risk factors a patient has for a particular disease

(Merriam-Webster, n.d.)

Section 6 Reflection Questions

How can nurses encourage safer sex practices? Why is STI prevention limited for some populations? How does risk assessment education prevent STIs? How can preventative education impact the use of pre- and post-exposure prophylaxis?

Section 7: Nursing Interventions

Nurses are instrumental in caring for individuals with STIs and preventing infections. By taking accurate histories and assessing risk, nurses can help identify individuals who should be screened for STIs.

A welcoming clinical environment is necessary for accurate screening of STIs. Discussing sexual history and practices with providers can be uncomfortable for many patients, and establishing a non-judgmental rapport can facilitate more honest conversations. At registration, patients should be asked about their preferred pronouns. It is also essential to establish their gender identity and sexual orientation. A two-step method is recommended, asking about the gender assigned at birth and current gender identity. Some patients may have experienced trauma and intimate partner violence. Therefore, trauma-informed care can help ease discomfort for patients. Providers should discuss the rationale behind taking a detailed sexual history, though in some cases, it may be more compassionate to offer all typical STI screening tests (CDC, 2021).

Dialogue during a sexual history interview is essential. At the beginning of the interview, the clinician should explain that they ask these questions to all patients, regardless of sexual orientation, gender identity, age, race, or marital status. Open-ended questions can help encourage dialogue. Clinicians can remember the 5 P's to make sure they ask questions that will gather all the necessary information for a complete sexual history (CDC, 2021).

The 5 P's are:

1. Partners: Determine the number and gender of sexual partners
2. Practices: This will help determine risk status. What kind of sex a patient has had, how they meet partners, if any partners use drugs, or if they have had to engage in survival sex for food or housing are all necessary questions.

3. Protection from STIs: Determine what type of risk-reduction, if any, the patient uses, such as condoms, testing, or abstinence

4. Past History of STIs: Ask if the patient has ever had an STI or been tested for one. If they have not previously had it done, they should be offered STI testing. Determine if there have been recurrent symptoms.

5. Pregnancy Intention: Based on previously collected information, determine if the patient could become pregnant. At this point, the provider can discuss birth control options if indicated (CDC, 2021).

After the interview, the clinician should ask the patient what questions they have regarding their sexual health (CDC, 2021). Nurses can contribute to slowing the spread of STIs through contact tracing. An effective sexual history interview can help identify contacts that should be notified of potential exposure (Jayes et al., 2022).

Nurses can help screen for STIs through accurate risk assessment. Based on a complete sexual history, risk factors can be identified. Recent developments in artificial intelligence risk prediction tools show promise in identifying high-risk individuals for STIs. While the development of these types of tools can improve overall healthcare, clinicians will need to use clinical judgment when interpreting results and determining what kinds of screening are necessary (Latt et al., 2024).

Health education is a significant way nurses can help reduce the rates of STIs. Nurses provide information regarding diseases, prevention, and ways to reduce sexual health risks. Having open discussions with patients can help minimize misinformation and the stigma surrounding STIs. Nurses should encourage regular STI testing and offer psychological support when needed, especially when a patient is struggling after a diagnosis. Engaging in community campaigns can help raise awareness of STIs and spread accurate information (Tushe, 2024).

Nurses can identify barriers to healthcare access in their communities. Nurses can also participate in research opportunities to facilitate STI prevention, including using social media and technology to reach more people (Tushe, 2024).

Section 7 Reflection Questions

In what ways do nurses impact the health of those with STIs? How does the clinical environment impact the care patients receive? What are some ways you can implement a non-judgmental culture in your clinic? What are the five P's? How do they assist in assessing the patient's sexual history? How does patient education impact the rate of STIs? What are the barriers to healthcare access in your community?

Section 8: Conclusion

Nurses can make a significant impact on the rates of STIs through knowledge, assessment, and education. By reviewing information regarding STIs and their risk factors, nurses can be knowledgeable regarding the various diagnoses they may encounter and what risks their patients may have. Being informed of current screening and diagnostic guidelines can help nurses to make healthcare more efficient for their patients. Understanding the implications of an STI diagnosis can enhance patient-centered care. Knowledge of recently published treatment guidelines and nursing interventions makes nurses more effective in the clinical setting and promotes optimal outcomes for the patients they encounter.

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