Disclosures:

Requirements for successful completion: read the entire study, complete the post-test with a score of 80% or higher, complete and submit the evaluation form, and complete registration information, including full name and credentials.

Conflict of Interest: Planner/content expert Pam Dickerson and planner Barb Nash are co-owners of PRN Continuing Education, and thus have the potential for gaining business through the provision of the educational activity. The learning activity will be unbiased and free from advertising material.

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Complementary/alternative therapies: Any complementary/alternative therapies discussed in this learning activity will be accompanied by disclosure of such.

Available through: September 5, 2009

Purpose: The purpose of this study is educational in nature. It is not intended to provide clinical or legal advice or to be a comprehensive compendium on sexually transmitted diseases. For specific implementation information, please contact an appropriate professional, organization, or facility policy.

Objectives:

♦ Define the conditions commonly associated with sexually transmitted diseases.

♦ Identify issues in providing appropriate nursing care for prevention and treatment of sexually transmitted diseases.

Introduction

Sexually transmitted diseases continue to be a major health threat to persons in the United States today, particularly young people. In order to effectively provide teaching and preventive support, as well as to provide care for those who have certain conditions, nurses and other healthcare providers must have a clear understanding of the various conditions that make up the group commonly referred to as “sexually transmitted diseases”, or STDs. These conditions are also sometimes referred to as “sexually transmitted infections” or STIs. From that framework,
individualized care planning can evolve. This course provides an overview of common STDs in the United States today, along with information about prevention and treatment of each condition. For purposes of this study, items are listed in alphabetical order, not ranked by severity of disease or frequency of occurrence. The conditions described in the study are not intended to be an all-inclusive list of STDs.

**General Comments**

While each disease has its own characteristics, there are some commonalities that apply to all conditions. Recognizing and addressing these commonalities can enable the nurse to provide education and support to people with concerns about any type of STD.

Unfortunately, there are several myths that people sometimes buy into that can thwart their understanding of disease transmission. One commonly held belief is that sexually transmitted diseases can be acquired from surface contact – toilet seats, door knobs, computer mice, telephones, and other areas that people frequently touch. This is not true. Depending on the causative factor of each specific infection, transmission can occur through general sexual contact (vaginal, anal, and/or oral) or specific contact with an infected sore. Another myth is that a person who only has one sexual partner cannot acquire a sexually transmitted disease. This is generally true only when a person known to be free of any sexually transmitted disease is in a long-term monogamous relationship with a partner who has been tested and also found to be free of any sexually transmitted disease. Some people get confused between processes for preventing transmission of sexually transmitted diseases and processes for preventing pregnancy. While a condom can provide some protection from both sexually transmitted diseases and pregnancy, there is currently no medication people can take that will provide protection from both. Another commonly held but erroneous belief is that douching, showering, or urinating right after having sex will prevent acquiring an STD. There is no truth to this belief. In fact, douching, harsh scrubbing, or inserting objects into the vagina can cause irritation that can provide a point of entry for a virus or bacterium.

When teaching people about protection from sexually transmitted diseases, there are several key points to keep in mind. First, the only absolute way to protect against any sexually transmitted disease is abstinence from sexual activity. For those who do choose to be sexually active, the best option is a long-term monogamous relationship with a person known to be free of STDs. Second, people should be advised about high-risk behaviors that put them in situations where the likelihood of acquiring an STD is high. Alcohol consumption and/or recreational drug use cloud a person’s ability to make sound decisions and may lead to an unplanned (and thus unprotected) sexual experience.

Because many STDs are known as “silent” diseases, meaning that they have no readily apparent symptoms, it is important to encourage sexually active persons, particularly young people at highest risk for STD infection, to have regular physical examinations and screenings. Regular interaction with a healthcare provider can provide not only the physical examination but an opportunity for patient teaching and guidance in safe decision making.
The National Institute of Allergy and Infectious Disease, a division of the National Institute of Health (2009), currently identifies sexually transmitted diseases as an important global health priority. Their particular concern is not so much the short-term infection as the devastating long-term impact, particularly on women and children. There is also a significant connection between persons who have a sexually transmitted disease and those who are diagnosed with HIV/AIDS. The two are linked by biological interactions as well as their commonality of occurrence in similar populations.

Another interesting and important factor related to sexually transmitted diseases is that prevention is a process that requires the cooperation of both sexual partners. One partner alone cannot totally prevent acquisition of an STD if the other partner does not also participate in the preventative process. Research is currently underway (NIAID, 2009) to develop a type of topical microbicide that can be used only by a single partner to kill and/or disable viruses or bacteria that cause sexually transmitted diseases. There is currently no such product on the market, but the future options may be more promising.

**Bacterial Vaginosis**

**Definition**
Bacteria are normally found in the vagina. In the case of this condition, bacterial balance is changed, and there is an abundant production of certain types of bacteria. This may result in foul-smelling vaginal discharge, accompanied by itching and/or burning on urination. However, the condition is often asymptomatic. Vaginal examination and bacterial analysis of a vaginal sample lead to diagnosis. This condition is of particular concern because there has been found to be a significant association between the presence of bacterial vaginosis and the occurrence of preterm labor (Schaffer, 2004).

**Incidence**

Among United States women of childbearing age (roughly ages 18-44), bacterial vaginosis is the most common vaginal infection (CDC, 2007a). The cause of this condition is not clear, though it is evident that a precipitating event changes the normal bacterial composition of the vagina. Situations which could lead to this change include douching and having sex. In particular, having sex with multiple sex partners, or even changing a sexual partner, may lead to disruption in the normal vaginal bacteria. Such a disruption can also predispose a woman to other types of sexually transmitted diseases.

**Prevention**

Avoidance of sexual activity prevents one possible “trigger” for changing the bacterial environment in the vagina. Avoidance of douching or placing unnatural items into the vagina would also be a way to avoid triggering a change in bacterial composition. It is not possible to acquire bacterial vaginosis from environmental stimuli, so avoiding such things as toilet seats in public places and swimming pools will not have an effect. Some people have suggested that regular ingestion of yogurt helps to maintain healthy flora in the vagina, though there is no substantive research to support this practice.
Treatment

Antibacterial medications are used to treat the condition. Treatment is especially important if the woman is pregnant, as the condition may result in preterm labor and delivery. Pregnancy is not a contraindication to medical intervention. Additionally, untreated bacterial vaginosis can sometimes lead to pelvic inflammatory disease, which can have serious implications for the woman, sometimes not appearing for many years after the bacterial infection has been treated.

Nursing Implications

Teaching of young women is important in prevention of all sexually transmitted diseases. Specific to bacterial vaginosis, advising about ways the disease is and is not contracted is helpful. Women should be advised to be sensitive to their body’s signals that something may not be right. Awareness of vaginal discharge and itching or burning on urination are important signals that a woman should be advised to report to her healthcare provider. Additionally, since symptoms are often not noted by a woman who has the condition, regular gynecological appointments and screenings are advised. If a woman is being treated with antibiotics, teaching should include the importance of taking all of the medication that has been prescribed.

Chlamydia

Definition

Chlamydia gets its name from its causative bacterium, *Chlamydia trachomatis*. This infection is of particular concern for two reasons: it typically has no symptoms, and it can cause infertility. Both men and women can acquire this infection. Women who do have symptoms may have vaginal discharge, pelvic pain, fever, and/or pain and burning on urination. Men who have symptoms may also have pain and burning on urination and may have a discharge from the penis. Transmission can occur between men and women through vaginal, oral, or anal sexual activity, between same-sex partners, and from mother to baby during vaginal delivery. Newborns who acquire the infection may exhibit symptoms of conjunctivitis or pneumonitis (Schaffer, 2004).

Incidence

Chlamydia is the most frequently diagnosed sexually transmitted disease in the United States today. While reported numbers are high, it is believed that many more cases exist because of under-reporting or persons not seeking treatment because they are unaware that they have the disease. Testing can be done as part of a regular OB/GYN visit and is recommended for all sexually active women under the age of 25, older women who have new or multiple sexual partners, or women who are pregnant (CDC, 2007b).

Prevention
It is particularly important to prevent the occurrence of chlamydia because of the potential severity of long-term effects in women – notably pelvic inflammatory disease, potential for infertility, and potential for ectopic pregnancy. Additionally, women with chlamydia who are exposed to HIV are much more likely to acquire the infection than a woman without chlamydia.

The best way to prevent chlamydia is abstinence from sexual contact. Vaginal, rectal, and oral sex can all serve as transmission routes, so total abstinence from any sexual contact is the only sure way to prevent this infection. Persons in a long-term, monogamous relationship, if they are sure that each partner has been tested and is free of infection, are unlikely to get chlamydia.

_Treatment_

Oral antibiotics are used for treatment. Treatment should include all sexual partners. Persons should be instructed to take all medication, regardless of whether symptoms disappear. It is also important that both partners complete the treatment and that sexual intercourse not occur until treatment has been completed.

_Nursing Implications_

Patient teaching is critically important with this condition. Patients should be advised to be tested on a regular basis, since symptoms are not typically the driving factor to encourage visits to the healthcare provider. If a person is infected, she or he should be advised of the critical importance of sharing the names of sexual partners so they can be treated as well. When antibiotics are prescribed, the patient should be reminded to take the full course of the antibiotic and to avoid any type of sexual contact until the course of treatment has been completed. Persons who have chlamydia also frequently have gonorrhea or other sexually transmitted diseases, so testing for multiple STDs during the gynecologic examination is wise.

_Gonorrhea_

_Definition_

The bacterium _Neisseria gonorrhoeae_ causes this sexually transmitted infection. Most typically, the organism is found in the cervix, uterus, or fallopian tubes in women and in the urethra of either men or women. Additionally, the organism can be found in other body orifices. Transmission occurs via the vagina, penis, mouth, or anus. A fetus can acquire the infection during the trip through the birth canal. Reinfection can occur, even after treatment.

Like Chlamydia, gonorrhea is a “silent” infection, in that symptoms are often not present or are mild. In men, symptoms may include burning on urination or a discharge from the penis. Women who have symptoms sometimes attribute them to bladder or vaginal infections rather than gonorrhea – burning on urination or vaginal discharge.

Complications can occur, and can be severe, in both women and men. For women, pelvic inflammatory disease may occur and may lead to infertility, ectopic pregnancy, or chronic pelvic pain. For men, gonorrhea can also lead to infertility.
Incidence

The Centers for Disease Control and Prevention identifies gonorrhea as a condition that is being seen with increasing frequency in the United States, after several years of decline in incidence. Statistics indicate an increasing prevalence of the condition, though it is thought that the occurrence is even higher, because many cases are not reported. The CDC figures suggest that approximately 700,000 people in the U.S. get gonorrhea each year (CDC, 2007c).

Prevention

As with other STDs, avoidance of sexual activity or maintaining a long-term relationship with one sexual partner is the best way to prevent acquisition of gonorrhea. Prevention of long-term effects can be enhanced by following a prescribed course of treatment for a primary infection and avoidance of re-infection.

Treatment

Antibiotics are used for treatment of gonorrhea. Unfortunately, some strains of the bacterium are becoming resistant to the antibiotics. Persons who have gonorrhea often have another sexually transmitted infection, as well, so testing and treatment are often targeted to multiple organisms. Both the infected person and all sexual partners should be treated.

Nursing Implications

Avoidance of infection is the best option, so teaching patients about abstinence is valuable. Latex condoms do provide some protection, so persons could be taught about this option as well. Persons should be advised, as usual, to complete a full course of antibiotics, if prescribed, and to notify the healthcare provider if symptoms of infection recur.

Genital Herpes

Definition

Genital herpes is a viral condition, usually caused by herpes simplex type 2 (HSV-2). This infection is more common in women than in men. It is typically transmitted from one infected person to another during sexual activity. Another form of the virus, herpes simplex type 1, usually is found in the form of “fever blisters” in the mouth or on the lips.

Symptoms of the condition are not generally present during an initial outbreak. Sores may be present within two weeks after acquisition of the virus but generally resolve within 2-4 weeks. The virus never leaves the body, but can become dormant for several years. Unfortunately, recurrences typically occur several times – most often in the first year, with fewer outbreaks as time goes by. Painful sores can recur. These are most problematic in patients who have depressed immune systems because of disease or medical treatment.
Transmission to a fetus can occur during delivery, with significant negative effects to the newborn, such as central nervous system and/or eye infections (Schaffer, 2004). To prevent neonatal infection, a woman with an active herpes virus at the end of pregnancy will be scheduled for a Cesarean section delivery.

**Incidence**

This condition is quite common in the United States, thought to infect approximately one in five of all adolescents and adults in this country (CDC, 2007d). However, the overall incidence of genital herpes is declining in the U.S.

**Prevention**

As with other types of sexually transmitted diseases, abstinence from sexual activity or a long-term relationship with a monogamous partner are the best ways to prevent acquiring HSV-2. Latex condoms can provide some protection. Persons should avoid having sex with any person who has genital lesions present, though the absence of lesions is not evidence that disease transmission cannot occur.

**Treatment**

There is currently no treatment to cure HSV-2. Antiviral medications are used to decrease the severity of outbreaks.

**Nursing Implications**

Patient teaching is important to help people understand the two types of herpes viruses and how they can protect themselves. Women who are pregnant need to be advised to share their sexual history information with their healthcare providers and to notify the provider if recurrent lesions develop, particularly in the third trimester. People who have received a diagnosis of herpes often are concerned about body image and may need support in dealing with the diagnosis.

**Human Papilloma Virus (HPV)**

**Definition**

While there are a number of types of the human papilloma virus, there are four major types that typically cause HPV infections likely to be precursors to cervical cancer. The virus is shared during vaginal or anal sex, though symptoms may never be present. If symptoms are present, they typically include warts in the vagina, cervix, or anus. They typically appear 3 weeks to 6 months after sex with a partner who has the HPV virus (Akers, 2006). It is thought that the types of virus that cause warts are not the same types that cause cervical cancer (CDC, 2007e). Certain types of the virus have been identified as a major cause of cervical cancer. Many years after acquiring an HPV infection, a woman can be diagnosed with cervical cancer, even though she never knew she had the virus.
Incidence

This condition is now the most common sexually transmitted disease in the United States (Akers, 2006). The CDC (2007e) estimates that approximately 20 million Americans currently have HPV and that over 6 million additional people become infected each year. Some suggest that most people have, or have had at some point, an HPV infection. In most people, the infection is asymptomatic and resolves without intervention.

Prevention

A quadravalent vaccine (Gardasil®) is now available for prevention of the four primary types of HPV that typically lead to development of cervical cancer. The vaccine is administered in a series of three injections over a period of six months and is recommended for girls and women between the ages of 9 and 26. The Association for Women’s Health, Obstetric, and Neonatal Nursing (2006) has issued a position statement supporting the use of this vaccine as part of a “vaccine portfolio” for adolescent girls, along with regular medical care, health screening, and Pap tests.

Treatment

Because HPV usually resolves on its own, there is no treatment for the disease, per se. Warts, if present, can be removed by cryotherapy, acid application, or laser. Due to the significant risk of cervical cancer, HPV screening and assessment of cervical cancer risk is recommended during regular gynecologic examinations. Though men do frequently have HPV, they typically do not develop HPV-related cancers and there is currently no screening recommended for men.

Nursing Implications

There has been widespread discussion about the HPV vaccine in the past few years. Some are highly supportive of a vaccine that can actually prevent one type of cancer; some are resistant to any vaccine given with the presumption that a young woman is or might become sexually active. Teaching of young women who receive the vaccine should include the fact that the vaccine is related only to the prevention of cervical cancer; it does not protect against other types of sexually transmitted diseases and it does not prevent pregnancy. Likewise, women need to know that cervical cancer can occur in the absence of HPV, so getting the vaccine does not mean that it is not important to continue to have regular gynecologic examinations.

Syphilis

Definition

Syphilis is caused by a bacterium – treponema pallidum. The bacteria are transmitted during oral, vaginal, or anal sex when there is direct contact with a chancre sore. Sores may be readily apparent or may be within orifices such as the rectum or vagina, so their visibility or lack thereof is not an indication of presence or absence of disease. The disease manifests itself in
stages. The primary stage begins approximately three weeks after exposure with presence of a single sore. This small, painless lesion lasts for three to six weeks and heals spontaneously. The secondary stage of syphilis occurs later, and typically appears as a non-itchy rash, often on the palms of the hands and soles of the feet. Accompanying symptoms are much like general viral infections - fever, sore throat, aching muscles, and fatigue. Following the secondary stage, the body enters a latent phase in which the virus is present in the body but there are no overt indicators. Finally, years later, a late phase can develop with severe consequences to major body organs. Treatment at the time of initial infection will prevent subsequent stages from developing.

The presence of syphilis chancre increases the risk of developing HIV. The CDC (2007f) estimates that people who have syphilis have a 2-5 times higher risk of acquiring HIV than those who do not have the condition.

The disease is transmitted from person to person when there is direct contact with a syphilis sore, or from a pregnant woman to a fetus via the placenta. Contrary to widespread popular belief, syphilis is not obtained though touching surfaces such as toilet seats, computer mice, or telephones or through places like swimming pools, hot tubs, and bathtubs.

Incidence

According to the Centers for Disease Control and Prevention (2007f), the incidence of syphilis has been rising in the United States in the past ten years. The incidence is highest among men who have sex with other men. The primary ages the disease tends to occur are 20-24 in women and 35-39 in men. Babies can also be born with congenital syphilis – in 2006, there were 349 new cases reported in 2006. Presence of syphilis in the mother can lead to stillbirth or neonatal death as well as developmental disabilities and other medical problems in those who survive.

Prevention

Avoiding sex or having a long-term monogamous relationship with someone who does not have HIV or a sexually transmitted disease is the best way to prevent acquisition of syphilis. Latex condoms can provide some protection, but if there is a chancre present, the surface of the sore must be covered to ensure avoidance of transmission of the bacterium. Unless the sore is in a location that is protected by the condom, infection can still occur.

Treatment

The primary treatment for syphilis is penicillin injection. One dose is generally effective for a person with a newly diagnosed infection; higher intensity treatment is required for those with long-standing infections. It is important to note that antibiotics address the present infection but do not “undo” damage that has been caused. This is particularly important to remember when seeing patients in the later stages of this condition. Treatment should be provided for all partners of the person who has been diagnosed with syphilis.

Nursing Implications
A key factor in helping people understand syphilis is dispelling myths about the condition. Patient teaching about prevention is important, so that people understand how the disease is spread (and how it is not). Teaching should be targeted specifically to high-risk groups. Persons who are diagnosed with syphilis or any other type of sexually transmitted disease may be uncomfortable sharing this information with their sexual partners. However, they need to be supported in this process by helping them understand the serious consequences that may occur to the health of the partners if those persons are not identified and treated. Body image is also an important issue to consider. Persons with visible chancre may be embarrassed and uncomfortable. They need to be treated respectfully in the healthcare environment, acknowledged for seeking treatment, and supported in their efforts to avoid future sexually transmitted diseases.

**Trichomoniasis**

*Definition*

In contrast to the other sexually transmitted diseases that have been discussed, this condition is caused by a parasite, *trichomonas vaginalis*. Similar to many of the other conditions, there are often no symptoms. Symptoms that do occur in women may include vaginal discharge, irritation and itching in the pelvic area, and discomfort during sex or while urinating. Symptoms in men may include burning on urination or discharge from the penis. Women can acquire the parasite through contact with either the penis of an infected male partner or the vagina of an infected female partner. Typically, men acquire the infection through contact with the vagina of an infected female partner.

*Incidence*

According to the CDC (2007g), “trichomoniasis is the most common curable STD in young, sexually active women”. The organization estimates that, between men and women, there are approximately 7.4 million new cases diagnosed yearly in the U.S.

*Prevention*

Prevention of the acquisition and/or spread of trichomoniasis is the same as with all other sexually transmitted diseases. Persons are best advised to avoid sexual activity or have sex with a monogamous partner. Unfortunately, many people presume that having a monogamous partner means that during one sexual relationship, the person does not have sex with anyone else. While this is true, the person who changes sexual partners after several days, weeks, or months has a very short-term monogamous relationship, thereby exposing him/herself to any sexually transmitted diseases. When advising people to maintain a monogamous relationship, the nurse needs to specify that this means a long-term commitment.

*Treatment*
Trichomoniasis is treated with a single dose of metronidazole or tinidazole. Both the person with the diagnosis and the sexual partner(s) should be treated, and sex should be avoided until all parties involved have been treated.

**Nursing Implications**

Because this condition is often asymptomatic, people, especially high risk populations, should be advised to have regular physical examinations. Due to the high prevalence among young sexually active women, emphasizing the need for annual gynecological examinations and honest sharing of sexual histories at the time of examination is important. Other nursing implications are consistent with those already discussed with other sexually transmitted diseases.

**HIV/ AIDS**

**Definition**

Books have been written and semester courses taught on this subject, so the information provided here is but a brief synopsis of key issues to keep in mind related to HIV and AIDS within in the context of this study on sexually transmitted diseases. The human immunodeficiency virus (HIV) attacks the body's immune system, destroying white blood cells that are required for fighting infection. The virus is transmitted through blood, sexual fluids, and breast milk. Once in the body, the virus works silently, with no apparent early symptoms. One to two months after infection, the person may experience generalized fatigue, headache, fever, and swollen and tender lymph nodes. During this time, the person is highly infectious, though symptoms might be thought to be any type of influenza or other form of discomfort rather than a sexually transmitted disease. Initial symptoms disappear after a short interval, though the virus remains in the body and continues its destructive work. The major problem with HIV is that it decreases the body's natural resistance to infection, allowing opportunistic infections to develop. It is these subsequent infections, such as pneumonia, which cause the greatest damage.

Acquired immunodeficiency syndrome (AIDS) is now considered a chronic infection rather than a fatal disease, due to the treatment options available with antiretroviral medications (Smith, 2004). The transition from HIV to AIDS is marked by decrease in a special type of lymphocyte (T4 helper cells, or CD4+ cells) as well as presence of increasing infectious processes in the body. Treatment is complex and uniquely based on the symptoms presented by each patient. It is important that consistent care be provided by someone proficient in dealing with this disease and familiar with the patient's history and current status.

**Incidence**

According to the National Institute of Allergy and Infectious Diseases, over one million people in the United States currently have HIV/AIDS, and there were approximately 53,600 new HIV infections diagnosed in 2006 (NIAID, 2009). This disease is also a major threat to worldwide health, with significant incidence particularly in African countries.
**Prevention**

According to Smith and Schaffer (2004), almost half of new HIV infections in women are obtained through unprotected sexual intercourse, while IV drug use was the causative factor for just a little over 1/4 of all cases. Women are more susceptible to acquiring HIV through sexual intercourse than men, due to the high number of potentially infected lymphocytes in sperm. Therefore, use of condoms is critical to decreasing spread of the virus. There is also a high rate of HIV among persons who have previously had other types of sexually transmitted diseases, so primary treatment of other STDs is important. A history of previous STDs is an important consideration in assessing a person for HIV.

**Treatment**

Treatment is based on addressing symptoms, promoting comfort, and initiation of antiretroviral therapy to maintain functioning of the immune system and decrease morbidity and mortality. Specific drugs are selected for individual patients, based on assessment of unique needs. There are a number of side effects, contraindications, and other factors that are considered by clinicians in selecting treatment regimens and modifying treatments to address individual situations.

**Nursing Implications**

Persons diagnosed with HIV bear a heavy burden, both physically and psychosocially. There is significant social stigma often attached to a diagnosis of HIV/AIDS. A professional, supportive, and non-judgmental approach on the part of the healthcare team can have a significant impact on a person's willingness to come for regular appointments and to follow a complex regimen of care that may last for many years.

Because of the decreased effectiveness of the immune system, persons with HIV/AIDS must be taught about ways to prevent occurrence of infections. Everything from hand hygiene to prevention of other STDs is critical. The person needs assistance in learning how to cope with a chronic disease, recognition of symptoms that require a follow-up visit with the healthcare provider, and support in making plans for increasing need for assistance and support as health declines.

**Summary**

While there are a number of different types of sexually transmitted diseases, there are some commonalities among them. Abstinence from sexual activity or maintaining a long-term monogamous sexual relationship between partners who have been tested and are free of an STD are the only sure ways to prevent an STD. Any patient with an STD must be treated respectfully and supported in completing the treatment regimen required by the particular condition. In some cases, failure to successfully complete treatment can result in devastating long-term consequences. Appropriate nursing care and patient teaching can help a person avoid an STD.
or, for the person with an STD, can aid in that person’s likelihood of successful treatment and hopefully, avoidance of future infection.

References


