

7th Grade, Objective 7.02

Objective:

Discuss common STDs (including HIV and HPV), modes of transmission, and effects if untreated.

Materials Needed:

Appendix 1 – Headings and signs for communicable and non-communicable diseases (one copy for Teacher Key, copies for every three students, cut apart and in envelopes)

Appendix 2a, b – HIV in a Cup preparation and instructions

Chemicals for HIV in a Cup

small clear plastic cups, one for each student

one gallon of distilled water (this is enough for 2 classes)

medicine dropper

3 grams of Potassium Hydroxide mixed with 16 ounces of distilled water (.1 molar solution) [This is the HIV solution.]

30 ml Phenolphthalein 1%

STD Fact Sheets downloaded from cdc.gov; HIV Fact Sheet is located in folder with lesson plan PowerPoint on HIV and HPV

Appendix 3a, b, c, d, e – HIV/STD Challenge Game

Appendix 4 – Ask Alecia/Ask Alex (cut apart)

Pamphlets from ETR Associates on Sexually Transmitted Diseases: <http://www.etr.org/>

1-800-321-4407

Review:

Review difference between communicable and non-communicable diseases. Make copies (one for every three students) of Appendix 1, Communicable and Non-communicable Diseases, cut them apart and place them in envelopes, keeping one copy as the Teacher Key. Provide an envelope for each set of three students. Remind them they have learned these diseases previously (in grade 6). Have each team of three collaborate to identify which diseases are communicable and which are non-communicable. Check the results with the Teacher Key. At the conclusion, make this statement: *We have already studied the different types of diseases. You know the difference between diseases that are spread between people and those that are not. Some communicable diseases are transmitted through very intimate contact and they are referred to as sexually transmitted diseases or infections.*

Statement of Objectives:

Participation in risky behavior increases the chances of contracting an STD. Today we will examine different sexually transmitted diseases and infections. To understand these bacterial and viral infections, we will discuss modes of transmission and effects if untreated.

Focus:

Use Appendix 2 to prepare and facilitate the activity, HIV in Cup. [These chemicals can be accessed in most high school chemistry labs and should be handled very carefully.]

Teacher Input:

The method used to cover content on sexually transmitted diseases and infections is jigsaw cooperative learning with STD Fact Sheets. Based on the number of students in the largest class, make copies of the CDC Fact Sheets on the six most common STDs. Those are three caused by bacteria: syphilis, gonorrhea, and Chlamydia, and three caused by viruses: human papilloma virus (HPV), herpes, and HIV (human immunodeficiency virus). [Five of these two-page fact sheets are free and downloadable from www.cdc.gov/std/healthcomm/fact_sheets.htm. The Fact Sheet on HIV was created by the NCSHTC. All fact sheets are included in a folder within the folder for this lesson plans.

Place students into six groups and assign each group an STD. Distribute the fact sheets so all members of the group are able to read and determine the following items of information: (1) Pathogen which causes the STD, (2) Symptoms for men and women, (3) Whether treatable? Whether curable? (4) Effects if untreated? (5) How to prevent? Explain that each member of the group is responsible for teaching others about all five topics for the assigned sexually transmitted disease.

Reassign each student to another group by having the students number off within the first group: A, B, C, D, E and F. Reconfigure into small groups in which they are to take turns describing their assigned STD and answering the above questions. Each group should have all six STDs represented. Provide sufficient time for all students to report on the five items describing their disease.

Two STDs of particular concern are HIV and HPV. Perhaps the most feared disease worldwide has been HIV. Since its discovery in the United States in 1981, this epidemic has been responsible for the deaths of well over half a million Americans. Each year, approximately 56,000 persons living in our country become infected. HPV is the most commonly transmitted disease in the U.S. There are an estimated 5.9 million new cases each year and the virus can cause cervical cancer or genital warts. Luckily there is a new vaccine available for boys and girls.

Show the PowerPoint on HIV and human papilloma virus.

Guided Practice:

HIV/STD Challenge Game [adapted from *Safer Choices*] will determine how well the class reported on and then listened to reports by others on the sexually transmitted diseases. Divide the class into two teams and go over the rules of the game. Play the game and clear up any misconceptions.

Independent Practice:

Ask for four volunteers to play the role of Alice or Alex as teen advisors for an STD hotline, "Ask Alecia" or "Ask Alex." Have volunteers sit at the front of the room with a telephone or cell phone. Distribute the four questions (cut apart from Appendix 6) to other students in the class. One at a time, they are to play the roles of anonymous teens calling in to the hotline to get their questions answered. Ask the volunteers in the front of the room answer the ringing phone

(one at a time) with, “Hi, you’ve reached Ask Alecia (or Alex). What is your question?” Then ask the class to process what important information should be given to the caller. Then ask the caller to repeat his or her question followed by “Alex” or “Alecia” providing the answer.

Concepts to stress include the following:

1. STDs caused by bacteria are treatable and curable. STDs caused by the transmission of viruses are treatable but not curable. That means that the person who contracts herpes, HIV, or HPV (genital warts) will have them and have the potential to spread them to others for the rest of their lives.
2. There are now effective vaccines to prevent human papilloma virus which should reduce the cases of cervical cancer in women.
3. Abstinence is the most certain means of preventing the transmission of sexually transmitted diseases. [Note: Abstinence must be practiced consistently to be effective.]
4. Most forms of birth control do not prevent STDs, only male and female condoms also provide that protection.
5. Latex condoms are highly effective but only if used correctly and consistently (every time).
6. Couples need to communicate and plan for prevention before intimate sexual contact.

Closure:

Today we discussed transmission, effects, and prevention of STDs. [Distribute pamphlets from ETR Associates about the common STDs.] Here is some information that will be useful to you about these preventable infections. You have the ability to reduce your risk of contracting STDs through your knowledge and skills of avoiding participation in risky behavior.

Communicable and Non-Communicable Diseases

Communicable Diseases	Non-Communicable Diseases
Common cold	Heart disease
Malaria	Cancer
Tuberculosis	Diabetes
Hepatitis	Osteoporosis
Influenza	Alcoholism
HIV	Parkinson's disease
Rabies	Emphysema
Sexually transmitted diseases	Alzheimer's disease
Chicken pox	Hemophilia
Measles	Epilepsy
Lyme disease	Scoliosis

Directions for HIV in a Cup

Say, One of the STDs we are most concerned about is HIV, the virus that causes AIDS. The activity we are about to do is called HIV in a CUP. The purpose of the experiential learning is to demonstrate visually the transmission of the HIV virus through simulated body fluid exchange. This activity invites participants to exchange body fluids. All but one of the cups is filled with distilled water. The remaining cup, the "carrier or HIV-infected person," has a solution of .1 molar Potassium Hydroxide.

Directions:

1. HIV solution: Dissolve .3 grams of Potassium Hydroxide in approximately 16 ounces of distilled water. This will be enough for all your classes because this is used in only one cup per class.
2. Prepare by filling cups about half full with distilled water. Fill the one remaining cup to the same level with the potassium solution. The carrier's cup should look exactly like the other cups and should be placed randomly among the other cups.
3. Be sure to tell your students this is an HIV transmission simulation. Tell students that in today's activity they will be discussing what puts them at risk for HIV infection. They will start by participating in an exercise that will simulate how the virus is spread in and amongst a community. Urge them to follow directions carefully.
4. Give one cup to each student. Tell them, *I am going to ask you to pick up a cup with body fluids in it, and when I tell you to begin I would like you to circulate about the room and exchange names and information about yourselves with each other, and simulate exchanging body fluids. Do this by pouring the top ¼ of your fluid into another person's cup, then pour the solution back again so you again have the same amount you started with.* (You might want to demonstrate with 2 leftover cups, so they understand.) Instruct them to move from one person to another and repeat this procedure two or three more times. Once they have accomplished this with four people, have them sit down.
5. When all participants are finished with this step, open up your clinic. Label a desk "Clinic." This desk contains the HIV test solution (Phenolphthalein) and the dropper. Move from desk to desk testing each person for HIV. Squeeze two to three drops of the solution into each cup. The students will notice the results quickly because the HIV positive cups will turn bright pink.

6. Count the number of students whose cups turned pink. Have students use calculators to determine the percentage of people in this community who became HIV infected (number of people infected divided by the total number of students). Explain that by exchanging body fluids, they have come into contact with someone who has infected them with the HIV virus. Ask them to guess how many cups were HIV positive and explain that is how quickly the virus can spread from just one person. Emphasize that only one student picked up a cup that had the "virus" in it. Here you might want to explain that in actuality, the virus was simulated by Potassium Hydroxide and it reacted with an indicator which turned the solution bright pink.

Ask students the following questions to process the activity:

- *Why did we use cups with water in them?* (to simulate body fluids inside of the body)
- *How is this activity similar to the real spread of HIV?* (It's communicable and therefore spreads from one person to another and there must be an exchange of body fluids just like we did – through sexual intercourse, IV drug uses, from mother to baby; also, just like in real life, you could not tell which cup was HIV infected – you cannot tell if someone is HIV infected.)
- *How would you make sure that you will not contract the HIV virus?* (Do not use drugs and practice abstinence until marriage and remain monogamous with that marriage partner.)

Challenge Game Cards

Category: HIV/AIDS

Q: What does AIDS stand for?

A: Acquired Immunodeficiency Syndrome

Q: Name 3 ways that HIV is transmitted

A: Vaginal, anal, or oral intercourse; sharing needles; from infected mother to child prenatally or via breast milk

Q: What is the difference between HIV and AIDS?

A: HIV is the virus that causes AIDS. A person can be HIV positive and not have AIDS. AIDS is HIV plus another specific medical condition.

Q: Name some common warning signs of HIV/AIDS

A: weight loss, dry cough, fever/night sweats, unexplained fatigue, swollen lymph glands, unusual blemishes, diarrhea for more than a week, depression

Q: Which of the following statements is *false*?

- a. AIDS is a bacteria and can be cured
- b. AIDS is caused by a virus
- c. HIV infection can be prevented

A: response a.

Q: Can HIV or AIDS be cured?

A: There is currently no cure or vaccine for AIDS. There are effective treatments which extend and improve the lives of persons living with HIV.

Challenge Game Cards

Category: Other Viral STD/STI

Q: What are two other viral STDs other than HIV/AIDS?

A: Genital Herpes and Genital HPV; also Hepatitis B and Hepatitis C

Q: T/F Genital Herpes can not be transmitted if there is no visible outbreak

A: False

Q: What is the most common STD?

A: Genital HPV

Q: Which are some possible consequences of Genital HPV?

- a. Genital warts
- b. Cervical cancer
- c. Cancer of the penis
- d. All of the above

A: response d

Q: Are Genital Herpes and Genital HPV curable?

A: No, but there are treatments to alleviate symptoms and prevent related diseases. There is also a vaccine for HPV.

Q: What is the best way to prevent HPV-related diseases?

A: For women cervical cancer screenings and vaccine. There is now a vaccine for males as well (Gardasil).

Challenge Game Cards

Category: Bacterial STD/STI

Q: Which STD is bacterial?

- a. Chlamydia
- b. Syphilis
- c. Gonorrhea
- d. All of the above

A: response d

Q: Are bacterial STDs curable?

A: Yes, with antibiotics prescribed by a doctor. Any damage is not cured (scar tissue, heart damage, infertility)

Q: T/F Syphilis can increase one's chance of acquiring HIV

A: True

Q: Why are Chlamydia and Gonorrhea known as "silent" diseases?

A: Most symptoms are delayed and some people do not even show signs of infection

Q: Which bacterial STD is most frequently reported bacterial sexually transmitted disease in the U.S.?

A: Chlamydia

Q: How can Gonorrhea, Chlamydia, and Syphilis be transmitted?

A: Vaginal, anal, or oral intercourse; from infected mother to child

Challenge Game Cards

Category: Transmission

Q: T/F STDs are more easily transmitted from men to women than vice versa.

A: True

Q: Which country in the industrialized world has the highest STD rates?

A: United States

Q: What percentage of all sexually active young people will have an STD by the time they are 25?

- a. 20%
- b. 35%
- c. 50%

A: response c

Q: Why is there a higher rate of STDs among lower income communities?

A: They lack access to prevention, screening, and treatment services

Q: According to studies do men and women overestimate or underestimate their risk of getting a STD?

A: Underestimate

Q: Name a few STDs that increase the transmission of HIV/AIDS

A: Chlamydia, gonorrhea, syphilis, and herpes (all STDs)

Challenge Game Cards

Category: Prevention and Protection

Q: T/F latex condoms can be used more than once

A: False

Q: What is the only 100% effective method to prevent STDs and HIV/AIDS

A: abstinence from oral, anal, and vaginal intercourse

Q: Which of the following methods can help prevent pregnancy and STDs, including HIV/AIDS?

- a. withdrawal
- b. birth control pills
- c. latex condoms

A: response c

Q: If you are sexually active, what is the best way to know whether you have an STD or not?

A: Get tested

Q: T/F A person cannot get more than one STD at a time.

A: False

Q: Name one location where people can get latex condoms?

A: drugstore, grocery store, clinic

Ask Alecia/Ask Alex

Yo, Alecia/Alex. My boyfriend (girlfriend) and I are getting pretty close. He (she) has had sex before, but I haven't. I've heard STDs are epidemic among kids our age. What should we do so I stay safe in case he (or she) has already caught something?



Hey Alex/Alecia! Several of my friends are being vaccinated to prevent human papilloma virus. Do you know anything about the shot and whether it will protect me from getting HPV?

Hi Alex/Alecia. My friends tell me stuff about STDs that I'm not sure about. Can you give me the real scoop on these diseases? One guy says you can't get more than one STD at a time. Is that true?

Alecia/Alex, I've never had sex without insisting my partner use a condom. My current boyfriend argues about it all the time and says he won't wear one. How can I persuade him to use one? I'm afraid he will find someone else who won't make demands.