

RISK FACTORS AND BLOOD-BORNE DISEASES

Lesson 1

6
GRADE

Learner Outcome W-6.6¹:

Examine and evaluate the risk factors associated with exposure to blood-borne diseases – HIV, AIDS, Hepatitis B/C; e.g., adults sharing needles, body piercing, tattooing, helping someone who is bleeding, being sexually active.



MATERIALS:

1. MATERIALS for the blood-borne disease demonstration:
 - Cornstarch
 - 2 re-sealable bags
 - Water
 - 2 Glass beakers or clear containers
 - Iodine
 - Needle or safety pin
2. HANDOUT: Blood-Borne Disease Fact or Fiction
3. ANSWER KEY: Blood Borne Disease Fact or Fiction
4. HANDOUT: Learning About HIV & AIDS and Hepatitis B/C



INTRODUCTION:

HIV & AIDS and Hepatitis B/C are preventable blood-borne diseases. Prevention depends on knowledge of risk factors and protective measures. This lesson provides students with an opportunity to define and understand blood-borne diseases, therefore providing students with tools and knowledge to reduce risks of contracting HIV & AIDS or Hepatitis B/C.



APPROACHES/STRATEGIES:

NOTES:

A. Ground Rules

Ensure ground rules are established before beginning this lesson. For classes that have already established ground rules, quickly reviewing them can promote a successful lesson.

(5-10 min)

B. Introduction to Blood-Borne Disease

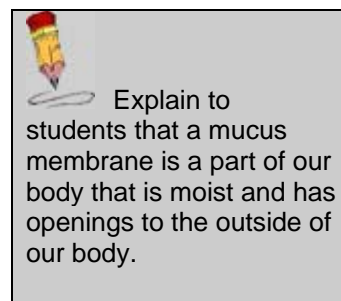
(15in)

Students define “communicable disease” and understand the concept of transmission of a disease.

1. Ask students to brainstorm a list of diseases. Write down each suggestion on the board or an overhead. Ensure that HIV & AIDS and Hepatitis B/C are on the list.
2. Explain to students that some diseases are communicable – diseases that are passed from one person to another and some are non-communicable – diseases that happen inside a person that can't be passed onto another person except genetically or via the introduction of environmental hazards (i.e., second hand smoke).
3. Demonstrate the transmission of a communicable disease using the following procedure²:
 - Place cornstarch inside two re-sealable bags and seal the top. Inform students that cornstarch represents the blood inside our bodies and the plastic bags represent the skin that protects our bodies.
 - Use a needle to make several holes in one of the bags. The holes represent parts of our bodies that could allow a virus through, such as cuts, piercings, or mucus membranes (such as those found in our genital area, back of throat, eyes, and in nose).
 - Place each bag into a glass beaker filled with water, ensuring the top of the bag remains out of the water to prevent leakage. Inform students that the water represents the environment outside the body.
 - Put several drops of iodine into the water of each beaker. Inform students that the iodine represents a virus causing HIV & AIDS or Hepatitis B/C.
 - Remove the bags from the solution. The cornstarch inside the bag with the holes in it will have changed color. Inform students that this color change represents the introduction of a disease such as HIV & AIDS or Hepatitis B/C to the bloodstream. Diseases passed through blood are known as blood-borne diseases, and are communicable diseases.
4. Looking back at the list from step one, circle diseases that are communicable.
5. Debrief this activity using the following questions:

Which of the communicable diseases we identified can cause serious health problems?

- HIV & AIDS
- Hepatitis B/C



Why are some communicable diseases more serious than others?

- They can cause severe health problems, even death

What emotions do people feel toward serious communicable diseases such as HIV & AIDS and Hepatitis B/C?

- Fear
- Anger
- Compassion

C. Blood-Borne Disease Fact or Fiction

Students determine how much they know about blood-borne diseases, and identify where their knowledge gaps are.

1. Distribute the handout Blood-Borne Disease Fact or Fiction.
2. Have students complete this handout independently.
3. Using the answer key, review each statement while students correct their handout.
4. Debrief this activity using the following questions:

How are blood-borne diseases passed from one person to another?

- Blood-borne diseases are passed from one person to another through an exchange of blood or body fluid including semen and vaginal secretions, and through breast milk (HIV only).
- Blood-borne diseases can be passed through sharing needles, body piercing and tattooing equipment, helping someone who is bleeding without using gloves, sexual intercourse, and from an infected mother to her baby.

What diseases are blood-borne?

- HIV & AIDS and Hepatitis B and C are blood-borne diseases.

What is the difference between HIV (Human Immunodeficiency Virus) and AIDS (Acquired Immuno-Deficiency Syndrome)?

- The virus that causes AIDS is called HIV. A person can have HIV without having AIDS.
- If a person has HIV, it can take many years for the virus to multiply and cause serious damage to the immune system. When the defenses provided by the immune system become seriously damaged, severe infections such as pneumonia and cancer can occur that the body is unable to fight. This is when HIV is said to become AIDS.

(15-20 min)



Some students may have close experience with blood-borne diseases. It is important to be sensitive to any potentially harmful comments by other students.

What is the difference between Hepatitis B and Hepatitis C?

- Hepatitis B and C are both viruses that affect the liver. Different viruses cause them both. They are both blood-borne diseases. Hepatitis B is preventable through vaccination, while Hepatitis C is not. Hepatitis B can be transferred through sexual intercourse.

What can a person do to prevent the spread of blood-borne diseases?

- Practice abstinence (not having sexual intercourse or sexual contact)
- Use only clean and new needles or tattooing/piercing equipment
- Avoid touching someone who is bleeding without wearing latex gloves

D. Parent Interview³

Students discuss blood-borne diseases with a parent or guardian

1. Distribute the handout: Learning About HIV & AIDS and Hepatitis B/C for students to complete as a homework assignment.
2. Explain that students can complete this interview with a parent or guardian.
3. Dedicate time to debrief this activity during the next lesson.

(5 min today, 30 min homework, 5-10 min next class)



QUESTION BOX:

(10 min)

Introduce the question box. You could have students fill out questions every lesson, or have students begin to think about questions that they might ask next lesson.



TAKE IT HOME:

Students complete the handout: Learning About HIV & AIDS and Hepatitis B/C with a parent or guardian.



Keep in mind that all students do not live in a “traditional” family nor do they have equal opportunities for open discussion within their “family.” Although it is best for students to complete this assignment with a supportive parent or guardian, it may not be possible. Be sensitive to the needs of your students.



SELF REFLECTION:

- During the lesson, were:
- Ground rules being followed?
 - Good practices established regarding group work and discussion?

What will you change for future classes with this group?

What will you change for future use of this lesson?



STUDENT ASSESSMENT:

During the lesson, did students:

- Knowledge:**
- Define communicable/blood-borne disease?
 - Prove understanding about the concept of disease transmission?
 - Dispel personal misunderstandings about blood-borne diseases?
- Skills:**
- Identify ways to prevent the transmission of blood-borne diseases?
- Attitudes:**
- Acknowledge the implications of having a blood-borne disease?

¹ Alberta Learning. (2002). *Health and Life Skills: Kindergarten to Grade 9*, p.7.

² Adapted from: Health Strategies, Inc. (1999-2000). *Learning About HIV/AIDS, Demonstrating the Transmission of Disease*. Retrieved from: www.healthteacher.com/lessonguides/sexual/4-5/sh5el45/printout2.asp (no longer available on-line).

³ Canadian Federation for Sexual Health. (2005). *Beyond the Basics: A sourcebook on sexuality and reproductive health education*. Ottawa: Author