Nuestra Familia Sana
Lay Educator Program

Educator's Manual
Secondhand Smoke Education Program

Nuestra Familia Sana

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Educator's Manual

Lesson 1

Lesson	**Secondhand Smoke**
Time duration	45-60 Minutes
Objective	At the end of the lesson, participants will be able to: 1. Explain what secondhand smoke is 2. Understand health effects caused by secondhand smoke 3. Describe basic concepts of a cell 4. Describe basic concepts of DNA and genes 5. Explain how secondhand smoke can lead to cancer 6. Describe ways to reduce exposure to secondhand smoke
Materials	Have all materials ready before starting the lesson 1. Tablet with Secondhand Smoke Video 2. Secondhand Smoke Flipchart 3. Microscope with camera 4. Cell slides 5. DNA model with additional segment 6. Participant packet 7. Pens

Introduction

Once at the participants' home or community site, introduce yourself to the participants (and others). It is important to conduct all lessons in the order of the lesson plan. When you are talking with the participants, encourage natural conversations and questions. Participants will probably ask questions you cannot answer. That is OK. Do not try to answer questions if you do not know the answer. If you do not know the answer, tell the participants you will try to get an answer for them. After the session is over, contact the project manager.

Starting out

Assessment: Ask the assessment question below to see what the participants already know about secondhand smoke. Try not to answer their questions if they ask you more about secondhand smoke. Explain that you will discuss this in detail after showing a short video. This is the time to try to understand the participants' knowledge level about the topic.

- Have you ever heard the phrase secondhand smoke? If so, what does it mean to you?

Video: After your brief discussion, inform participants that you will now use a tablet to show a video on secondhand smoke. Show the entire video. Once the video ends, encourage participants to ask questions about the video.

Set up the flipchart, DNA Model, and microscope with slides while video is playing. See Microscope Setup document if you need help with microscope.

Background

<u>Learning Objective 1: Participants will be able to understand the concept of secondhand smoke.</u>

Transitional question: Before you start this section, ask the transitional question in the flipchart.

- After viewing the video about Jorge, Carolina, and their family, how would you describe secondhand smoke?

Flipchart

1. Tell participants that you would like to review more details about secondhand smoke. Review flipchart section *"What Is Secondhand Smoke?"* Allow for natural conversation. After reviewing the information on the flipchart, allow time for questions.
    - Secondhand smoke is smoke from burning tobacco products like cigarettes, pipes, or cigars.
    - Secondhand smoke is also the smoke that is exhaled by a smoker.
    - This smoke can enter your lungs when it is in the air.
    - Secondhand smoke residue can linger around on surfaces and cause harm a long time after the smoker has stopped smoking.
    - Tobacco smoke and residues contain more than 7,000 chemicals, including hundreds that are toxic and about 70 that are known to cause cancer.

Health Effects

Learning Objective 2: Participants will be able to understand health effects caused by secondhand smoke.

Transitional question: Before you start this section, ask the transitional question in the flipchart.

- Carolina was concerned about how secondhand smoke might harm Juanito. What health effects concern you the most about secondhand smoke?

Flipchart

1. Flip to section "*What Are the Health Effects of Secondhand Smoke?"* to review health effects from exposure to secondhand smoke.
    - People who smoke cigarettes are much more likely to develop—and die from—certain diseases. Some adult nonsmokers die because they breathed in secondhand smoke.
    - Health problems in infants and children include more frequent and severe asthma attacks, respiratory infections, and ear infections.
    - Babies whose mothers smoked during pregnancy and babies who are exposed to secondhand smoke after birth are more likely to die of sudden infant death syndrome.
    - Some health conditions in adults include coronary heart disease, heart attack, stroke, and cancer in the lungs and other organs.

Learning Science

Learning Objective 3: Participants will be able to describe basic concepts of a cell.

Transitional question: Before you start this section, ask the transitional question in the flipchart.

- Carolina showed Carlos a video during the story. What did Carlos learn about cells?

Flipchart

1. Explain that they will be learning some basic science information, so they can better understand how secondhand smoke can affect our bodies. Review "*What Is a Cell?"*
    - Cells are small structures that make up our bodies. All people are made up of different types of cells like the heart, lung, and brain cells.
        - Point to the different types of cells that make up the organs.
    - The cells that make up different parts of the body look different from each other.
    - Most cells contain a nucleus. The nucleus contains all of our genetic information in the form of our DNA.
        - Point to the nucleus in each cell.

Activity

2. Make sure the microscope is ready before starting with flipchart.
    - Begin by mounting the cheek cell slide. Identify a good view of cells with the microscope.
    - Show the participants the cells through the tablet.
    - Explain that they are looking at a cluster of cells from inside the cheek.
    - Ask participants to point out a single cell. If they cannot point out a single cell, point one out again. Ask participants again to point out a single cell (not the one you pointed out).
    - Then, ask participants to point out the nucleus in the cell they identified.
    - Encourage participants to ask questions.

    - Repeat all previous steps for the nerve cell slide.

<u>Learning Objective 4: Participants will be able to describe basic concepts of DNA and genes.</u>

Flipchart

1. Flip to section "*DNA, Genes, and Me"* to review that the cell's nucleus contains DNA and genes.
    - Inside every cell's nucleus are small chains of DNA.
    - Some parts of the DNA form genes. Each human cell has about 25,000 genes.
    - Genes are sets of instructions that tell the body how to function.

Activity

2. Use the DNA model to explain to participants what a *very small* piece of DNA looks like. Allow participants to hold the model and to ask questions.
3. Ask participants how many colors they see in the middle section of the DNA.
    a. They should say they see 4 different colors.
4. Explain: The small parts in DNA are called bases. Each color represents a specific base. There are just four types of bases in DNA.

Learning Objective 5: Participants will be able to explain how secondhand smoke can lead to cancer.

Transitional statement: Before starting this section, tell the participants the following statement.

- The video that Carolina played for Carlos showed how exposure to secondhand smoke or smoke residues could lead to health issues such as cancer. Let's learn more about how that happens.

Flipchart

1. Review section "*How Can Secondhand Smoke and Residues Lead to Cancer?"*
    - Genes are codes that provide the instructions for everything the cell does.
    - Genes usually do not change.
    - A mutation is a change in a part of a gene.
    - Mutations can occur naturally but are more common when the cells are exposed to certain chemicals (like those found in cigarettes).
    - Often, mutations do not cause a problem, but sometimes they can lead to diseases, such as cancer.

Activity

2. Use the DNA model to show the participants a visual representation of a mutation.
    - Ask participants to remove the DNA segment that is attached with velcro.
    - Give the participant the different piece. Point out that it has different colors.
    - Ask participants to attach the new piece into the model. Explain that this small change in the DNA chain is a mutation. Mutations can change the cell's instructions. This change may lead to cancer.

Behavior Change

Learning Objective 6: Participants will be able to describe ways to reduce exposure to secondhand smoke.

Transitional question: Before you start this section, ask the transitional question in the flipchart.

- During the video, Carolina and Jorge were concerned about Juanito being exposed to Carlos' smoke. What did Jorge and Carolina do to protect their family from secondhand smoke?

Flipchart

1. You will now review simple steps to protect the family from secondhand smoke. Review section "*What Can I Do to Protect My Family?*" with participants.
    - Do not allow anyone to smoke anywhere in or near your home. You may need to practice how you can speak to people you love or respect.
    - Do not allow anyone to smoke in your car, even with the window down.
    - Make sure that the places you go to are tobacco-free. Places could include your children's day care centers, babysitter's home, and schools.

- If your state still allows smoking in public areas, look for restaurants and other places that do not allow smoking. “No-smoking sections” do not protect you and your family from secondhand smoke, since smoke can travel and may not be seen. NC passed a law 2010 banning smoking in restaurants and bars.

Note: At the end of the lesson, ask if there are any questions. Do not try to answer questions if you do not know the answer. If you do not know the answer, tell the participants you will try to get an answer for them. After the session is over, contact the project manager. Thank them for their time. Give participants the packet for this lesson. Schedule the next session.

After the lesson, fill out the Activity Form that is located at the end of the Lesson Plan. Answer the form without the participants’ help. Make sure to collect all materials used during the session such as flipchart, DNA model, microscope, slides and the iPad.