

Sinclair Community College, Division of Allied Health Technologies

Health Promotion for Community Health Workers – Cardiovascular disease and stroke

Class #3 High Blood Pressure

(date)

Course Objectives:

Know risk factors and causes of heart disease, stroke, and cancer

Know the signs of heart disease and other conditions that can lead to heart attack and stroke

Know the most common treatments for diseases of the heart and blood vessels, heart attack and stroke, and contributing conditions like high blood pressure, high blood cholesterol, and diabetes.

Class/Learning Objectives: By the end of this session, students will be able to:

1. Explain what high blood pressure is
2. Describe how it's measured
3. Describe ways to treat and control high blood pressure
4. Describe medicines that might be prescribed for high blood pressure

Participants:

Instructor(s)

Students

Materials/Resources Needed:

Flipchart, markers, tape, blackboard, chalk and eraser

Handouts:

Handout 3-1 Prevent and Control High Blood Pressure: Mission Possible

Handout 3-2 How is Blood Pressure Measured?

Handout 3-3 What Do Blood Pressure Numbers Mean?

Handout 3-4 Take Steps – Healthy Habits to Lower High Blood Pressure

Handout 3-5 Medicines for High Blood Pressure

Handout 3-6 Tips for Taking Medicine for High Blood Pressure

Handout 3-7 What can CHWs do to help people who are at risk for high blood pressure or who already have high blood pressure

Handout 3-8 Heart Healthy Wallet Card

Class Outline

I. Overview

II. Lesson

A. What causes high blood pressure?

B. How is high blood pressure diagnosed?

- C. How is blood pressure measured?
- D. What do the blood pressure numbers mean?
- E. What are the signs of high blood pressure?
- F. Why is high blood pressure harmful?
- G. Where can you get your blood pressure checked?
- H. How is high blood pressure prevented, treated, and controlled?
- I. Taking blood pressure medicine

III. Summary

Plan for the Class:

I. Overview

Definition of blood pressure – Blood pressure is the force of blood against artery walls as it is pumped through the body. Blood pressure helps blood get to all parts of the body.

Definition of HIGH blood pressure – Sometimes blood pressure is too strong or too high. This means that the heart is working too hard, or that the arteries are too narrow. A heart that has to work harder than normal for a long time gets larger and weaker and has an even harder time doing a good enough job.

Handout 3-1: Prevent and control high blood pressure: Mission Possible

Distribute and review Handout 7-1. Let CHWs know that this handout is available from the National Heart, Lung, and Blood Institute web site: http://hin.nhlbi.nih.gov/mission/partner/should_know.pdf

Another word for high blood pressure is **hypertension**. High blood pressure or hypertension increases a person's risk of heart-related problems, including heart attack and stroke, because of the strain on the heart and arteries.

Among African Americans age 20 and older, almost half have high blood pressure. Compared with whites, blacks develop high blood pressure earlier in life and their average blood pressures are much higher. As many as 30% of all deaths in black men and 20% of deaths in black women are due to uncontrolled high blood pressure.

Among Mexican Americans, ages 20 and older, a third have high blood pressure. Less than 18% of Mexican Americans have their high blood pressure under control.

Twenty percent of American Indians and Alaska natives age 18 and older have been diagnosed with high blood pressure.

II. Lesson

A. What Causes High Blood Pressure:

A number of conditions and behaviors contribute to high blood pressure. Sometimes high blood pressure is caused by another medical condition, such as kidney disease or lung disease.

Activity: Instructor asks class to list factors that they are aware of that contribute to high blood pressure. List the factors named on newsprint or the blackboard. Reinforce correct answers and add any others that were omitted, as below:

- Salt in the diet – Most Americans consume more salt than their bodies need. Too much salt can increase blood pressure. Your daily intake of salt should not be more than 2300 mg or about 1 teaspoon of salt.
- Being overweight or obese – People who are overweight are more likely to have high blood pressure
- Lack of physical activity – At least 30 minutes of moderate to vigorous physical activity on most days is recommended.
- Heavy alcohol consumption – If you drink alcoholic beverages, drink moderately – for men that means a maximum of 2 drinks a day, for women, a maximum of 1.
- Race – more African Americans have high blood pressure because they are less likely to be aware of their high blood pressure and are not being treated for it.
- Age – blood pressure tends to increase with age in most populations, so older people are more likely to have high blood pressure.
- Gender – men have a greater risk of high blood pressure than women until age 55, when the risk becomes similar for men and women. At age 75 and older, women are more likely to develop high blood pressure.
- Smoking – Smoking affects the blood vessels.
- Diabetes and kidney disease – people with these conditions have a higher rate of high blood pressure.
- Heredity – people whose parents have high blood pressure are more likely to develop it than those whose parents don't.

B. How is High Blood Pressure Diagnosed?

Blood pressure is measured as part of a regular physical exam or during most visits with a doctor. People may have their blood pressure measured at a health fair, when you donate blood, or as part of another type of medical screening.

If it is high, the doctor will gather additional information. For example, the doctor will ask whether high blood pressure runs in the family and what eating habits have been like. It is especially important to be aware of, and let the doctor know, how much salt is in your diet. Let your doctor know if salt is added during cooking

or at the table, if a lot of canned foods, frozen dinners, or highly salted foods such as peanuts or chips are eaten.

C. How is blood pressure measured?

Handout 3-2: How is blood pressure measured?

Ask those in the class who have had their blood pressure taken to raise their hand. Ask if the pictures on Handout 3-2 look familiar. Review the handout by saying the following (allow for questions after).

Blood pressure is measured by an instrument called a blood pressure cuff. (the technical term for it is **sphygmomanometer**.) The cuff is put around the arm above the elbow. Different size arms require different size cuffs. A cuff that is too small or too large will produce an inaccurate measurement.

A tube attaches the cuff to a measuring device. The cuff is then pumped full of air until blood flow in the main artery of the arm is temporarily closed by the outside pressure of the cuff.

A stethoscope is placed on the inner bend of the elbow over the artery so that the person measuring the blood pressure can hear when the blood begins moving again through the artery. The air is slowly let out of the cuff, reducing pressure on the arm and releasing the blood to flow again.

The blood pressure readings – systolic, the higher number, and diastolic, the lower number, is when pressure is highest and lowest during each heart cycle.

Normal blood pressure is a systolic number of less than 120 and a diastolic number of less than 80. In other words, blood pressure should be 119 over 79 or numbers less than those. It is possible to have blood pressure that is too low. Low blood pressure usually results in symptoms such as dizziness or fainting.

If the blood pressure is between **120/80** and **139/89**, this is *prehypertension*. This is not high blood pressure, but means that the person is likely to develop high blood pressure in the future. A person with prehypertension should take steps to prevent high blood pressure by adopting a healthy lifestyle.

Remember, normal blood pressure is less than **120/80**.

High blood pressure is a reading higher than 139/89. A systolic reading of 140 to 159 and a diastolic of 90 to 99 is called Stage 1 Hypertension. A systolic reading of 160 or above and a diastolic reading of 100 or above is called Stage 2 Hypertension. Treating

Stage 2 Hypertension usually requires additional or stronger medications than Stage 1.

D. What do the blood pressure numbers mean?

Handout 7-3. Review the handout as follows:

A blood pressure reading has a pair of numbers, for example, 120/80. The first, higher, number is the pressure of the blood in the vessels when the heart beats and is called the systolic pressure. The second, lower, number is the pressure of the blood in the vessels when the heart is relaxed (diastolic) blood pressure. It is important for people to know and remember their blood pressure numbers! Be sure to ask what your blood pressure reading is each time you have it checked, and keep a record of each reading.

E. What are the warning signs of high blood pressure?

Most of the time, there *are* no warning signs. A person can be calm and relaxed and still have high blood pressure. High blood pressure is sometimes called "the silent killer," because a person can have high blood pressure for many years without knowing about it. For these people, their blood pressure numbers are often their only warning.

However, some people with high blood pressure (especially if it is very high for a long time) can have one or more of the following:

- Tiredness
- Confusion
- Nausea or upset stomach
- Vision problems or trouble seeing
- Nosebleeds
- Excessive sweating
- Skin that is flushed or red or skin that is pale or white
- Anxiety or nervousness
- Palpitations (strong, fast, or obviously irregular heartbeat)
- Ringing or buzzing in the ears
- Trouble achieving or maintaining an erection
- Headache
- Dizziness

The American Heart Association recommends that people have their blood pressure checked every two years. If the reading is high, however, they should have their blood pressure checked more often, as advised by their doctors.

Remember: a person can have high blood pressure and experience no symptoms.

F. Why is high blood pressure harmful?

High blood pressure causes the heart to work harder than normal to pump enough blood and oxygen to the body's organs and tissues. If high blood pressure isn't treated, over time the heart tends to enlarge and weaken. A slightly enlarged heart may work just fine, but one that's significantly enlarged has a hard time doing its job and may eventually fail.

Also, high blood pressure increases the risk of heart attack, strokes, kidney damage, eye damage, congestive heart failure, and atherosclerosis.

G. Where can you get your blood pressure checked?

People can get their blood pressure checked at places in the community other than the doctor's office. Some of the places where blood pressure can be checked are:

- Health fairs often have nurses or other medical personnel to check blood pressure
- Health clinics
- Fire department (usually have medically trained personnel to check blood pressure)
- Grocery store or drug store (will have a machine that can be used) **CAUTION:** Automated machines may not be checked regularly for accuracy. People should not depend on these machines alone for following their blood pressure measurements

People can also monitor their own blood pressure by taking it themselves. Easy-to-use monitors can be found in drugstores and in the pharmacy section of large discount stores. Medicare and private health insurance will usually pay at least part of the cost of the blood pressure monitor. Ask the pharmacist about options for paying for the monitor, and there may be resources in the community for helping to pay for the monitor.

Note to instructors: Please identify places in your community that offer free or low cost blood pressure screenings and monitors.

H. How is high blood pressure prevented, treated, and controlled?

The good news is that high blood pressure can be prevented and controlled. There are things that can be done to reduce the chances of having high blood pressure and the problems that it can cause.

Treating high blood pressure can reduce the chances of having a heart attack by 27%, stroke by 38%, and heart failure by 55%.

Activity: Ask CHWs for suggestions on how to lead a healthy life (hint: remember the risk factors for high blood pressure) and write them on a flip chart. Answers should include the following:

- *Use less salt and sodium (about 1 teaspoon daily which equals 2300 mg)*
- *Aim for a healthy weight*
- *Eat a low-fat diet that includes fruits and vegetables*
- *Be active for at least 30 minutes most days*
- *Limit alcohol (no more than 1 drink each day for women and 2 for men)*
- *Quit smoking*
- *Keep blood sugar under control if diabetic*
- *Take prescription medicine as recommended by a doctor*
- *Have blood pressure taken as often as doctor advises*

Handout 3-4: *Use handout 3-4 to repeat and explain the suggestions CHWs have given for keeping blood pressure under control. Repeat the list of responses on flip chart and give an explanation. Add any steps that were not provided.*

Use less salt. Don't add salt to food that has already been cooked. Buy foods that are marked "sodium free," or "low sodium." Use herbs and spices in cooking for flavor instead of salt. Avoid fast foods that are high in salt. Read food labels to choose canned, processed, and convenience foods that are lower in sodium. Choose low sodium or unsalted snacks. Try to eat about 2300 mg of sodium or less each day.

Aim for a healthy weight. If you are overweight, lose weight. You can do this by being active and by making changes in your diet. Limit portion sizes, especially of high calorie foods. Being physically active will help decrease weight or keep you from gaining more weight.

Eat a low-fat diet. Eat a diet rich in fruits, vegetables, whole grain breads and cereals and low-fat dairy products with low amounts of saturated and total fat. Also be sure to include nine servings (a serving is ½ cup) a day of a variety of fruits and vegetables.

Eat foods that are high in potassium, calcium, and magnesium to protect against high blood pressure. Foods high in potassium are:

- Dried fruits such as raisins, prunes, apricots, dates
- Fresh fruits such as bananas, strawberries, watermelon, cantaloupe, oranges; and
- Fresh vegetables such as beets, greens, spinach, peas, tomatoes, mushrooms

Foods high in calcium are:

- Dairy foods such as low-fat milk, yogurt, and cheese: and
- Fresh vegetables such as spinach, turnip greens, kale, and broccoli

Foods high in magnesium are:

- Brown rice, fish and seafood, bananas, tofu, blackstrap molasses, and avocados.

Be active. Be active every day, for example, walk briskly at least 30 minutes per day, most days of the week. Walk instead of drive to a friend's home or stores that are close to you. Use the stairs instead of the elevator. Play sports or do something you enjoy.

Cut back on alcohol. Women should have no more than one drink each day. If they are pregnant, they should not drink alcohol at all. Men should have no more than one or two drinks each day. (1 drink = a 12 ounce beer, 5 ounces wine, or 1.5 ounces of 80-proof whiskey.)

Quit smoking. Smoking increases chances of having a stroke or heart disease.

Take prescription medicine as suggested by your doctor. If your doctor gives you a prescription for medication to reduce your blood pressure, be sure to take the medicine as directed. If you do not understand, have questions, or have any problems talk to your doctor, nurse, or pharmacist right away.

Check your blood pressure as often as your doctor advises. You can purchase a blood pressure monitor, use the ones available at some drug and grocery stores, or you can have someone check it for you at a health clinic or fire department.

Avoid taking over the counter (OTC) medications, especially decongestants and anti-inflammatory medication.

Some medicines can raise blood pressure and interfere with blood pressure medicines. People with high blood pressure should tell their doctor, nurse and pharmacist all of the prescribed and over-the-counter medicines they are taking. These include anti-inflammatories (like Ibuprofen), decongestants and other cold remedies, diet pills and herbs. Be sure to ask if these other medicines are safe to take with blood pressure medications.

I. Taking blood pressure medicine

Handout 3-5 Medicines for high blood pressure – Review each type of medicine and how it works. Allow for questions

Handout 3-6 Tips for taking medicine for high blood pressure – Review questions at bottom of handout. Ask CHWs why it's important

for people to know when to take their medicine, what to eat or drink with it, and if it's OK to take other medicines at the same time (including medicines they can buy without a doctor's prescription).

IV. Summary

Activity: Ask class for ideas about how CHWs can help people who have high blood pressure. Write responses on flipchart or blackboard.

Handout 3-7. What can CHWs do to help people who are at risk for high blood pressure. Review with class.

Resources:

Prevent and Control America's High Blood Pressure: Mission Possible
<http://nih.nhlbi.gov/mission/>

Your Guide to Lowering Blood Pressure. National Heart, Lung, and Blood Institute. NIH Publication #03-5232. Reprinted 2003.
<http://www.nhlbi.nih.gov/hbp/index.html>

Your Heart, Your Life – A Lay Educator's Manual. National Heart, Lung, and Blood Institute, National Institutes of Health
http://www.nhlbi.nih.gov/health/prof/heart/latino/latin_pg.htm

Heart and Stroke Fact Sheet AHA/ASA web site www.americanheart.org

The DASH Eating Plan. NIH Publication #03-4082. Reprinted 2003
<http://www.nhlbi.nih.gov/health/public/heart/hbp/dash/index.htm>