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Cancer Prevention: Kidney Disease in African Americans
KNH 403
Nutrition Curriculum

Target Audience: Middle aged African-Americans

Background and Rationale:

It is critical for middle aged African-Americans to be educated on their increased risk for kidney disease. “African Americans are more at risk for kidney failure than any other race” (National Kidney Foundation, 2015). The exact reason why African Americans develop kidney disease is not clear, though diabetes, high blood pressure, and other healthcare issues may play a role. Diabetes is the leading cause of kidney failure in African Americans. African Americans are twice as likely to be diagnosed with diabetes as Caucasians. Approximately 4.9 million African Americans over 20 years of age are living with either diagnosed or undiagnosed diabetes. (National Kidney Foundation, 2015). Additionally, 12.6% percent of all African Americans over 20 years of age have diagnosed diabetes, compared with 7.1% of Caucasians. (National Kidney Foundation, 2015). The most common type of diabetes in African Americans is type 2 diabetes. The risk factors for this type of diabetes include: family history, impaired glucose tolerance, gestational diabetes, poor diet, hyperinsulinemia and insulin resistance, obesity and physical inactivity. African Americans with diabetes are more likely to develop complications related to their diabetes and have greater disability from these complications than Caucasians. African Americans are also more likely to develop serious complications such as heart disease and stroke (National Kidney Foundation, 2015).

A gene variant common in African-Americans predicts that people with that gene who also have chronic kidney disease (CKD) are twice as likely to progress to kidney failure as

African-Americans without the high-risk gene called APOL1 (NIH, 2013). African Americans are almost four times as likely as whites to develop kidney failure (National Institute of Diabetes and Digestive and Kidney Disease, 2014). It is important for middle aged African-Americans to be educated on these diseases and risk factors so that they can make the proper lifestyle changes early on to help prevent chronic disease and improve quality of life.

General Goal:

The goal of the Nutrition Curriculum for Kidney Disease in African Americans is to educate middle aged low income African Americans about the importance of preventing kidney disease and prevention methods.

Learning Objectives:

- It is important that people who are more at risk of kidney disease (African Americans, Hispanics, Native Americans) have both their blood and urine tested on a routine basis
- As a result of this presentation the target population will have learned steps that they can take in order to lower their risk of kidney disease.
 - quit smoking
 - lower alcohol consumption
 - maintain a healthy weight
 - follow a healthy diet
 - reduce salt consumption
 - exercise

Procedures:

Time	Content/Activity	Materials Needed
5 Minutes	<ul style="list-style-type: none"> · Pass out pre-test >Allow participants to complete test based on their current level of understanding regarding the topic · Collect pre-tests once all individuals are finished 	<ul style="list-style-type: none"> · Pre-tests for each participant · Writing utensils for participants
10 minutes	<ul style="list-style-type: none"> · Begin presentation by discussing the background information provided on the slides: <ul style="list-style-type: none"> · Explain disease (gradual loss of kidney's ability to filter waste and excess fluids from blood) · Risk factors associated w/ disease and why African Americans are at an increased risk (CKD highly associated w/ diabetes [2x more prevalent in African Americans (AfAm) vs. Caucasians], HTN, and heart disease) · Discuss options regarding prevention of kidney disease (maintain healthy weight, drinking alcohol in moderation, OTC medication use, avoid smoking, maintaining other medical conditions) · Review treatment 	n/a

	and maintenance of KD: controlling underlying complications (HTN, diabetes, etc.), lower protein diet, iron, vitamin D, and calcium levels)	
15 minutes	<ul style="list-style-type: none"> · Play Jeopardy game w/ participants · If participants have difficulty answer/cannot answer any question, review answer before proceeding 	Jeopardy game link
10 minutes	<ul style="list-style-type: none"> · Distribute post-test to students (same as pre-test) · Once complete, collect from participants · Review answers and allow for any questions regarding topic to be discussed and answered 	<ul style="list-style-type: none"> · Copy of blank pre-test for each individual · Writing utensils for participants

Learning Activity:

For the learning activity, we will come up with a Jeopardy game. The questions will be derived from the information provided in the background and rationale for kidney disease in African Americans, this way the students can test their knowledge on the information they had just reviewed.

Depending on the number of students, they will break off into groups of equal numbers. Each group will get a chance to choose a square with a point value indicated on the square: 25, 50, 75, or 100. As the point value goes higher, the question gets harder. There will be three options for each point value. Each group will get a chance to choose a square until all the points have been taken. Then the group will total up their numbers to determine a winner.

Questions:

25 Points:

- What race is more at risk for kidney disease?
 - African Americans
- What is the leading cause of kidney failure in African Americans?
 - Diabetes
- The two leading causes of kidney disease are high blood pressure and high rate of diabetes.
 - True

50 points

- How much more likely are African Americans to develop kidney disease than Caucasians?
 - 3x
- The most common type of diabetes in African American is type 1.
 - False - type 2

- African Americans who have kidney disease are at high risk of progressing to kidney failure if they have what gene?
 - APOL1

75

- Why are African Americans more at risk?
 - unclear: diabetes, high blood pressure may play a role
- What percentage of Caucasians have been diagnosed with diabetes?
 - 7.1%
- Hispanic Americans are also at high risk for kidney disease.
 - True

100

- How many African Americans over the age of 20 are living with undiagnosed or diagnosed diabetes?
 - 4.9 million
- Hyperinsulinemia is a risk factor for diabetes.
 - True
- What serious complications can African Americans develop from having diabetes?
 - Heart disease and strokes

Methods of Evaluation:

Using a pretest and posttest system, we will use the same questions to see what the client already knows if there is any pre-existing knowledge on kidney disease and then the post test will be given to see if the education materials used worked in teaching the client.

Pre-test:

1. Of the following ethnicities, who is the least at risk for developing kidney disease? (b)
 - a. Asian Americans
 - b. European Americans
 - c. African-Americans
 - d. Hispanic Americans

2. What two conditions combined result in the highest amount of kidney failure cases? (c)
 - a. Type 1 diabetes and hypertension
 - b. Heart disease and Type 1 diabetes
 - c. Type 2 diabetes and hypertension
 - d. Type 2 diabetes and osteoporosis

3. T/F African Americans are twice as likely as whites to develop type 2 diabetes. (T)
 - a. True
 - b. False

4. What is one way that an individual can reduce their risk of getting kidney disease? (d)
 - a. Exercise regularly
 - b. Eat a healthy diet
 - c. Consume 3000 mg of salt per day
 - d. Both A and B

5. There are serious complications that African Americans can develop from having kidney disease. These complication include: (a, b, d)

- a. Heart disease
- b. Heart attack
- c. Type 1 Diabetes
- d. Hypertension

6. What is the name of the gene seen in African Americans that is associated with chronic kidney disease?

- a. Thrifty Gene
- b. APOL1
- c. APOL2
- d. Trisomy 21

Posttest: Will be the same as the pretest to establish a concrete ground of what was learned by the client.

Materials:

Educational Brochure for client to take home with them.

References

<https://www.kidney.org/news/newsroom/factsheets/African-Americans-and-CKD>

<https://www.kidney.org/prevention>

<http://www.niddk.nih.gov/health-information/health-communication-programs/nkdep/learn/causes-kidney-disease/at-risk/race-ethnicity/Pages/race-ethnicity.aspx>

<http://www.nih.gov/news-events/news-releases/nih-gene-hastens-kidney-disease-progression-african-americans>

<http://www.kidneyfund.org/are-you-at-risk/risk-factors/race-kidney-disease/#african-americans>

<http://nihseniorhealth.gov/kidneydisease/riskfactorsandprevention/01.html>