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## **Love your Heart**

### **Introduction and Background**

According to the Mississippi State Department of Public Health, in 2010 heart disease had the highest mortality rate, accounting for 26.1% of all the reported deaths. Likewise, the Behavioral Risk Factor Surveillance System reported that the prevalence of myocardial infarctions and coronary artery disease in Mississippi was 5.4% and 4.4% respectively (1). These are both greater than the national prevalence of 4.1% for each category (1). Lastly, a report to assess the counties in Mississippi for cardiovascular disease rated the top 20 counties. The list did not include Hines, Rankin and Madison counties, which notes that the hard work that is being done in Jackson, Mississippi and surrounding areas is paying off (2).

Since “Love your Heart” was developed specifically for women, data related to women is warranted. The data associated with women was quite interesting. In 2010, women accounted for 49% of the 17,756 individuals that were hospitalized for heart disease. It was reported that 3,722 women died from heart disease, with the majority of those women being African American. In addition, out of the living women, 40,469 women reported ever having a myocardial infarction and 45,094 women reported having coronary artery disease. To top it off, a survey was conducted to determine the prevalence of the risk factors for developing heart disease was conducted. The risk factors studied were diabetes, hypertension, hypercholesterolemia, obesity, and being a smoker. The alarming factoid from this

survey is that Mississippi women were reported to have a higher prevalence than the national average in every single category. This data demonstrates a great need for intervention in Mississippi (3).

### **Objectives**

Because of the data presented, “Love your Heart” was developed for the following:

1. To heighten awareness of the signs and symptoms of heart disease
2. To inform women how to prevent heart disease and heart attacks
3. To conduct a qualitative analysis regarding what participants learned and assess the effectiveness of the presentation.

The qualitative analysis was conducted to allow women to use their own words when telling what they have learned, rather than having predetermined questions for them to answer.

### **Methods**

“Love your Heart” was implemented by developing and conducting a 10- 15 minute heart health presentation. Fifty-eight women received education; half were one-on-one, while the other half were in group settings. After the presentation was conducted, an open-ended questionnaire to ask what patients learned from the presentation was provided. Twenty-seven women answered the survey questions, most of which were in the one-on-one or small group (2-3 women) settings. The project was implemented over the course of three weeks

## **Tools**

The “Love your Heart” presentation taught specific information regarding the following: the definition and causes of heart attack; the types of cholesterol and how they affect the cardiovascular system; the signs and symptoms of heart attack; the risk factors associated with heart attacks and heart disease, such as metabolic syndrome, stress and lifestyle habits; prevention of heart disease and heart attacks, including nutrition, managing blood pressure and cholesterol, stress management, and exercise. (View Appendix 1 for the presentation that was conducted.) The qualitative survey asked three questions. The first questions stated, please tell me what you have learned about heart health, nutrition, exercise. The second question asked if there was any further information they wished they had of learned. The last question asked the women what other women’s health topics they would like to learn more about in the future. (View appendix 2 for the survey.)

## **Results**

Survey responses were assessed to determine common themes for reporting what women learned in each category. Based on the results, the mutual themes and percent of women who mentioned them for heart health were relating to the following: cholesterol, 59.3%; signs and symptoms of myocardial infarctions, 40.7%; risk factors related to heart disease and heart attacks, 25.9%’ function of the heart, 14.8%; and lifestyle changes, 14.8%. Figure 1 provides a visual of the themes with the percentages of the women reporting what they have learned. For the nutrition component, 52% of women reported that they learned about starchy foods, 37%

reported learning about portion sizes, 22.2% of the women made comments about lifestyle changes they would like to make to improve their health, and 18.5% of the women reported learning about sodium intake. View Figure 2 for a visual of the reported themes for nutrition. Lastly, the information learned for exercise was minimal; therefore all the comments were gathered and reported as one theme. Thirty-seven percent of women mentioned learning something about exercise and 27% of women reported their desire to make lifestyle changes to improve their exercise. These results are demonstrated in figure 3 below.

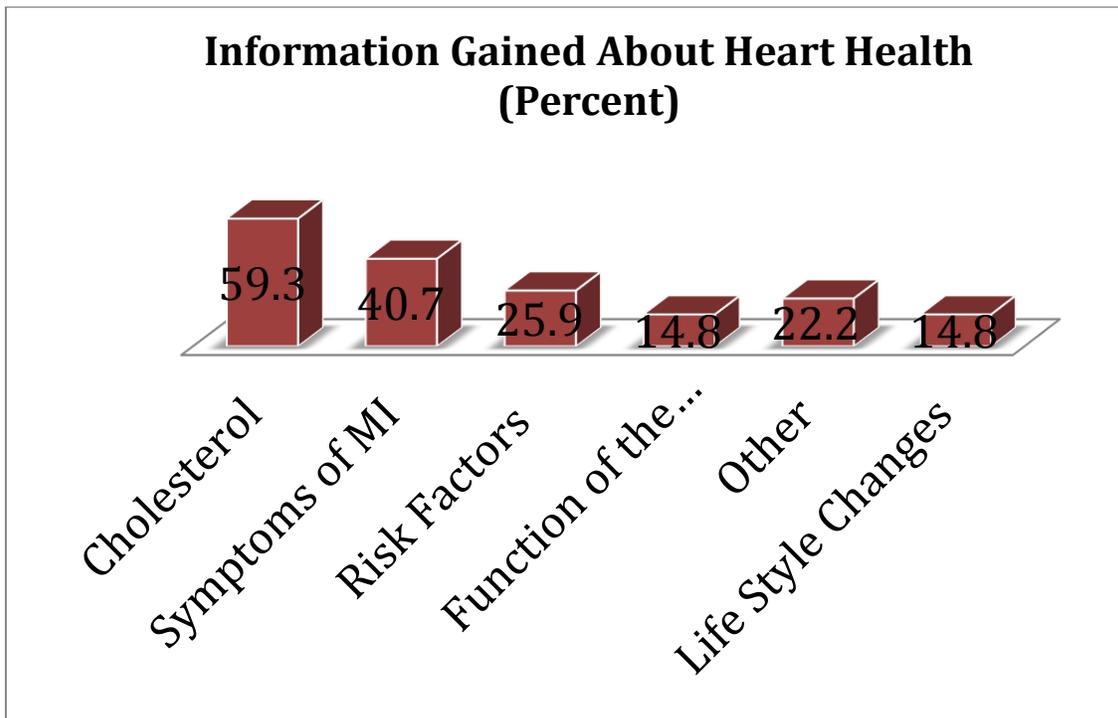


Figure 1: Common themes among the women's reporting of what they learned.

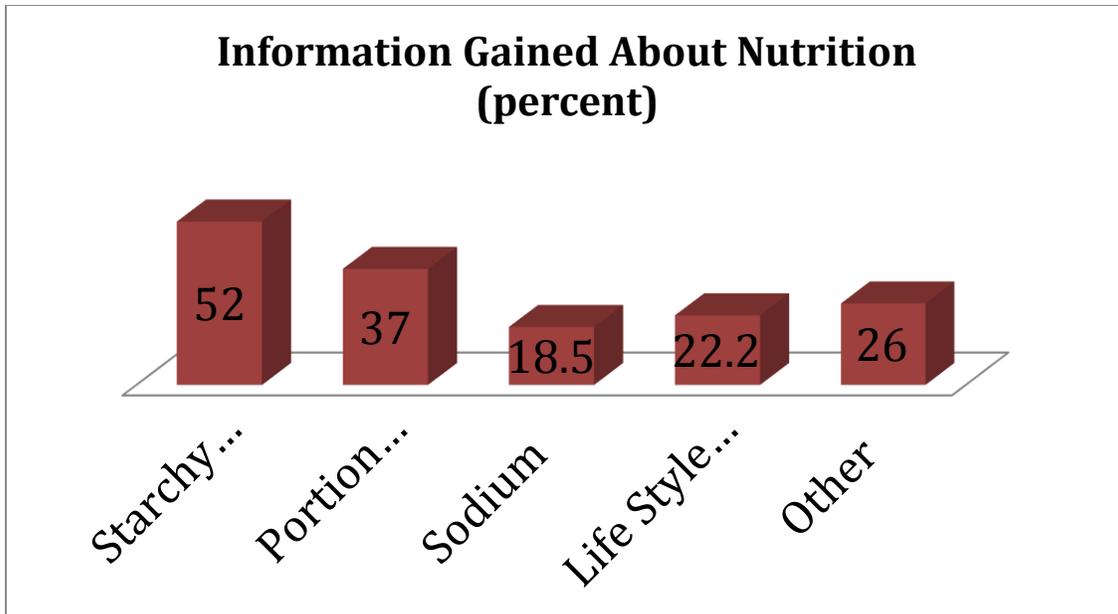


Figure 2: Common themes among the women's reporting of what they learned.

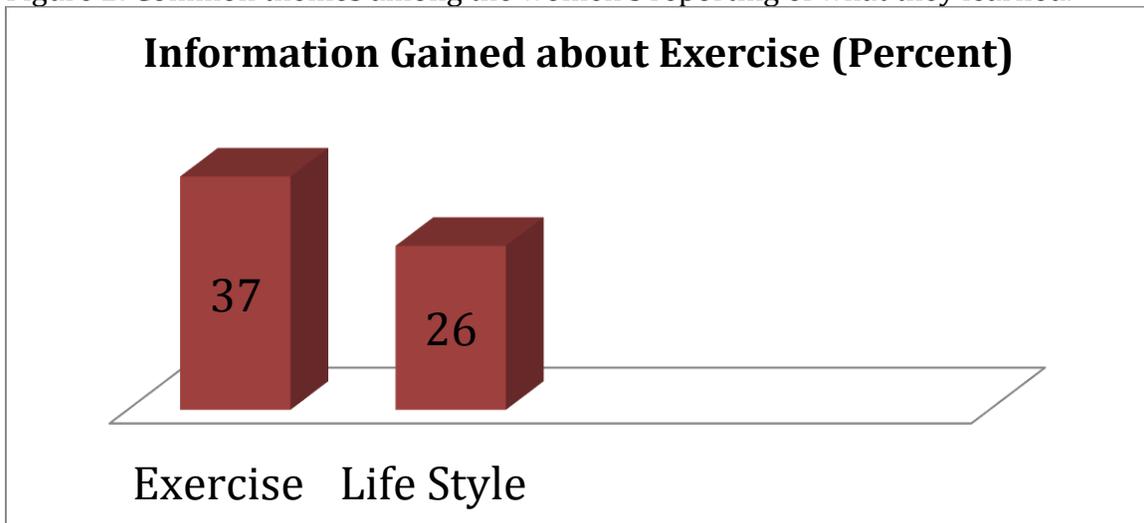


Figure 3: Percent of women reporting increased knowledge about exercise and making lifestyle changes.

## Discussion

### *Heart Health*

The information that was learned about heart health was much higher than any of the other categories, with the theme of cholesterol being the greatest and the signs and symptoms being the second most common theme. Risk factors, function of the heart and lifestyle modifications were the last three most common themes. In the

cholesterol category, women said they learned the difference between low density lipoprotein (LDL) cholesterol and high density lipoprotein (HDL) cholesterol. The women were provided with ways to help them remember the difference and the women said it was now easier for them. They also reported they now know the actions of each related to the cardiovascular system, such as plaque build up in the arteries and how it causes heart attacks. Lastly, they mentioned that they now know that increased fatty foods is what causes increased cholesterol and thus placing individuals at a higher risk for myocardial infarctions. As far as the symptoms, many of the women knew the classic signs of a myocardial infarction; however, they were unfamiliar with the atypical signs that are most commonly experienced by women. After learning about such diseases, it is common for a person to wonder what the risk factors are. The women were unaware of the term metabolic syndrome and the factors leading to metabolic syndrome, such as hypertension, high cholesterol, high blood sugar or diabetes and increased waist size. They learned that metabolic syndrome puts a person at higher risk for heart disease and diabetes. They also mentioned learning that stress can lead to high blood pressure and thus heart disease. After learning this information, along with the function of the heart, the women were inclined to make healthy affirmations. Comments were: "I need to quit smoking!", "I need to decrease my cholesterol" and "I need to be aware of the symptoms of a heart attack". Overall, learning that the signs were different for men and women will probably increase the likelihood that women will identify heart attacks sooner and receive earlier care. Likewise, it is safe to say that the women learned the basic pathophysiology of the cholesterol's relation to heart attacks,

which will better help them understand health care recommendations from their physicians.

### *Nutrition*

Nutrition was the next most common theme with a 52% response rate. Knowing the difference between starchy and non-starchy foods is a wonderful tool to help individuals control their weight and diabetes, and thus their cardiovascular health. Women reported learning the difference between starchy and non-starchy vegetables, which vegetables fit in each of the categories, and that they need to balance the starches they eat to live a healthier life. In addition, portion sizes was another concept that many of the women reported learning. Teaching the “plate method”, a visual way choose foods for a balanced meal seemed to be a great way to teach, based on the responses. Plates with the segments outlining the portions were provided to enable their ability to use what they learned. Lastly the women reported learning how sodium affects blood pressure. Because of the diet information that was learned, several of the women made healthy lifestyle affirmations such as, “I need to decrease the amount of starches and carbohydrates I eat”, “I need to decrease my salt!”, “I will drink more water” and “I need to work on my portion sizes”. Overall, nutrition is a major component when speaking of lifestyle aspects that modify a person’s risk for many preventable diseases. It is a topic that has to be emphasized more. With “Love your Heart”, it was emphasized and the women demonstrated via their surveys that they really learned lots of about nutrition.

## *Exercise*

It is well known among the population that exercise is important for health. In the presentation, different types of exercise were taught, and how it affects the cardiovascular system. Thirty seven percent of the women said they learned exercise is beneficial to the heart, how long and often one should exercise, and that it is important to increase the heart rate for exercise to be effective. Lifestyle comments were the highest for this category, at 26%. Some of the comments were, "I need to increase my exercise", "I will start walking faster", and "I'm going to start walking today". One that was particularly inspiring was, "It's only 30 minutes a day... I can do that!" because of the way she conceptualized it, she can definitely push herself to exercise and maybe influence a few acquaintances. It is always nice when women are educated and they obtain confirmation that their lifestyle efforts to enhance their health status are good. Such is the case with the person that responded, "It looks like I'm doing well" on her survey. All in all, exercise was the least commented on topic, but the comments that were made were of great substance and the information learned will hopefully assist those women in the future.

## **Recommendations and Future Direction**

Based on the results of "Love your Heart", a few recommendations and ideas for future direction can be made. More education regarding nutrition should emphasize the difference between starchy and non-starchy vegetables and portion sizes. Likewise, educational on cholesterol should focus on the types of cholesterol and their affects on the cardiovascular system. Lastly, an interesting educational

opportunity arose as the women were asked what a clot in the brain would cause. Only one person answered that it would cause a stroke, which is the correct answer. The rest of the women answered that it would cause an aneurysm. It is very common for the term “aneurysm” to be mentioned; therefore, it would be beneficial to educate patients on the difference between an aneurysm and a stroke so that the misconception can be cleared up.

Health literacy is an important factor that can determine the ability of patients to understand health information and recommendations. With that being said, it is recommended that health literacy be considered when educating patients and the community. Words at a reading level of less than or equal to 5<sup>th</sup> grade should be used, while paralleled with common medical terms. For example, high blood pressure should be paralleled with hypertension. This will improve the likelihood that patients understand their diagnoses and the management plan. In addition, it is recommended that explanations for the management plan be given. For example, this will help patients understand that they need to stop using salt to decrease their blood pressure, which will then enhance their quality of life. In turn, this will heighten the chance that they will adhere to the agreed upon medical plan. After the “Love your Heart” presentations, many of the women commented on how easy it was to understand the information and explanations, which simply confirms the importance of health literacy.

In the final section of the survey, the women were asked what topics they would like to learn more about in the future, thus providing future direction for women’s health educational opportunities for the clinic. Forty-eight percent of the

women wanted to learn more about women's health topics including breast, cervical and ovarian cancers and cysts, hysterectomies, strengthening pelvic floor muscles, abnormal pap smears, breast feeding, communicating with partners about sexually transmitted infections and menopause. Other topics mentioned were diabetes, colon cancer, the different types of lung cancer, kidney disease, chronic obstructive pulmonary disease, obesity, and thyroid disease. Programs surrounding these topics can be considered highly likely to attract attention since the women provided these topics on their own. All in all, future efforts can be directed towards these topics, especially if there seems to be a need in the area statistically.

## **Conclusions**

The "Love your Heart" presentation was successful in reaching its goals. The women reported learning the signs and symptoms of heart disease and heart attacks, they learned the risk factors for developing heart disease and how to prevent heart disease. Due to the consideration of health literacy, the women were able to understand the information presented in ways they originally misunderstood. Overall the women were very receptive to the education provided and thankful that they were able to learn more about heart health.

## **Resources**

Mississippi State Department of Health articles at the following links:

1. [http://msdh.ms.gov/msdhsite/\\_static/resources/5273.pdf](http://msdh.ms.gov/msdhsite/_static/resources/5273.pdf)
2. [http://msdh.ms.gov/msdhsite/\\_static/resources/5271.pdf](http://msdh.ms.gov/msdhsite/_static/resources/5271.pdf)
3. [http://msdh.ms.gov/msdhsite/\\_static/resources/5269.pdf](http://msdh.ms.gov/msdhsite/_static/resources/5269.pdf)