

# Obesity in African-American Early to Middle-Aged Females: Prevention and Treatment through Education

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## Abstract

The objective of this study was to develop an educational program for African-American females on diet and exercise in the treatment and prevention of obesity. African-American female participants aged 30 - 50 with a Body Mass Index (BMI) over 25 were recruited for inclusion in the study. A qualitative assessment was completed which observed the attitudes, personal beliefs, dietary and physical risk factors regarding weight loss before and after an educational intervention which focused specifically on the targeted population. Pre- and post-assessment questionnaires were utilized in this study. This design intended to measure whether the educational intervention affected real change among the participant's lifestyle choices. Results revealed that most participants initially did not consider themselves to be overweight or obese and that after the education intervention, realized that they were overweight or obese. Many participants felt that their support systems were adequate. Initially, participants consumed fried foods and high calorie drinks. After the educational intervention, many preferred baked foods and decreased the intake of high calorie drinks. Emotions were also identified as a cause of overeating. Many participants found the educational sessions beneficial to their weight loss and fitness efforts. Challenges such as lack of adequate social support and emotions controlling eating patterns still exist in this population and need to be addressed. The creation of standardized protocols to directly address emotional needs at every medical visit would assist in identification of problems which could negatively affect lifestyle choices.

## Keywords

Females; African-American; Obesity; Exercise; Prevention; Treatment

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## 1. Introduction

The United States has a major problem with obesity in its African-American female population. Obesity is more common among African-American and Hispanic females than among Caucasian females. Among African-Americans, the number of females who are obese is 80 percent higher than for African-American males [1].

In the African-American culture disease and debility is seen to exist only when it interferes with the ability to be useful [2]. It must be explained to the participants that obesity can severely impact them in the future and affect their ability to be productive at that time. Cultural sensitivity must be embraced to increase the level of health care access for the identified group.

A plan of focus to decrease or modify obesity levels in the identified group is of particular importance and very much needed. Obesity and overweight pose a major risk for diet-related chronic diseases, including type II diabetes, cardiovascular disease, hypertension and stroke, and certain forms of cancer. The health consequences range from increased risk of premature death, to serious chronic conditions that reduce the overall quality of life [3].

## 2. Purpose of the Study

The purpose of this study was to educate middle-aged African-American females on the use of diet and regular physical activity to improve and prevent various health conditions which may occur in the future. This increase in healthy living was expected to have a positive effect on health related conditions which presently exist or those which may develop due to poor lifestyle and nutritional habits. An educational program which focused on diet and exercise in the treatment and prevention of obesity was developed. The population consisted of African-American females aged 30 - 50 with a BMI over 25.

An improvement in lifestyle choices is expected to have a positive effect on health related conditions which presently exist or those which may develop due to poor nutritional or fitness habits. Obesity and overweight pose a major risk for preventable disease processes. This study assessed if through the use of education, positive behavior modifications are made in this population regarding dietary and fitness choices that can prove to be sustainable.

## 3. Method

### 3.1. Research Questions

The research questions for this study were as follows: 1) Are external factors such as peer pressure, poor dietary choices, and lack of proper fitness routines contributing to the weight epidemic which is currently plaguing African-American females? 2) Are internal factors such as self-esteem issues and emotional eating adding to the burden of obesity and overweight among this population?

### 3.2. Sample

The sample was recruited from a primary care office in an urban area. The inclusion criteria was African-American women with a diagnosis of overweight, obesity, and who were older than 30 years of age and younger than 50 years of age. African-American women were selected because they have a greater incidence of obesity than Caucasian or Hispanic women in the United States. Also, national priority is being given to study the outcomes of health care delivery in minority populations. This study excluded pregnant women, men, persons under age 30 or over the age of 50, all ethnic groups except African-Americans, and diabetics due to varying nutritional needs. 20 participants who meet the criteria for the study were obtained.

### 3.3. Instruments

There were initial interviews regarding present lifestyle and dietary changes. Accompanying those initial interviews were pre-tests which examined the participants views of themselves, their weights, dietary and fitness challenges. The pre assessment consisted of 10 statements to which the participants either: strongly agreed, agreed, strongly disagreed, or disagreed. Pre assessment questions were as follows:

- 1) I don't feel that I'm overweight or obese.
- 2) I'm suffering the physical effects of obesity.

- 3) I feel that my support system is adequate.
- 4) If I lose weight, I will be too skinny and my friends and family will think I am sick.
- 5) I prefer fried food to baked because baked food have no taste.
- 6) It's not safe to exercise in my neighborhood and the gym costs too much.
- 7) I look good so why should I try to lose any weight.
- 8) I consume over two soft drinks, fruit drinks or other high calorie beverages daily.
- 9) I am an emotional eater.
- 10) I feel that this educational program is/was beneficial to me in learning methods for lifestyle and fitness changes.

Following the initial interview and pre-test, there were individual educational sessions lasting about an hour that outlined appropriate dietary and lifestyle choices for the African-American female participant. The educational program consisted of a baseline screening of weight and height, explanation of proper BMI levels, assessment of present lifestyle and dietary habits, American Heart Association (AHA) educational brochures, and an educational instrument designed to address the cultural learning needs of the focus group. An opportunity for open-ended discussion questions was also afforded to the participants after receiving the educational intervention.

### 3.4. Procedure

Following the initial interview and pre-test, there were individual educational sessions lasting about an hour that outlined appropriate dietary and lifestyle choices for the African-American female participant. The educational program consisted of: a baseline screening of weight and height, explanation of proper BMI levels, assessment of present lifestyle and dietary habits, American Heart Association (AHA) educational brochures, and an educational instrument designed to address the cultural learning needs of the focus group. An opportunity for open-ended discussion questions was also afforded to the participants after receiving the educational intervention.

Four weeks following the educational intervention, the participants were contacted via telephone or email to determine the level of effectiveness of the study. During this time, it was assessed if the participant felt that the educational intervention was helpful to them. A post-test tool utilizing the same questions initially assessed on the pre-test tool was analyzed. It was examined to determine if answers to statements which examined lifestyle and fitness changes had been affected by the educational intervention.

Data was collected using an initial face to face interview. This interview technique had the advantage of making the client feel more comfortable and at ease with the examiner. It also allowed the participant time to ask any questions. Essentially, it allowed the development of a good rapport between the examiner and the participants.

At the end of the project, data was collected using a telephone or email interview. This had the advantage of being cheaper and less time consuming than a second face to face interview. Also, there was likely to be a higher response using the telephone or email than if the post assessment surveys were mailed to the participants. Since an initial rapport was formed with the patients at the beginning of data collection, the patients felt more inclined to complete the final phase due to familiarity with the examiner.

The evaluation of the educational program was done by evaluating one brief survey statement at the end of the post assessment. This last post assessment statement was given to the participants after completion of the study. The post assessment statement evaluated if the clients reported that they felt these educational sessions were valuable in assisting them to make lifestyle changes.

## 4. Results

The data was analyzed based on the pre-test and post-test scores using the Wilcoxon sign-rank test which is a non-parametric hypothesis test used when comparing two matched samples to assess whether their population mean ranks differ. In this case, respondents given an educational intervention on obesity increased their agreement significantly ( $P < 0.05$ ) on questions related to body image, types of food eaten, and calorie consumption.

### 4.1. Research Question 1

Are external factors such as peer pressure, poor dietary choices, and lack of proper fitness routines contributing to the weight epidemic which is currently plaguing African-American females?

The numbers of participants in the pre assessment were 20 and the numbers of participants in the post test

were 19 due to a non-responder in the group. The first statement was “I don’t feel that I am overweight or obese”. The proportion of participants who disagreed or strongly disagreed with this statement increased from 11 participants to 13. It was shown that more participants viewed themselves as being overweight 4 weeks after the study was completed. Initially 9 out of 20 participants agreed or strongly agreed that they did not feel overweight or obese. This shows that through education, clients were better able to understand the true definitions of obesity and overweight and realize that they may need to make adjustments to lifestyle routines.

The next statement was “I’m suffering the physical effects of obesity”. The number of participants who disagreed or strongly disagreed from the pre assessment to the post assessment with this statement increased from 8 to 10. These numbers indicate that the participants are gaining better control of their health through the utilization of education provided one month prior to the post assessment.

The third statement “I feel that my support system is adequate” showed that while many participants initially felt they had an adequate support system, there was a change in the opinions of some at the post assessment. From the pre assessment to the post assessment, the number of participants that disagreed with this statement went from 3 to 4. The number of participants who strongly agreed or agreed with this statement decreased from 17 to 15 participants. This decrease demonstrates that some participants found their support systems to be less adequate than previously presumed.

The fourth statement was “If I lose weight, I will be too skinny and my family and friends will think I’m sick”. The proportion of participants who disagreed or strongly disagreed with this statement increased from 16 to 18. This shows evidence that participants’ families and friends would not view weight loss as a sickness. With this support, clients may feel more comfortable with continuing weight loss efforts long-term.

Assessed next, was clients’ food preferences. The fifth statement was “I prefer fried foods because baked foods have no taste”. Initially, 7 out of 20 clients either agreed or strongly agreed with this statement. Clients were educated on the proper seasoning of food and encouraged to try baked foods. By the time of the post assessment, all 19 clients either disagreed or strongly disagreed with this statement.

The safety of clients’ surroundings in working out and the cost of gyms were assessed. The next statement, “it’s not safe to exercise in my neighborhood and the gym costs too much”. Education on this statement included the fact that workouts don’t just occur at the gym. Clients were encouraged to increase physical activity at work, increase amount of housework, and increase playing time with children as additional means of exercise. From the pre assessment to the post assessment, the proportion of participants who disagreed with this statement increased from 14 to 15. This shows a slight improvement in the perception of weight loss efforts and physical fitness among the participants.

The next statement was, “I look good, so why should I try to lose any weight.” It was discussed that although overweight and obesity were widely accepted in this culture, that being overweight or obese still has physical and social ramifications. The proportion of participants who disagreed or strongly disagreed with this statement increased from 15 in the pre assessment to 18 in the post assessment. This increase demonstrates that education was successful in assisting clients to understand the importance of weight loss in spite of being socially accepted by the population at large.

The eighth statement was, “I consume over two soft drinks, fruit drinks, or other high calorie beverages daily.” Education provided included that high-calorie drinks can add significantly to the overall caloric intake for the day. It was discussed that high calorie drinks have to be included in daily calorie counts. The proportion of participants who disagreed or strongly disagreed with this statement increased from 8 to 14. This shows evidence that the educational session was helpful in teaching clients about the detriment of high calorie drinks to any normal lifestyle routine.

## 4.2. Research Question 2

Are internal factors such as self-esteem issues and emotional eating adding to the burden of obesity and overweight among this population?

The emotional aspects of weight maintenance were examined. The statement was, “I am an emotional eater”. Education was provided on the impact emotions have on caloric intake and fitness control. It was discussed that some individuals eat because they are depressed or even when they are happy. Participants were advised to get any emotions under control when attempting a lifestyle fitness routine. Recognition of these emotional fluctuations may help clients to realize when they are overeating unnecessarily. The number of participants who agreed

or strongly agreed with the above statement decreased from 7 in the pre assessment to 6 in the post assessment. The number of participants who disagreed with this statement remained at 13 for the pre and post assessment.

The final statement was, “I feel that this educational program is/was beneficial to me in learning methods for lifestyle and fitness changes”. This final statement was agreed to or strongly agreed to by all participants. These participants felt that education was vital to this population for a greater understanding of weight loss, fitness routines and overall maintenance of health.

### 4.3. Summary

Fitness and lifestyle changes are often underemphasized in this community. Instructions on the true definitions of overweight and obesity helped these participants to understand and deal realistically with possible and existing health challenges that may be due to overweight or obesity.

Challenges such as lack of adequate social support, peer pressure encouraging unhealthy habits, and emotions which negatively control eating habits still exist in this population and need to be addressed. Suggestions for dealing with these issues include the possibility of global campaigning in an effort to increase social support for this population. Also suggested would be the creation of standardized protocols to directly address emotional needs at every medical visit be it primary care or internal medicine [4]-[15].

### 4.4. Conclusion

Strengths of the study included African American women realizing that they could change the physical effects of obesity through lifestyle changes. Through the emphasis of the importance of healthy cooking and exercising, participants improved lifestyle choices. Participants also found this educational session to be effective in assisting with lifestyle and fitness changes. This study demonstrates that education is effective in changing lifestyle behaviors in African American women.

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