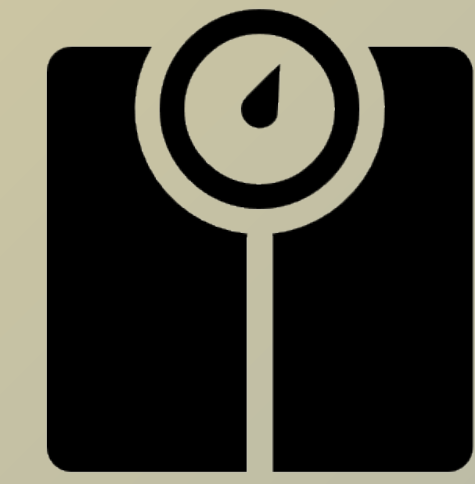


# Benefits of Individualized Weight Loss Program in the Overweight Adult Population in Primary Care



Susana McGuire, APRN-FNP, MSN  
Dr. Shannon Harris, DNP, FNP-BC, TTS, CCRN  
Dr. Nasir Asghar, MD



University of South Alabama

## Introduction

**Background:** Obesity is a global epidemic affecting over 93 million American adults (CDC, 2019) and has been classified as an official disease by the American Medical Association (AMA) due to its astronomical prevalence worldwide (Kim & Basu, 2016). Obesity is classified as a body mass index (BMI) greater than 30% according to the World Health Organization (WHO) and it is associated with many chronic diseases such as heart disease, diabetes, hypertension, and psychological disease among others generating higher healthcare and work-related cost due to absenteeism, disability, and decreased productivity (Ramasamy et al., 2020).

**Purpose:** The purpose of this project is to increase health by implementing a personalized, clinic-based weight loss program for overweight/obese patients leading to a decrease in weight, BMI, and waist circumference and an increase in muscle mass by using resistance training (RT) exercises as an adjunct to diet, therefore helping to decrease comorbidities associated with obesity. The AIM of this project is to use strength training exercises as an adjunct therapy to lifestyle changes (diet, exercise, counseling) to decrease body weight by 8 pounds, decrease BMI by at least 1%, decrease waist circumference by at least 1 inch, and increase muscle mass percentage by at least 1% among overweight/obese adults within 2 months of intervention. The project was successful in helping participants to decrease weight and BMI but unsuccessful in decreasing waist circumference or increasing muscle mass.

## Methods

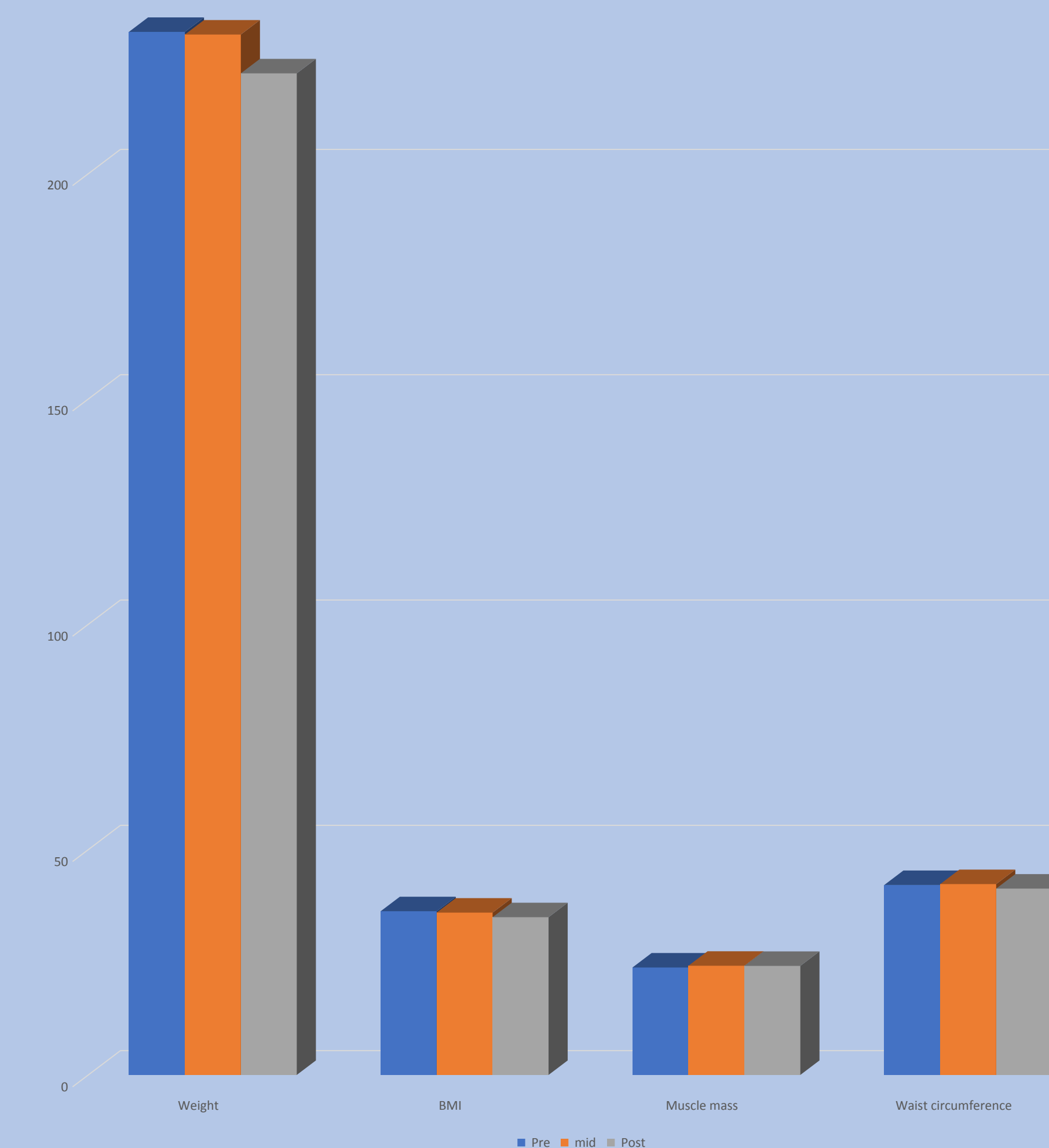
**Subjects:** The participants for this quality improvement (QI) project will consist of overweight and obese adults with a BMI greater than 30. Inclusion criteria for this project is that participants may be male or females between 18 and 70 years old. The exclusion criteria are that participants cannot be younger than 18 or older than 70 years old and female participants cannot be pregnant.

**Setting:** The project is going to take place in a primary care facility in Georgia. The practice has 2 locations in Canton and Jasper, but the project is going to take place in the Canton, GA location. This location has 4 healthcare providers with 1-2 ancillary staff assigned to each provider. The environment is friendly and there is a good rapport between healthcare providers and their ancillary and managerial staff members. The setting is free of hazardous situations and equipment is well kept and maintained by staff members. Some of the issues that may affect the project are the short intervention times allowed as well as providers not offering the weight loss program to qualified patients due to a lack of confidence in their ability to introduce the obesity conversation to patients with a need for weight loss.

**Tools:** The physiological measures to be obtain from participants would be a preliminary lipid profile, physical exam, weight, height, waist circumference, and total body mass and body fat composition. The tools to be use for this project are the Adherence to a Healthy Lifestyle (AHLQ) questionnaire, the food questionnaire, the International Physical Activity Questionnaire (IPAQ) short form, and the HBF-514-C Omron bioelectrical impedance analysis (BIA) body composition assessment tool.

## Results

**Results:** A significant difference was observed in mean pre-weight and mean post-weight (paired t test,  $p < 0.0001$ ). Post-weight was lower by 7.08 pounds on average than pre-weight. A significant difference was observed in mean pre-BMI and mean post-BMI (paired t test,  $p < 0.0001$ ). Post-BMI was lower by 1.16 on average than pre-BMI. A significant difference was observed in mean pre-muscle mass and mean post-muscle mass (paired t test,  $p = 0.0128$ ). Post-muscle mass was higher by 0.44 on average than pre-muscle mass. The mean post-waist circumference was observed to be significantly lower than mean pre-waist circumference (paired t test,  $p = 0.0466$ ).



### **Goals met:**

- Decreasing BMI by 1%-5% a month.

### **Goals not met:**

- Decreasing waist circumference by 1 inch a month.
- Increasing muscle mass by 1% a month.
- Decreasing body weight by 1-2 pounds a month.

## Conclusion

**Conclusion:** The project provided each participant with an individualized weight loss and exercise program tailored to their needs and health conditions. The data analysis shows that this approach was effective in helping overweight and obese participants to lose weight, decreased BMI and waist circumference and increase muscle mass enough to have a significant health impact on these individuals.

**Clinical Relevance:** Obesity is associated with many chronic diseases such as heart disease, diabetes, hypertension, and psychological disease among others. There is evidence that shows that with only a 5-10% decrease in body weight, there is an increase in overall health status, therefore, this project would have a positive impact on the lives of the overweight and obese population.

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