

## Introduction

- The prevalence of obesity is disproportionately high in the African-American (AA)/black population in the United States. (NCHS Data Brief, 2015)
- Bariatric surgery (BS) has been shown to be a clinically and cost-effective intervention for people with moderate to severe obesity. (Picot et al, 2010)
- AA men were found to be statistically less likely to undergo bariatric surgery than non-AA men. AA men that underwent surgery were younger and had more comorbidities. (Hoffman et al, 2019)
- Though bariatric surgery has become increasingly accessible, we do not know whether different racial groups are equally likely to seek this treatment.
- Differences in desired weight loss may contribute to treatment seeking behavior, and desired weight loss may differ by racial group.

## Objective

- This study sought to compare the proportion of white and black individuals who sought bariatric surgery vs. pharmacotherapy. Desired weight loss was also compared by racial group. In order to account for any differences in body weight, body mass index (BMI) or BMI group was included in all analyses.

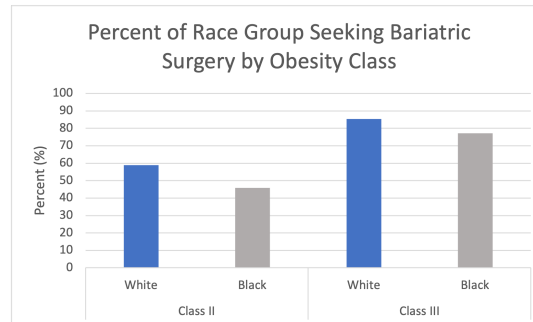
## Methods

- Participants were adults age  $\geq 18$  years with class II (BMI 35.0-39.99 kg/m<sup>2</sup>) or class III (BMI  $\geq 40.0$  kg/m<sup>2</sup>) obesity from samples seeking bariatric surgery or behavioral treatment and pharmacotherapy (BT+P; liraglutide or lorcaserin).
- All patients completed the Weight and Lifestyle Inventory (WALI) prior to treatment.
- Independent t-tests,  $\chi^2$ , linear and logistic models compared the effects of race and BMI class on demographic characteristics, preferred treatment, and desired weight loss.

## Results

**Table 1: Demographic Characteristics**

	Class II Obesity			Class III Obesity		
	White N = 102	Black N = 118	<i>P Value</i>	White N = 301	Black N = 387	<i>p Value</i>
Age (SD), yrs	49.46 (12.38)	44.69 (12.03)	< 0.01	43.63 (12.04)	40.12 (11.36)	< 0.01
Sex (% female)	N = 80 (78.4%)	N = 110 (93.2%)	< 0.01	N = 206 (68.4%)	N = 349 (90.2%)	< 0.01
Education (SD), yrs	15.33 (2.10)	13.84 (1.99)	< 0.01	14.57 (2.14)	13.60 (2.01)	< 0.01
Pre-treatment BMI (SD), kg/m <sup>2</sup>	37.76 (1.40)	37.78 (1.45)	0.90	47.73 (7.26)	48.92 (8.19)	0.048



**Table 2: Odds Ratio for Bariatric Surgery Preference in Black vs. White**

	Unadjusted OR (95% CI)	Adjusted OR (95% CI) *
White	1.00 (ref)	1.00 (ref)
Black	0.623 (0.459 – 0.845)	0.403 (0.278 – 0.583)

\* Adjusted for age, sex, education, and pre-treatment BMI

- White class III patients were more likely to seek bariatric surgery than black class III patients ( $p = 0.007$ ).
- In patients with class II obesity, there was no statistically significant difference between white vs. black in treatment seeking ( $p = 0.053$ ).
- Compared to white patients, black patients were 37.7% less likely to seek BS. After adjustment for demographic characteristics and pre-treatment BMI, black patients were 59.2% less likely to seek BS. (Table 2).

**Table 3: Mean Desired Weight Loss (kg) in Black vs. White**

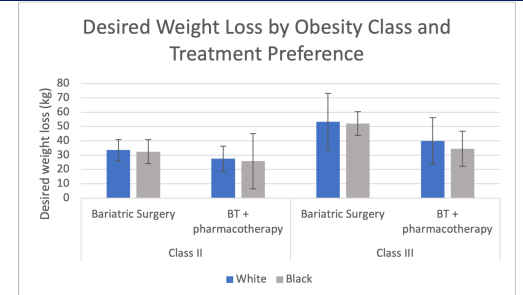
	Model 1: Unadjusted <i>b</i> (95% CI)	Model 2: Adjusted <i>b</i> (95% CI) <sup>1</sup>	Model 3: Adjusted <i>b</i> (95% CI) <sup>2</sup>
White	0.00 (ref)	0.00 (ref)	0.00 (ref)
Black	-2.62 (-5.22 to -0.016)	-4.33 (-6.19 to -2.46)	-3.20 (-5.04 to -1.36)

<sup>1</sup> Adjusted for age, sex, education, and pre-treatment BMI

<sup>2</sup> Model 2 + adjustment for treatment preference

- According to the linear model, white patients' desired weight loss was 2.62 kg greater than that of black patients (Table 3, Model 1).
- After adjusting for patient characteristics and treatment preference, white patients' desired weight loss was 3.20 kg greater than that of black patients (Table 3, Model 3).

## Results



- When analyzed separately, the desired weight loss of white and black patients did not differ among patients with class II obesity seeking either treatment (BS,  $p = 0.47$ ; BT+P,  $p = 0.33$ ) or for class III patients seeking BS ( $p = 0.48$ ).
- In patients with class III obesity, white patients reported a higher desired weight loss than black patients when seeking BT+P ( $p = 0.03$ ).

## Conclusions & Implications

- Black patients were younger, more likely to be female, and had fewer years of education. Black patients with class III obesity had a higher mean pre-treatment BMI.
- Black patients with class III obesity were less likely to seek BS than their white counterparts.
- White patients reported higher desired weight loss, controlling for demographic and treatment seeking differences. This difference was most apparent for patients with class III obesity seeking BT+P and thus may not explain treatment seeking behavior.
- The causes of racial differences in treatment seeking and desired weight loss remains unclear.
- In general, interventions to educate patients with obesity about effective treatments like BS and BT+P may help with their uptake and reduce stigma.
- Interventions tailored to patient characteristics such as race or related psychological, economic, or cultural factors that influence treatment choice, as well as interventions to reduce biases among medical providers, may reduce disparities in access to effective weight loss treatments.