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Original article

Comparison of dietary habits and plans for dietary changes in black and white women seeking bariatric surgery

Kendall L. McLean, M.S., R.D.[a,*], Carolyn E. Moore, Ph.D., R.D.[a], Derek C. Miketinas, Ph.D.[b], Catherine M. Champagne, Ph.D., R.D.[b]

[a]*Texas Woman's University, Houston, Texas*
[b]*Pennington Biomedical Research Center, Baton Rouge, Louisiana*

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Abstract

Background: Achieving weight loss after bariatric surgery depends on the individual's ability to sustain lifestyle changes involving dietary modifications. Presurgical dietary assessment is critical to evaluate usual dietary habits and identify the need for intervention before surgery.

Objectives: The objective of this study was to identify usual dietary habits of black and white women seeking bariatric surgery and to examine potential differences between these ethnic groups. An additional aim was to describe participants' plans to change dietary behaviors after surgery.

Setting: XXX

Methods: In this cross-sectional study, a presurgical dietary assessment interview questionnaire collected information on dietary habits. Participants (n = 200) were adult women being screened for bariatric surgery; 54% were white, and 46% were black. Descriptive statistics were calculated and differences between groups were tested using 2-way analysis of the variance.

Results: Participants reported consuming fast food 2.9 ± 2.6 times per week, fried foods 2.1 ± 1.8 times per week, and desserts 3.4 ± 3.2 times per week. Blacks reported more frequent consumption of fast food ($P < .01$), sugar-sweetened sodas ($P < .05$), and sugar-sweetened tea ($P < .01$) compared with whites. Plans for changing dietary behaviors after surgery were similar between ethnic groups.

Conclusions: Findings indicated that frequent consumption of fast foods, fried foods, desserts, and sugar-sweetened beverages was common among women seeking bariatric surgery. Blacks tended to consume these foods and beverages more often than whites. Current dietary habits and future plans to change dietary behaviors should be addressed before surgery for success. Follow-up studies investigating the assessment instrument's ability to predict dietary adherence and weight loss after surgery are warranted. (Surg Obes Relat Dis 2017;▮:00–00.)

Keywords: Dietary habits; Dietary assessment; Bariatric surgery; Obesity; Nutrition

Obesity is a serious concern in the United States with profound effects on physical and psychological health [1]. The most recent estimates from the 2013 to 2014 National Health and Nutrition Examination Survey suggested that 7.7% of adults in the United States were morbidly obese (body mass index [BMI] ≥40 kg/m^2), with a higher prevalence in women (9.9%) compared with men (5.5%) [2]. Ethnic differences in the prevalence of obesity have been consistently reported with higher rates of morbid obesity in black women compared with all other ethnic

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*Correspondence: Kendall L. McLean, M.S., R.D., L.D., Department of Nutrition and Food Sciences, Texas Woman's University, 6700 Fannin Street, Houston, Texas 77030.

E-mail: Kmclean1@twu.edu

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groups [2–4]. Among all women, estimates are that 16.8% of blacks and 9.7% of whites are morbidly obese [2]. Despite the fact that ethnic differences have been reported as related to the prevalence of obesity, a review of the literature has not indicated that these differences have been described in women seeking bariatric surgery.

Conventional methods for weight loss, such as diet and exercise regimens and behavior modification strategies, may be ineffective in sustaining long-term weight loss in individuals with obesity [5,6]. Behavior modification and pharmacologic treatment methods typically result in only an 8% to 10% initial weight loss, with weight regain after cessation of treatment likely [7]. Bariatric surgery for treatment of severe obesity is therefore considered superior in reducing weight and improving or resolving obesity-related medical conditions compared with nonsurgical interventions [8].

While many achieve significant weight loss after bariatric surgery some do not successfully achieve or maintain weight loss [9]. An individual's success after weight loss surgery is largely dependent on the implementation of several dietary changes [10]. The postsurgical dietary requirements involve reducing portion sizes, chewing foods slowly and completely, eating and drinking separately, eliminating carbonated beverages, eliminating sugar-sweetened beverages and concentrated sweets, eliminating high-fat foods, reducing caffeine intake, avoiding foods that are poorly tolerated, and taking prescribed vitamin supplements [11]. Noncompliance with postsurgical dietary requirements may lead to problems, such as suboptimal weight loss, early weight regain, food intolerances, gastrointestinal issues, and/or vitamin and mineral deficiencies [12,13]. These issues may be prevented with dietary compliance; however, patient adherence to the postsurgery diet is generally low [13]. In contrast, individuals who do comply with the postoperative diet typically achieve significant weight loss and positive outcomes. In a study by Sarwer et al. [14], individuals with high adherence to postsurgery diet changes had lost a greater amount of weight (16.2%) since week 20 of the study compared with those with low adherence (11.7%), and total weight loss at week 92 differed between the 2 groups by 28%.

The American Society for Metabolic and Bariatric Surgery nutrition committee released nutritional guidelines for the bariatric surgery patient in 2008 and have since updated the recommendations in 2013 [11,15]. The guidelines strongly suggested that a comprehensive nutritional assessment be conducted before bariatric surgery because nutrition assessment and dietary management of bariatric surgery patients have been associated with weight loss success [15]. A dietary assessment conducted before bariatric surgery is beneficial in evaluating usual dietary intake patterns and determining if short-term intervention before surgery is necessary. Assessment of the individual's readiness to change and elucidating any potential dietary issues that could occur after surgery may contribute to improved long-term outcomes [15]. Presurgical dietary assessments generally collect information about the individual's previous weight loss attempts, weight loss goals, usual dietary intake, and physical activity. The presurgical assessment may also identify motivations for seeking surgical treatment and future plans that could reflect willingness to implement postsurgery lifestyle changes.

The primary objective of the present study was to identify current dietary habits of black and white women seeking bariatric surgery. In particular, differences in the self-reported frequency of consumption of meals and various food and beverage groups between black and white women pursuing bariatric surgery were examined. The participants' plans to change dietary behaviors after bariatric surgery were also explored.

Methods

This study used data from an observational study sponsored by a large benefits management group in Louisiana. The larger study examined both surgical and nonsurgical methods to achieve weight loss in individuals with obesity. Members of the sponsoring insurance company were invited to volunteer for an intensive medical intervention program (behavioral intervention) or surgical treatment program for weight loss if they had a BMI $\geq$35 kg/m^2 with type 2 diabetes or a BMI $\geq$40 kg/m^2. The participant's insurance company covered both treatment programs. Potential participants were directed to a website that provided information on both programs. Individuals who were eligible after a web screening were further screened via telephone interview and offered the opportunity to be placed in a lottery for either the surgical program or nonsurgical programs, depending on their choice of surgical or behavioral intervention. Individuals screened for the surgical program completed a 2-week low-calorie diet (LCD). The LCD involved the consumption of 5 liquid shakes per day. Compliance with the LCD was assessed through daily food diaries verified by research staff. After completion of the 2-week LCD, a presurgical dietary assessment interview was conducted to determine bariatric surgery suitability. After the dietary interview and other assessments, participants were either approved for or denied surgery by a panel of clinical, behavioral, and nutrition experts. Participants selected for surgery received 1 of 3 surgeries: adjustable gastric band, sleeve gastrectomy, or Roux-en-Y gastric bypass. Participants included in the subset analyses consisted of women (n = 200) screened for the surgical intervention and included 108 whites (54%) and 92 blacks (46%) matched for age, BMI, and race. The institutional review boards of Texas Woman's University and Pennington Biomedical Research Center approved the study protocol and all participants provided written informed consent.