



The Impact of a Lifestyle Change Program on the Mental Health of Obese Under-Served African American Women



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ABSTRACT

Background: Obesity is a critical social and health issue, adversely impacting life expectancy, quality of life, and mental health. Minorities are disproportionately impacted by obesity with African Americans experiencing the highest prevalence among minority groups.

Purpose: The aim of this study was to determine if a lifestyle program that integrated chair exercises, nutrition and educational counseling, and scripture readings would help under-served obese African American women make lifestyle changes that would positively impact their quality of life, especially mental health.

Methods: A repeated measures intervention study was conducted (24-weeks). Weeks 1–12 involved meeting twice a week for a total of 4 h with participants engaged in chair exercises, educational counseling, and scripture readings. During weeks 13–24, the participants were "on their own" but were encouraged to exercise and eat healthy. Focus groups were held at 12 and 24-weeks. Participants were recruited from a nurse managed center and a primary care clinic for the uninsured. Mental health data were collected at baseline, 12, and 24-weeks. The Medical Outcomes Study Short Form Version 2 (SF-36v2) was used to measure changes in mental health. Higher scores indicate better perceived health status. Group scores less than 47 indicate impaired functioning.

Findings: 55 women had complete data for all three data collection points, with a mean age of 50 and a mean BMI of 41.2. Repeated ANOVAs detected significant differences on the mental component summary of the SF-36v2: this score improved from baseline ($M = 44.1$) to 12-weeks ($M = 50.7$) but decreased at 24-weeks ($M = 47.9$) ($p = .000$). The four domains (vitality, social functioning, role emotional, mental health) were also significantly different over the three data collection points.

Implications: The findings have significant implications for psychiatric nurses in terms of education, clinical practice, and future research. The study contributed to the participants' mental health through the various group activities including scripture readings, socialization with "like minded" women and structured exercises. These findings offer psychiatric nurses additional tools for effective care.

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Both mental health disorders and obesity are major public health issues in the United States (U.S.) with significant social and health consequences. According to the Institute of Medicine (IOM) (MacReady & Barclay, 2012), approximately two-thirds of U.S. adults and approximately one-third of children are overweight or obese. Minorities are disproportionately impacted by obesity with African Americans experiencing the highest prevalence among minority groups. The statistics on mental health disorders are equally sobering. For example, major depressive disorder affects approximately 14.8 million American adults, or about 6.7% of the U.S. population age 18 and older in a given year (Kessler, Chiu, Demler, & Walters, 2005), and is twice as common in women than men (Kessler, Berglund, Demler, et al., 2003). Because

of the high prevalence of both mental health disorders and obesity, the association between these two variables has been examined and cross-sectional studies suggest that obesity and mental health disorders are positively correlated (Blanchard, 2009; Luppino, deWit, Bouvy, et al., 2010; Simon, 2006). Furthermore, this relationship is stronger in women than in men (Simon, 2006). However, few studies have focused on interventions that could influence modifiable risk factors for both obesity and mental health in AA women.

The study from which this present paper was derived examined the impact of a life style change intervention program on obese African American (AA) women. The interventions consisted of: structured physical exercises, nutritional education, stress management sessions and selected scripture readings that focused on responsibilities related to self care. The outcome variables for the main study were: blood pressure, blood glucose, waist circumference, body mass index (BMI), lipids and mental health. This present paper is focused only on how participation in the intervention lifestyle change program influenced the mental health outcomes of obese underserved African American (AA) women living in a large urban city.

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REVIEW OF THE LITERATURE

Obesity and African American Women

African American women have the highest prevalence of obesity in the U.S. According to the 2012 National Health and Nutrition Examination Survey (NHANES), 2009–2010, approximately 82% of African American adult women were classified as overweight or obese. Despite this fact, much less research has been conducted with African American women when compared to obese middle class Caucasian women. Research also indicates that African Americans exercise less and participate less in weight loss programs (Gletsu & Tovin, 2010; James, Pabee, Oxidine, et al., 2012). Several research studies that examined obesity and exercise in African American women and other ethnic groups have found that both Caucasian and African American women responded in the same way physiologically (declines in blood pressure, weight & lipids) to weight loss interventions (Annesi, 2007; Brandon & Elliott-Lloyd, 2006; Glass, Miller, Szymanski, et al., 2002); however, Brandon and Elliott-Lloyd found the benefits were greater for the Caucasian women.

In a review of 18 research studies on exercise in African American and other women, Banks-Wallace and Conn (2002) reported positive results for exercise and weight loss programs, but they emphasized the need for incorporating culturally appropriate values, beliefs and activities to promote health in African American women. For example, Thomas, Stewart, Lynam, et al. (2009) conducted a focus group with 66 low-income, overweight and obese African American women in Kansas City, Missouri. The participants reported a need for social support to facilitate weight loss, but noted that it was difficult to find in their community. Moreover, Thomas and colleagues found that African American women believe social interaction while exercising is an effective intervention. Being involved in a network of African American women that provided social support was a strong predictor of retention and success (Baskin, Gay, Hardy, et al., 2011; Thomas et al., 2009).

A more recent systematic review of behavioral lifestyle intervention trials (17 studies) conducted in the U.S. was performed by Tussing-Humphreys, Fitzgibbon, Kong, and Odoms-Young (2013). Tussing-Humphreys and colleagues concluded that African American women struggle with both weight loss and maintenance. For example, African American women lost less weight during the intensive weight loss phase and maintained a lower percent of their weight loss compared to Caucasian women in the studies reviewed. Factors that may hinder AA women's adoption of behaviors shown to positively impact weight control included socioeconomic status, availability and access to high quality foods, availability and access to physical activity resources, heightened exposure to unhealthy foods, neighborhood safety, stress, discrimination, and dysfunctional social networks. Furthermore, studies that included cultural adaptations reported more favorable weight maintenance outcomes for African American women which are consistent with the existing literature (Banks-Wallace & Conn, 2002).

Obesity, Mental Health, and African American Women

There is growing evidence supporting a strong positive relationship between overweight/obesity and mental disorders in AA women. One of the earliest studies was conducted by Siegel, Yancey, and McCarthy (2000) who examined overweight and depressive symptoms among 429 urban African-American women. They reported that the overweight–depression association was stronger among women with high levels of education and high levels of ethnic identity. Another study by Davis, Rovi, and Johnson (2005) explored the relationship between poor mental health (e.g. depression & anxiety), family functioning and obesity (BMI) in AA women (N = 113). They reported that obese women had significantly higher anxiety levels and more psychological problems in the family of origin than the normal or overweight women. However, no statistically significant difference in level of

depressive symptoms was detected among the three weight groups (normal, overweight, obese).

In contrast, Sachs-Ericsson, Burns, Gordon, et al. (2007) conducted a three-year longitudinal epidemiological study examining the relationship between body mass index (BMI) and subsequent depressive symptoms from a biracial sample of community-dwelling older adults (N = 2406). A comprehensive survey assessed age, gender, race, social economic status, and health functioning variables. Depressive symptoms were measured using the Center for Epidemiologic Studies Depression Scale (CES-D) while the BMI was derived from self-reported weight and height. Results suggested that BMI was the best predictor of depressive symptoms. Moreover, obesity appeared to have the most adverse impact on lower economic status African Americans.

Blanchard (2009) also studied the relationship between obesity and depression among 378 African-American women. Body mass index (BMI) was used to measure obesity and the CES-D measured depression. A statistically significant positive correlation was reported between depression and BMI ($r = .201, p < .01$).

Obesity Reduction Programs, Mental Health, and African-American Women

A growing body of literature suggests that exercise improves mental health functioning in African American women by decreasing depression, anxiety and sensitivity to stress. Wise, Adams-Campbell, Palmer, et al. (2006) investigated the relationship between leisure physical activity and depression symptoms as part of the Black Women's Health Study (N = 35,224). The women completed baseline and follow-up information regarding exercise levels in 1995 and 1997, respectively, and completed the Center for Epidemiologic Studies Depression Scale (CES-D) in 1999. The results indicated that rigorous physical activity was inversely related to depressive symptoms. However, because baseline CES-D scores were not obtained Wise and colleagues were unable to determine if physical activity levels preceded or were consequences of depressive symptoms.

In another study by Gaston, Porter, and Thomas (2007), 106 African American women participated in a 12-week Prime Time Sisters Circle® intervention (retention rate of 78.3%). The intervention consisted of physical activity, nutrition education, and social support for two hours each week. Self-report measures (three-point Likert scale) of satisfaction with various aspects of their health (e.g. weight, health knowledge and attitudes, as well as physical, emotional and spiritual health) and the Health Locus of Control scale were completed pre-and-post intervention. Only 54.5% of the obese participants reported being satisfied with their emotional mental health, but participants did report that the intervention increased their beneficial coping strategies. Most importantly, many of their outcome measures were similar to those measured by the SF-36 that are the focus of the present paper.

Rationale for Study

The evidence suggests that obesity disproportionately impacts racial minorities and those of lower socioeconomic status, with African American women experiencing the highest prevalence of obesity among all minorities groups. Moreover, there is strong evidence supporting the positive relationship between obesity and mental health (e.g. depression and anxiety). Although research has begun to focus on weight loss interventions programs with African American women, a significant number of those studies have recruited middle class women. Therefore, the purpose of this study was to provide a Healthy Life-Style Change intervention program for low-income, underserved obese AA women. This article focuses on the mental health outcomes of the larger study. Based on the literature review, the following research questions were asked:

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