

Weight Loss Intervention Efficacy Among Black Women

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ABSTRACT

Obesity is a complex disease state that has challenged the health of Americans and has become a main concentration in health care. The highest rates of obesity are observed among black women. The purpose of this evidence-based review was to find evidence that specifically examined black women to determine if participation in weight loss interventions led to successful weight loss compared with usual care and control groups. Twelve experimental studies and 4 systematic reviews revealed that interventions contributed to successful weight loss among black women with obesity. However, maintenance of weight loss is an ongoing challenge.

Keywords: black, obesity, weight loss interventions, women

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Obesity is a complex disease that has challenged the health of Americans and has become a recognized treatable disorder in health care. Approximately 78.6 million people in the United States have been diagnosed with obesity, costing an estimated \$147 billion in 2008.¹ A diagnosis of obesity is associated with an increased risk for the development of diabetes mellitus, heart disease, hypertension, hyperlipidemia, certain cancers, sleep apnea, osteoarthritis, stroke, and liver disease.² In the United States, the highest rates of obesity and the highest rates of morbidity and mortality related to obesity-induced diseases are observed in black women.³

Primary care providers play a vital role in the treatment of obesity, and effective weight loss methods are needed to combat this issue.⁴ Treatment of obesity includes diet, physical activity, and behavior change education; however, specific and effective ways to treat individuals with obesity in a primary care setting are still unclear.⁵ It is important to determine what interventions and treatment options specifically work in high-risk populations, such as black women. Previous research has shown that black women enrolled in weight loss intervention studies are usually compared with white women and typically lose less weight and are also underrepresented.^{3,5,6}

The purpose of this evidence-based review was to determine if participation of black women in weight

loss interventions led to successful weight loss compared with usual care or control groups. The usual care of obesity treatment delivered by a provider in a primary care setting is usually one on one, verbal, and brief. The secondary outcome of this review was to identify specific weight loss interventions that provided the most weight loss success among black women.

STRATEGY FOR LITERATURE RETRIEVAL AND APPRAISAL OF EVIDENCE

A literature review was conducted in October and November 2014. Databases used in the search included CINAHL and PubMed. Other search strategies included using the reference lists of relevant studies and systematic reviews. The keywords used in various combinations in the search included African American, women, weight loss, clinics, interventions, and usual care. In CINAHL, the most effective combination was “African American & weight loss.” In PubMed, the most effective combination was “African American women & weight loss.” Many duplicate studies were seen within the respective searches of the 2 databases.

Randomized controlled trials, systematic reviews, and quasi-experimental studies were considered for this review. Examining both individual experimental studies and systematic reviews ensured that the most up-to-date and thorough evidence was used to answer

the review question. Separate inclusion criteria for experimental studies and systematic reviews were created because systematic reviews examined multiple studies and had their own inclusion criteria.

The inclusion criteria for experimental studies included (1) English language, (2) randomized controlled trial or quasi-experimental design, (3) published after 2004, (4) included adults aged 18 years or older, (5) examined a weight loss intervention, (6) weight loss and/or body mass index change and/or percentage of body weight change was an outcome, (7) had a majority (> 70%) of women participants, and (8) had a majority of black participants (> 70%) unless the study separately discussed black participant results. The inclusion criteria for systematic reviews included (1) English language, (2) published after 2004, (3) examined adults aged 18 years or older, (4) specifically focused on black participants, and (5) examined weight loss outcomes and/or weight loss intervention effectiveness.

The search of reference lists and databases yielded 504 articles that met the initial search criteria. Titles and abstracts of these articles were scanned to determine whether they met the inclusion criteria. Fifty-six articles appeared to meet the inclusion criteria. Further evaluation of the articles led to the exclusion of 40 articles. Reasons for exclusion included that the article was not written in English, included children, primarily focused on weight loss medication or surgery, did not have a high enough representation of black women, and/or did not have weight loss as an outcome. Sixteen articles met the inclusion criteria. The Figure (available online at <http://www.npjjournal.org>) shows an attrition diagram and the number of publications at each step of the literature search.

The Johns Hopkins Individual Evidence Summary Tools were used to critically evaluate the strength and quality of the research evidence.⁷ The appraisal tool for experimental designs evaluated the clarity of the problem statement, description of gaps, and purpose of the study; sufficiency of sample size; adequacy of methodology; quality of control groups and settings; reliability and validity of instruments; limitations; and strength of the conclusions.⁷ The systematic review appraisal tool evaluated clarity of the purpose, comprehensiveness of the search

strategy, inclusion of an attrition diagram, adequate description of each study, appraisal of the level of evidence, and explanation of the methods used to summarize the findings.⁷ The appraisal tools facilitated determination of the level of evidence and the quality of each study. The level of evidence was rated on a scale of 1 to 3. Quality was rated A to C, with 1A indicating the strongest evidence and highest quality and 3C the weakest evidence and less quality.

EXAMINING THE EVIDENCE

Description of Studies and Range of Weight Loss Interventions

Characteristics of the experimental studies are included in the Table (available online at <http://www.npjjournal.org>). These studies exclusively included adults who were obese and overweight. There was a variety of weight loss interventions used. Ten of the studies included interventions with behavioral, dietary, and physical activity components. One study had only a physical activity intervention.⁸ In 9 studies, interventions were delivered in group settings,^{6,8-13} 3 studies used one-on-one counseling,¹⁴⁻¹⁶ and 1 used telephone counseling and self-monitoring.¹⁷ Weight changes were the focus of this review; however, other outcomes were measured in the studies including daily steps (1), blood pressure (3), waist circumference (1), glucose (1), cholesterol (2), hemoglobin A1C (3), perceived stress level (1), energy intake (2), self-reported physical activity (2), breast health knowledge (1), self-breast examination proficiency (1), intervention feasibility (1), and depression (1).

In the experimental studies, the number of participants ranged from 21 to 309. One thousand two hundred sixty-five participants were examined. Attrition rates ranged from 5% to 37%. Attrition rates were higher in studies that were longer than 12 months. The length of the studies varied from 3 to 24 months. The most common length was 18 months, which was observed in 5 of the 12 experimental studies.^{8,11,13,17,18} The experimental studies took place in the US. Specific settings included community health centers, a YMCA, a university conference center, family practice clinics, churches, and a senior center. The most common setting was primary care clinics.^{6,14,15,16,18} The studies compared interventions

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