Weight loss maintenance in African American women: a systematic review of the behavioral lifestyle intervention literature

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CRD summary
This review concluded that African American women experienced difficulty in weight loss and maintenance in behavioural lifestyle interventions. Potential for missed studies and unknown bias of the included studies reduce the reliability of the authors' conclusions.

Authors' objectives
To evaluate the effectiveness of behavioural lifestyle interventions on weight loss maintenance in African American women.

Searching
The authors searched MEDLINE via PubMed, CINAHL Plus and Academic Search Premier databases for studies in English published in peer-reviewed journals between 1990 and 2011. Search terms were reported. Reference sections of relevant papers and review articles were searched.

Study selection
Randomised and non-randomised studies of behavioural lifestyle interventions with a maintenance phase of at least six months (both formal maintenance programmes and non-contact periods) were included. Studies needed to be conducted in the United States and to include African American women who were at least 18 years of age. Weight needed to be reported as an outcome by ethnicity/race and sex. Studies of pregnant and postpartum women were excluded. Studies that primarily focused on surgical or pharmacological weight loss interventions and those that provided prepared meals were excluded. Studies that used liquid meal replacements as the primary intervention were excluded; studies in which meal replacements were used as one component were included.

Study duration ranged from 12 to 36 months. Duration of maintenance phase ranged from six to 30 months. Study populations in most trials included men and women of various ethnicities; some trials solely targeted African American women. Most trials reported some form of cultural adaptation. All studies recruited overweight and obese individuals. Participants in some studies had other health problems (such as hypertension, type 2 diabetes, impaired glucose or dyslipidaemia) or were breast cancer survivors. Various maintenance interventions were included. Frequency of contact and delivery of interventions were diverse. Weight was the primary outcome for most studies. Time intervals of measurement of weight outcomes and samples analysed (all receiving intervention or all completing intervention) varied.

The authors did not report how many reviewers selected studies for the review.

Assessment of study quality
Studies were assessed using a ranking system based on study design, degree of focus on weight control, inclusion of formal weight maintenance intervention and level of cultural adaptation. The maximum possible score was 11.

The authors did not report how many reviewers assessed study quality for the review.

Data extraction
Authors of eligible studies that did not report results by race/ethnicity and/or sex were contacted for further information. Missing data were calculated, estimated from data reported or obtained from study authors. Percentage weight gain was calculated for all studies using available weight change data.

One author extracted study data using a standardised form and two authors checked the accuracy of the data extraction.

Methods of synthesis
Studies were tabulated and synthesised narratively.

**Results of the review**

Seventeen studies (6,653 participants, range 21 to 2,921) met the inclusion criteria for the review: 13 randomised controlled trials (RCTs), one non-randomised controlled trial, two pilot RCTs and one uncontrolled trial. Adherence to maintenance sessions and activities was poorly reported.

Weight changes for African American women following the intensive intervention phase ranged from +0.5kg to -8.5kg. In studies that enrolled both African American and Caucasian women, initial weight loss for African American women ranged from -1.9kg to -7.1kg versus -3.4kg to -10.7kg for Caucasian women. Only one treatment arm from the 17 studies found initial weight loss to be similar between African American and Caucasian women.

At 18-month follow-up weight regain for African American women in the studies with the highest quality ranking (11 points) and that enrolled only African American women or African American adults ranged from zero to 49%. In studies with a lower quality ranking (10 or less) percentage weight regain at 18 months ranged from 15% to 138%. Generally studies that were not focused on weight as an outcome or that lacked a formalised maintenance programme had the poorest outcomes.

The two higher ranking studies (11 points) that enrolled both African American and Caucasian women reported 18-month percentage weight regain that ranged from zero to 17% for African American women and from 12% to 17% for Caucasian women. In one of the two higher ranking studies percentage weight regain was lower for African American women.

In the four lower ranking studies (10 points or less) 18-month percentage weight regain for African American women ranged from 19% to 89% and from 14% to 64% for Caucasian women. Only one of the lower ranking studies found similar or lower 18-month weight regain between African American and Caucasian women.

Both African American and Caucasian women responded favourably to individualised sessions. African American women responded less favourably to the internet-based maintenance format.

**Authors’ conclusions**

African American women experienced difficulty in weight loss and maintenance in behavioural lifestyle interventions.

**CRD commentary**

This review was based on defined inclusion criteria and included a search of a range of databases and other sources. Unpublished material was not eligible for the review which could mean that some studies were missed. It was unclear whether more than one reviewer was involved in the study selection and quality assessment stages of the review to help minimise bias and error. The quality assessment did not include assessment of the risk of bias of the included trials. A narrative synthesis was appropriate given the diversity of studies.

Potential for missed studies and a lack of assessment of risk of bias of included studies reduce the reliability of the authors’ conclusions.

**Implications of the review for practice and research**

**Practice:** Not stated.

**Research:** The authors stated a need for further research into the more complex connectedness of the behavioural, sociocultural, environmental and biological factors that lead to successful weight control in this population.

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