Reducing Risk: A Health Intervention Targeting Lower Income Black Women

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Background and Significance

The epidemic of obesity shows no signs of slowing despite the focus in the media and escalating health costs. Trend data over the past thirty to forty years has indicated an increase in prevalence. For example, the prevalence of overweight or obesity in adults increased from 47% to 66% between the 1970's to 2004 (CDC, 2005). In 2009, approximately 2.4 million more adults were obese than in 2007 (CDC, 2010). Only more recently has there been a leveling off of prevalence (Flegal, Carroll, Ogden, & Curtin, 2010). Although obesity crosses demographic lines, there is a disproportionate prevalence in the Black and Hispanic communities. The overall self-reported level of obesity was 26.7% (Sherry, Blanck, Galuska, Pan, & Dietz, 2010). However, non-Hispanic Blacks and Hispanics yielded the highest rates of obesity of any racial or ethnic group at 36.8% and 30.7%, respectively (Sherry et al., 2010). More specifically, Black women have the highest prevalence of obesity at a BMI of 30 and above compared to women in other racial groups (Flegal et al., 2010; Lopez, 2007). That is, there are more Black women with BMI's at or above 30 than any other racial group at all ages. Compounding the gender and ethnicity issues is the strong inverse relationship between obesity and socioeconomic status, suggesting that as income levels decrease, obesity levels increase. Thus, low income Black women have the highest risk of developing obesity. This population is in danger of developing obesity-related diseases, such as cardiovascular disease, diabetes, hypertension, certain types of cancer, and premature death. Such diseases cost the health care system and consumer an extensive amount of money. For example, in 1998, the medical costs of obesity were indicated to be approximately $78.5 billion, with half being funded by Medicaid and Medicare (Finkelstein, Trogdon, Cohen, & Dietz, 2009). With a subsequent increase in the incidence of obesity, medical costs rose to approximately $147 billion in 2008 (Finkelstein et al., 2009).

Purpose

The aim of the current project was to target the group that has the highest level of obesity: lower income, Black women. Targeting this group of women provides this at-risk group with a structured program that contains information about the dangers of obesity and how to reduce one's risk of disease, ultimately living longer and healthier, and reducing health care costs.

Participants

Group means (SD) of demographic and pre-test data for all participants (N = 8).

Measure	M (SD)
Age	53.3 (10.3)
Years of Education	14.8 (2.8)
BMI	32.8 (5.3)
BDI	5.4 (6.3)
Self-Efficacy	35.1 (4.0)
Systole BP	135.3 (14.4)
Diastole BP	81.1 (5.0)
Blood Sugar	94 (15.6)

Note. BMI= Body Mass Index. BDI= composite score on the Beck Depression Inventory (Beck et al., 1961). Self-Efficacy was measured by the General Self-Efficacy Scale (Schwarzer & Jerusalem, 1995). BP = blood pressure

Method

Sample

- Adult Black females (N = 14) were recruited from the South Side of Chicago
- Five participants dropped out before the first six month period; one participant got pregnant during the study; one additional participant did not return for the six month follow-up

Procedures and Data Collection

- Participants completed data collection at baseline, at six months, and again six months after the intervention concluded (one year from baseline)
- Met with a health coach twice per month for fifty minutes for six months, receiving health related information and social support
- Data collected included demographics, the Beck Depression Inventory, the General Self-Efficacy Scale, and physiological data (blood pressure, blood sugar, cholesterol, and triglycerides)
- Kept physical activity logs
- At the end of six months, participants resumed their normal living and were brought back for additional measurements six months later
- Correlations and t-tests on change scores were conducted from pre to post, from post to six months post, and from pre to six months post.

Excerpts of the Health Coaching Curriculum

Session 1: Getting Started

Step 1: Warm Welcome and New and Good Things Happening in Participant's Life

a. Review Welcome and Program Package and American Heart Association Life Simple 7 Program Package
b. Ask the participant to talk about new and good things happening in his/her life

Step 2: Talk/Listen/Assess

a. Review pre-evaluation and health history forms
b. Discuss main health concerns
c. Have participant talk about a typical day for the participant (start with their daily food)

Step 3: Food Suggestion: Adding in Greens

a. Number 1 food missing in modern diets
b. Explain benefits of greens
c. Decide on a simple green to try to eat more of
d. Explain how to cook greens quickly and easily

Step 4: Lifestyle: Cooking and Food Habits

a. Discuss when participant will buy the food
b. Discuss when the participant will prepare the food
c. Discuss how the participant will cook the food

Step 5: Giveaways, Handouts, and Special Event Invitations

Step 6: Closing

a. Review any recommendations discussed with the participant to try or give 1-3 recommendations for the participant to try
b. Discuss what the participant found useful from the session
c. Discuss what the participant is looking forward to

Session 2: Healthy Eating

Step 1: Warm Welcome and New and Good Things Happening in Participant's Life

Step 2: Revisit Form

Step 3: Food Suggestion: Introduce Grains

Step 4: Food Concept: Integrative Nutrition Pyramid vs. USDA myPyramid

Step 5: Lifestyle: Cooking

Step 7: Life Simple 7: Eat Better

Step 8: Giveaways, Handouts and Special Event Invitations

Step 9: Closing

Session 3: Protein

Session 4: Cravings

Session 5: Relationships and Nurturing the Self

Session 6: Intuition and Digestion

Session 7: Food and Mood

Session 8: Grocery Shopping and Functional Cooking

Session 9: Healthy on the Go

Session 10: Visualization, Career, and Lifestyle

Session 11: Desires and Self-Expression

Session 12: Closing

Data Analysis

Paired Samples t-tests for Pre- to Post-Test Data (N = 8)

Variable	Mean (SD)	*t*	p-value
Weight (kgs)			
Pre	90.68 (16.27)	2.87	.024
Post	87.22 (15.24)		
BMI			
Pre	32.79 (5.35)	2.69	.031
Post	31.49 (4.73)		
BDI			
Pre	5.38 (6.30)	.85	.423
Post	3.89 (3.83)		
Self-Efficacy			
Pre	35.13 (3.98)	-.78	.460
Post	36.38 (4.17)		
Systole BP			
Pre	135.25 (14.35)	3.21	.015
Post	115.00 (7.15)		
Diastole BP			
Pre	81.13 (5.03)	1.35	.220
Post	77.00 (4.57)		
Blood Sugar			
Pre	94.00 (15.64)	2.25	.059
Post	86.25 (8.29)		

Paired Samples t-tests for Pre- to Six Months Post-Test Data (N = 7*)

Variable	Mean (SD)	*t*	p-value
Weight (kgs)			
Pre	93.90 (14.58)	2.43	.050
6 mos. post	86.75 (9.30)		
BMI			
Pre	33.90 (4.67)	2.43	.051
6 mos. post	31.20 (3.95)		
Systole BP			
Pre	135.43 (15.49)	1.20	.276
6 mos. post	126.29 (14.44)		
Diastole BP			
Pre	82.43 (3.69)	-.98	.364
6 mos. post	84.00 (6.08)		
Blood Sugar			
Pre	95.43 (16.32)	.598	.572
6 mos. post	91.83 (11.16)		

Note: *Four participants did not complete the paper and pencil six months post-test questionnaires. They did complete physiological tests.

Results

- There were significant differences from pre to post for weight, BMI, and systole BP. Blood sugar was marginal.
- From pre to six months post study, there were significant differences for weight and BMI.
- For those participants who completed the BDI and Self-Efficacy questionnaires six months post study (N = 3), only the self-efficacy improved, with means at 33.67 at the pre-test and 37.0 at the six month post test.
- Anecdotally, participants reported feeling "healthier" and felt like they were making better choices for themselves.
- Family members living with the participants also reported improvements in the quality of food choices
- Several participants indicated the program should continue
- When asked what their biggest successes were six months after the study ended, participants reported the following:
  - "Maintaining my weight"
  - "I am close to my weight loss goal, with only 22 pounds to go, my medical issues have vastly improved, and I have been able to stop taking certain medications. I also have a new temporary job while I actively seek a new one."
- When asked what the most beneficial aspects of the program were, participants responded with the following:
  - "The health coach helped me find my triggers and how to control them. For example, I didn't realize how much sugar I took in on a daily basis, and keeping that under control helped me finally lose weight after previous effort with no success."
  - "My talks with the health coach."
  - "Learning about what food is good for you and how to recognize when you are stressed."

Conclusion

This was a pilot study targeting overweight, sedentary, adult Black women. As with any intervention study, it is difficult to maintain the sample across time. However, for those participants who remained in the study across the sixth month time frame, results indicated improvements in various health markers, such as weight, blood pressure, and blood sugar. Several participants reported improvements, or at least maintenance, one year after the study began. Although the sample was too small to run analyses, those who completed self-efficacy questionnaires six months after the study ended reported higher scores, suggesting that their ability to maintain a healthy lifestyle improved their feelings of self-efficacy to do so. The health coaching program is a well-rounded, thorough approach to teach women about a healthy lifestyle and to help them understand why they make the choices that they do. For instance, several participants reported being stress eaters, and once they were made aware of what triggered their eating, they learned to be more aware and use healthier coping strategies. The current data suggest that targeting the behaviors that trigger the poor choices of diet and sedentary behavior can result in improved habits. Given that statistics indicate that Black women are at a high risk for developing cardiovascular-related diseases, interventions such as this one are an important factor in reducing the physical and psychological burden of such diseases. It is the hope that a program like this one can continue with the aid of grant funding.