

African Americans Tackling Obesity through Church-based Interventions

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Abstract

Background:

The large number of people who are obese in the United States has been observed in all racial, ethnic, gender, and age groups. However, racial and ethnic minority populations are disproportionately affected by obesity and at greater risk for many serious diseases.

Purpose:

The purpose is to reduce obesity and diabetes in African Americans who are members of faith-based organizations by sustaining and ensuring successful health ministry programs in the greater Cincinnati, Ohio area.

Methods:

A total of 142 African American females and males participated in a 20-week intervention. The mean age was 55 years. Ninety-seven percent of the participants were overweight/obese and 27% had diabetes.

Results:

Results of the cohort study showed that during year 2 participants showed better improvement in obesity and diabetic indicators than during year 1.

Conclusions:

A culturally sensitive Church-based wellness programs could be used to reduce obesity and diabetes in African Americans and sustained in the community.

Key words: Church-based, African American, sustainability, obesity, diabetes, weight-loss,

1. Introduction

Obesity is not just a matter of personal health-it's a costly and deadly public health concern that affects economic productivity and personal and family well being (Centers for Disease Control and Prevention, 2001a). Long term effects of obesity, including Type 2 diabetes, are estimated to cost billions of dollars worldwide (Finkelstein, Trogar & Cohen, 2009). The number of people who are obese in the United States has been observed in all racial, ethnic, gender, and age groups. However, racial and ethnic minority populations are disproportionately affected by obesity and at greater risk for many serious diseases (Centers for Disease Control and Prevention 2009b).

According to the CDC (2003c), 65% of U.S. adults are overweight [BMI of 25.0-29.9] and 31% of this group are obese [BMI of 30.0 or above], 70% of African Americans are overweight, with 38% obese. By gender, 77% of Black women are overweight with nearly 49% obese; 63% of Black men are overweight with 28% obese (Cowart, Biro, Wasserman, Stein, et al 2010). These statistics exemplify a clear health disparity for this vulnerable population, and effective interventions and treatments for overweight people of color that may be at risk for diabetes remains a challenge.

Applying culturally sensitive community-based interventions to reduce the incidence and prevalence of obesity in high-risk populations is a national and international accepted public health principle (Resnicow, 2000; Paschal, 2004; & Centers for Disease Control and Prevention 2008d). Despite this evidence, sustainable risk reduction for African Americans has not occurred (Watkins, J.A., Christie, C., Weerts, S., & Jackson, 2010). Sustainable interventions need to include approaches that are culturally appropriate and specific to an at risk population. Employing a church-based approach has been found to have the greatest impact in the African American community, which is crucial information for practitioners embarking on effective behavioral interventions (Hampton, Gullotta, & Crowel, 2010).

Church-based health initiatives have grown over the past several years in the United States, particularly within African American churches (Winett, Anderson, & Wojcik, 2007). For metropolitan areas, church settings are often used to access and intervene with large groups of individuals who share similar values and social networks (Lasater, Carleton, & Wells, 1991). The focal point in many African American lives is their religion and by extension their church. Research suggests that religion/spirituality is eminent and therefore particularly meaningful in African American culture (Mattis, 2000). The importance of church life in the African American community has the potential to positively affect health outcomes (Miller, 1995). Therefore, our objective is to counter obesity and diabetes in African Americans who are members of faith-based organizations by sustaining and ensuring successful health ministry programs in Cincinnati, Ohio.

2. Methods

2.1 Study Design

To interrupt the obesity epidemic among African Americans in Cincinnati, the Center for Closing the Health Gap implemented a strategy to empower the African American communities to improve their physical activity and nutrition. Through Center staff interactions with community residents and community surveys, obesity and its associated risk factors were identified as the “drivers” of the poor health experienced by Cincinnati’s African American communities. The Health Leadership Institute is a partnership between the Center and churches which, historically, have been a major focal point and important institution for the African American community, including that in Cincinnati. The Center’s Health Leadership Institute for Faith-Based Organizations (HLI) is founded on the Stages of Change model (Israel, Eng, Schulz, & Parker, 2005); using community based participatory research methodology (Prochaska, DiClemente, & Norcross, 1992). To roll-out the HLI Challenge Initiative, Center staff recruited HLI churches to serve as sites for the program, targeting those with an active health ministry.

The Center for Closing the Health Gap employed a 20-week sustainable obesity and diabetes modification program consisting of 10 churches that were enrolled during a two-year study. The University of Cincinnati Committee for the Protection of Human Subjects approved the research protocol. Each participant volunteered and provided written consent prior to participating in the intervention. A total of 7 Baptist churches and 3 Christian churches in Cincinnati, Ohio volunteered to participate in the intervention. Baptist and Christian churches historically in the city of Cincinnati, Ohio consist of African American members. Program leaders within these churches recruited a total of 142 participants for the two-year study. Each church was given a monetary incentive for participating and points for attending each session.

2.2 Participants

The participants consisted of 114 African American females and 28 African American males who participated in the intervention. The mean age of the total participants was 55 years. Seventy-eight percent of the participants were overweight/obese and 32% had diabetes. (Table 1)

Insert Table (1) about here

2.3 Intervention

A 20-week frame was chosen because research indicates that it takes about two months to establish a new habit (Lin, Appel, & Funk, 2007).

An advisory board consisting of faith leaders and health partner, developed the format for the culturally appropriate activities, which include nutrition sessions delivered once every two weeks by dietitians at each church; physical activity sessions incorporating traditional (e.g., aerobics, weight training) and non-traditional (e.g., line-dancing and salsa dancing) forms of exercise delivered weekly by an exercise physiologist; and motivational sessions delivered once every two weeks by Center staff that emphasizes the role of commitment to faith in maintaining goals. Each session began and ended in prayer and incorporated spiritual messages into the program. At the beginning of the intervention the church leaders and Center staff decided to add a “friendly competition” component to further motivate participation; monetary prizes of an increasing amount were awarded to the health ministries based on which church had the most improved health outcomes.

Insert Table (2) about here

The HLI Challenge nutrition sessions provided an interactive format that included presentations, group discussion, and questions about why we eat, what you eat, how much you eat and where you eat. At the closing celebration, participants discussed how they learned how to choose healthier foods, how they strengthened their resiliency even when they were faced with difficulties, and how mindful they were that each day was a new day and a fresh start to stay healthy. The exercise component of the program was designed to improve fitness and sustain exercising habits. Motivation for the program was crucial. The first few sessions consisted of motivational talks along with spiritual prayer to get participants focused on the same goals. Also, participants were able to have counseling sessions with the exercise physiologist so that participants could see the effect of the program on their weight and health profile.

Since most participants never exercised at all before the program (57%) males and (71%) females, frequency was the initial goal. Participants were instructed to exercise at their own pace and comfort level. Since the goal was to sustain long term exercise behaviors, no target heart rate was assigned but exercise intensity was monitored. If someone perceived an exercise as too difficult he/she was encouraged to do a non-traditional exercise (e.g. line dancing, marching). After the final week, a celebration was held for all the participants and special guest from their churches. Members of the advisory committee devised a system that corresponded to the parameters used in the wellness profile, as well as emphasis on attendance at sessions and physical activity sessions to determine the winners of the HLI Challenge. The top 5 churches divided the winnings of \$10,000 to help sustain their health ministry.

3. Intervention Results

The post data from the participants revealed positive outcomes. One-hundred and forty-two participants returned their post-surveys which could be linked directly back to their baseline data (representing the general church population) showing positive changes in obesity and diabetes during year 1 and during year 2. The nutrition education sessions focused on behavior changes that would confer health benefits would be easy to sustain. Participants were encouraged to eat more fruits, vegetables and whole grains, and watch their portion size. Only a few foods high in fat and cholesterol were chosen because an extremely restrictive eating plan would have led to low compliance by the participants. Findings indicate that the participants were able to improve their health and reduce their risk for disease post-intervention (Table 3).

Insert Table (3) about here

4. Discussion

Faith-based wellness programs have been found to be successful in reducing indicators of obesity and diabetes. The current study describes the outcomes of a two-year church intervention that incorporated a challenge-based incentive to improve retention. The HLI Do Right! Challenge was able to retain 100% of participants over the two years of the program. Results of the cohort study showed that during year 2 participants showed better improvement in obesity and diabetic indicators than during year 1. Specifically, weight, BMI, systolic and diastolic blood pressure means were significantly lower for year 2 than year 1. Our findings are similar to that of The Dietary Approaches to Stop Hypertension Program (DASH). Like theirs, ours showed significant reduction of systolic blood pressure using a twenty-four week intervention (Gaston, Porter, & Thomas, 2007). Additionally, mean number of exercise days per week was higher during year 2. This suggests that the addition of a motivation to change component in year 2 may have provided more support for year 2 participants to keep their wellness goals. As participants were able to receive a bi-weekly check-in with a motivation coach, the intervention became more of a support group. Participants were encouraged to examine the reinforcing factors and barriers to maintaining their goals, and this helped them to sustain their wellness outcomes.

As the goal of the intervention was to increase positive lifestyle behaviors, it will be important to investigate impact of the motivation component in setting and maintaining long-term wellness goals. The current intervention included a culturally sensitive church-based approach to reduce obesity and diabetes. Research suggests that in the African American community the creation of a culturally sensitive intervention to deliver activities to reduce obesity and diabetes has been found effective and sustainable (Fitzgibbon, Stalley, & Ganschow, 2005). In comparing a primary care intervention versus a church based intervention, one study found a non-significant improvement in weight and BMI in the primary care intervention in a 12-week program. However, the faith-based intervention group lost an average of 3.5% of bodyweight and BMI decreased 1.3% in a 12-week program [20]. In comparison, our study showed a 4% decrease in bodyweight and a 2.5% BMI decrease in a 20-week program. These results suggest that church -based interventions may be more effective over longer periods of time, making them more sustainable.

5. Limitations

There are two limitations that are noted. First, the majority of the participants were African American females aged 45 or older. This may make generalizability of the results difficult to report. Second, the study did not follow the participants after completing the 20-week intervention. Future studies will need to conduct follow-up screenings after at least one year post-intervention to determine sustainability of lifestyle changes.

6. Conclusion

Despite these limitations, the implementation of a culturally sensitive church-based program for African Americans could have a crucial impact on this high risk population. In summary, this paper presents the results for the HLI Do Right! Challenge, a pilot study with the primary aim of estimating the effectiveness of a faith-based component to a culturally tailored lifestyle intervention. Our results demonstrate that a faith-based challenge may encourage and retain participation throughout the intervention, especially when coupled with a motivation to change curriculum. Health professionals may find that it is easier to promote enthusiasm and commitment in the church environment, and that churches themselves can continue to educate their congregation as well as the surrounding community.

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Table 1. Initial Participant Demographics Baseline

Sample Characteristics	Males n=28	Females n=114	Total N=142
Age (Mean Years)	53	57	55
Pre-Health Concerns			
Hypertension n (%)	15 (54)	66 (58)	81 (57)
Diabetes n (%)	10 (36)	35 (31)	45 (32)
Overweight/Obesity n (%)	19 (68)	91 (80)	110 (78)
No regular/exercise n (%)	16 (57)	81 (71)	97 (68)

Table 2. The bi-weekly nutrition sessions focused on major themes for reducing obesity

Week	Topic
1	Why You Eat- <i>Hunger, Habit, or Emotions</i>
2	What you Eat- <i>Using the Food Guide Pyramid</i>
3	How much You Eat- <i>Sizing up Food Portions</i>
4	What You Eat- <i>What the Nutrition Facts Label Can tell You</i>
5	What You Eat- <i>Foods with Fiber-Fruits, Vegetables and Whole Grains</i>
6	What You Eat- <i>Animal, Vegetable, Mineral-Protein Foods in Your Diet</i>
7	How much You Eat- <i>The Good, the Bad, and the Ugly: Watching Fats and Sodium</i>
8	How You Eat- <i>Meal Planning</i>
9	Where You Eat- <i>Eating Away from Home</i>
10	Closing Celebration

Table 3. Outcome Indicators for Post-Intervention

Variables	Year 1		Year 2	
	Mean±SEM ¹			
Total Participants	Pre	Post	Pre	Post
Obesity/Diabetes Indicators				
Weight (lb)	206.52±3.44	205.52±3.44 ^a	205.47±4.03	203±473.03 ^b
BMI (kg/m ²)	40.04±56	39.04±.57 ^a	38.62±.56	38.0±.56 ^b
Glucose (mg/dl)	93.10±73	93.10±2.73 ^a	94.22±2.8	93.22±2.8 ^a
Systolic Blood (mmHg)	130.69±1.27	130.69±1.27 ^a	123.11±1.16	126.11±1.11 ^a
Diastolic BP (mmHg)	83.72±.67	82.37±.67 ^a	78.96±.72	78.96±.62 ^b
Activity Indicator				
Exercise (days per week)	2.86±.16	2.87±.15 ^a	2.69±.16	3.00±.14 ^b

Note: Means with different superscripts are significantly different at $p \leq .05$

¹SEM = standard error of the mean.