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Research Article

Lay Health Coaching Associated with Improvements in Abdominal Circumference and Reported Psychosocial Benefits in Low-Income African American Women: A Pilot Study

Elizabeth Miller*, Victoria Thompson, Robin Cooley, Rachel Wyand and Aisha Fichtner

Department of Kinesiology and Health, Miami University, USA

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***Corresponding author**

Elizabeth Miller, Department of Kinesiology and Health, Miami University 420 S Oak Street Oxford, Ohio 45056, USA, Tel: 513-236-6710;
Email: mille736@miamioh.edu

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Keywords African-American women; behaviour change; risk reduction; intervention strategies; Community-Based Participatory Research (CBPR)

Abstract

Background: From 2011-2014, 56.9% of African American women in the United States were obese. Poverty and urban neighbourhood environments contribute to the health disparities and prevalence of obesity in African American women. The limited resources, education, and widespread disparities in health risks and disease experience in low-income and minority communities make behaviour change challenging. Understanding which strategies facilitate behaviour change is important for improving the health of women in these communities.

Objective: The objective of this quasi-experimental, staggered start pilot study was to determine the differences in biometric changes, health behaviours, and overall health risk in low-income African-American women using either a self-guided workbook or lay health coaching approach to behaviour change in addition to a healthy lifestyle curriculum.

Methods: Utilizing a CBPR approach, a healthy lifestyles curriculum was designed to address health risks and education needs of women in a Midwest urban community. Thirty-four women received a 6-week, 90-minute pilot-curriculum with biometric screening, a health risk assessment, and 30-minutes of personalized feedback. The coaching group received bi-weekly personalized behaviour change sessions. Height, weight, waist circumference, and fasting glucose, triglycerides and cholesterol were measured. Participants completed a 53-item health risk assessment. Confidence in and readiness for behaviour change were measured. Knowledge scores were obtained for each educational session.

Results: Both groups decreased health risk and increased knowledge related to all topics except relapse prevention. There were significant differences in abdominal circumference changes between the coaching group (M= -2.605, SD= 2.372) and the workbook group (M= -0.433, SD= 3.294; F (1, 31) = 4.997, p= 0.032).

Conclusion: Personalized feedback from the health risk assessment in conjunction with the program immediately following the screening may have led to improvement in both groups. Lack of knowledge and skills in relapse prevention highlight the challenge of behaviour maintenance in communities with limited resources. The coaching and group education provided a social support and encouraging environment for behaviour change.

Introduction

From 2011-2014, obesity among African American women in the United States was 56.9% [1], with the prevalence of obesity in African American women exceeding those in all other racial, ethnic, and gender groups [2]. African Americans also have the highest poverty rate at 27.4%, which is an important factor to consider since poverty is correlated to obesity rates [3]. Environments in urban neighbourhoods may also contribute to the health disparities and prevalence of obesity in African American women making behaviour change challenging [2].

Community-based participatory research

Community-Based Participatory Research (CBPR) is an approach to research that has been utilized with marginalized communities because it centers on the participant or community members as partners, assisting with the development of self-sustaining, and community-oriented health interventions [4,5]. Healthy communities depend upon the social, environmental, and physical characteristics that shape individual health practices and behaviours [6]. The principles of CBPR ultimately strengthen the capacity of the African American community to take ownership of their health, guide program development, and facilitate change from within the community [7-9]. Moreover, health interventions that utilize community beliefs, practices, and leaders have been shown to be effective in promoting lifestyle change [7].

Behaviour change

Achievement of risk reduction of chronic diseases requires changes in the health behaviours associated with those diseases, which can be challenging. Most people benefit from support to accomplish behaviour change. Bandura's Social Cognitive Theory [10] provides a framework in understanding the components of successful behaviour change. The theory posits that behaviour change initially depends on knowledge of health risks and an expected benefit or positive outcome as a result of changing health practices or behaviours. The knowledge and expected benefits provide motivation or a readiness to change. Additionally, Self-efficacy,[10] a belief in one's ability to change, is a core component of SCT and an important factor in determining successful behaviour change, particularly related to changing the health behaviours associated with primary health risks and continued attendance in health education programs [11]. People with a higher self-efficacy are more likely to persist in behaviour change in the face of barriers and challenges, which is an important factor in sustaining new behaviours. Additionally, motivation or readiness for change is an important indicator in identifying individuals, who may be more successful with behaviour change, particularly those with chronic diseases or at high risk [12]. Personal goal setting is also a component utilized in SCT and outlines the pathway to achieve personal change. Self-efficacy influences goals setting in that the higher the self-efficacy, the higher the goals being set along with a stronger pledge to meeting those goals.

Health coaching has been one method utilized to assist others in improving skills to increase self-efficacy around health behaviour changes and has gained popularity because of its ability to address multiple health behaviours and risks. Health coaching has traditionally been provided by health professionals who assist participants in changing lifestyle behaviours for risk reduction, improved health and working toward health related goals [13-15]. Coaching develops accountability and provides encouragement which increases self-efficacy, and the chance for successful behaviour change [16]. Rimmer, Rauworth, Wang, Heckerling, and Gerber [17] conducted a randomized control trial with African-American women utilizing professional coaches to assist with physical activity and obesity prevention with positive results on BMI. Similarly, Bennett et al [18]. conducted a coaching intervention to reduce obesity in African-American women, but also utilized professional coaches and registered dieticians.

While professional coaching provides needed support for behaviour change and mistrust of outsiders, lack of knowledge of community culture and barriers accentuate disparities for individuals from marginalized communities, which can create barriers to health behaviour change [19]. CBPR has been one approach utilized to bridge the gap in reaching these communities, improving health outcomes, and reducing health disparities [20]. Moreover, lay health coaching has been cited as a promising strategy to assist with behaviour change through the provision of support by peers who face similar cultural and literacy challenges [21]. These peer/lay health coaches can be beneficial to the participants over professional coaches as the peer coach can understand the community context and the associated barriers that participants need to overcome in order to improve health behaviours. Goldman, Ghorob, Eyre, and Bodenheimer [21] identified the roles of peer/lay coaches as advisor, role model, and supporter focusing on shared decision-making, trust and empathy. Overall, this type of coaching can be an effective, culturally-relevant, economical way to assist with health behaviour change through behavioural strategies, goal setting and problem solving [22].

Health promotion interventions

Previous literature on lay health coaching provides a source of information on the importance and value of health coaching. According to Ghorob et al. [23], lay coaches are able to "share similar experiences about living with diabetes and are able to reach patients within and beyond the health care setting" (p.1). Peer/lay coaching has been used to provide culturally relevant health guidance to patients with type-two diabetes in low-income communities resulting in positive changes in knowledge and behaviours, in addition to improved biometric measures [14]. However, there is limited research published on health promotion interventions utilizing non-professionals recruited from within the community as the health coach and none utilizing a CBPR approach to the design of the intervention. Most published research related to peer or lay health coaching has been as an adjunct to self-management of chronic diseases [14, 21,25-28]. The overall purpose of this study was to train a Community Resident Research Team (CRRT) as lay health coaches and then assist female community members with health-related behaviour change. The goal of the program was to reduce the chronic disease health risk and improve biometric data of the women in the study by increasing health knowledge and self-efficacy in developing healthy lifestyle habits. This fills a gap in the literature in that African-American women in low-income communities can be hard to reach as well as a challenge to retain in health promotion programs. Utilizing a CBPR approach can assist in mitigating these challenges through the contextual knowledge and relationship of the coaches to the community. In addition, the qualitative component of this study provides perspectives of the participants in understanding what components of a program are important in facilitating behaviour change.

Methods

Community partnership

HG, an applied community research and education organization, utilized CBPR to engage community members directly in designing and carrying out community-based research to improve girls' and women's' health. Results from the Pulse study [29] that assessed the health of girls and women in the region revealed that African-American women living in the urban core experienced health disparities and higher rates of chronic disease and lacked access to medical services and education. This community is a medically underserved area. According to U.S. census data, a majority (89.1%) of families from this community are African American with 72% single female households. The median annual household income for families is $14,720, placing over 61% of families below the USA poverty level. The neighbourhood consists of largely subsidized housing.

HG began its partnership with the community through the Local Housing Authority (LHA). The community partnership began with a 16-week program offered to mothers in the community focusing on girls' health needs. At the conclusion of this program, HG and MHA offered a pilot program to develop a Community-Resident Research Team (CRRT) [30]. The six women engaged in research

training, conducted needs assessment activities in year-one, and in year two developed a chronic disease education program highlighting those affecting the African-American community. Utilizing results, the team began the design of the current program to include more in-depth lifestyle education to prevent obesity and related chronic diseases. Human subject's approval was sought from a local university. The CRRT assisted with all data collection, class-session facilitation and facilitated the five coaching sessions.

Research design and intervention

The research project was a quasi-experimental, staggered start research design. Women ages 18 and older living in an urban core community in the Midwest were recruited with assistance from the CRRT for participation in this program. Women were randomly assigned to one of two conditions: (1) curriculum with self-guided behaviour change workbook or (2) curriculum plus lay health coaching. Both coaching and non-coaching groups participated in the 6-week, 90-minute healthy lifestyle/health promotion sessions. Both groups also received a pre-post biometric screening and health risk assessment, as well as a 15-30 minute personalized feedback session related to the results. The coaching group received five weekly one-on-one coaching sessions which occurred following each of the weekly curriculum sessions. Figure 1 illustrates the study design.

Lay health coach training, program curriculum and workbook

The six women in the CRRT completed seven, two-hour training sessions about establishing rapport, principles of health coaching, the behaviour change process, communication and reflective listening skills, types of questions (closed versus open-ended), goal setting, providing feedback, and session simulations. The six-session curriculum consisted of six 90-minute group sessions that included presentation of information and skills, hands-on activities to practice the skills, and brief time for questions and answers. Each session also included a pre/post-test and brief session evaluations. The sessions focused on goal setting, physical activity, principles of healthy eating, healthy eating on a budget, stress management and relapse prevention and management. Table 1 outlines the session topics, objectives and sample activities.

The workbook was designed to facilitate the goals of the curriculum: (1) Be able to set realistic goals towards behaviour change, (2) Link healthy lifestyle choices with better health, and (3) Plan healthy meals and physical activity throughout the week. Participants were asked to reflect on areas that could be improved based on feedback from a health risk assessment report. From this information they (1) identified one health behaviour change, (2) reflected on why

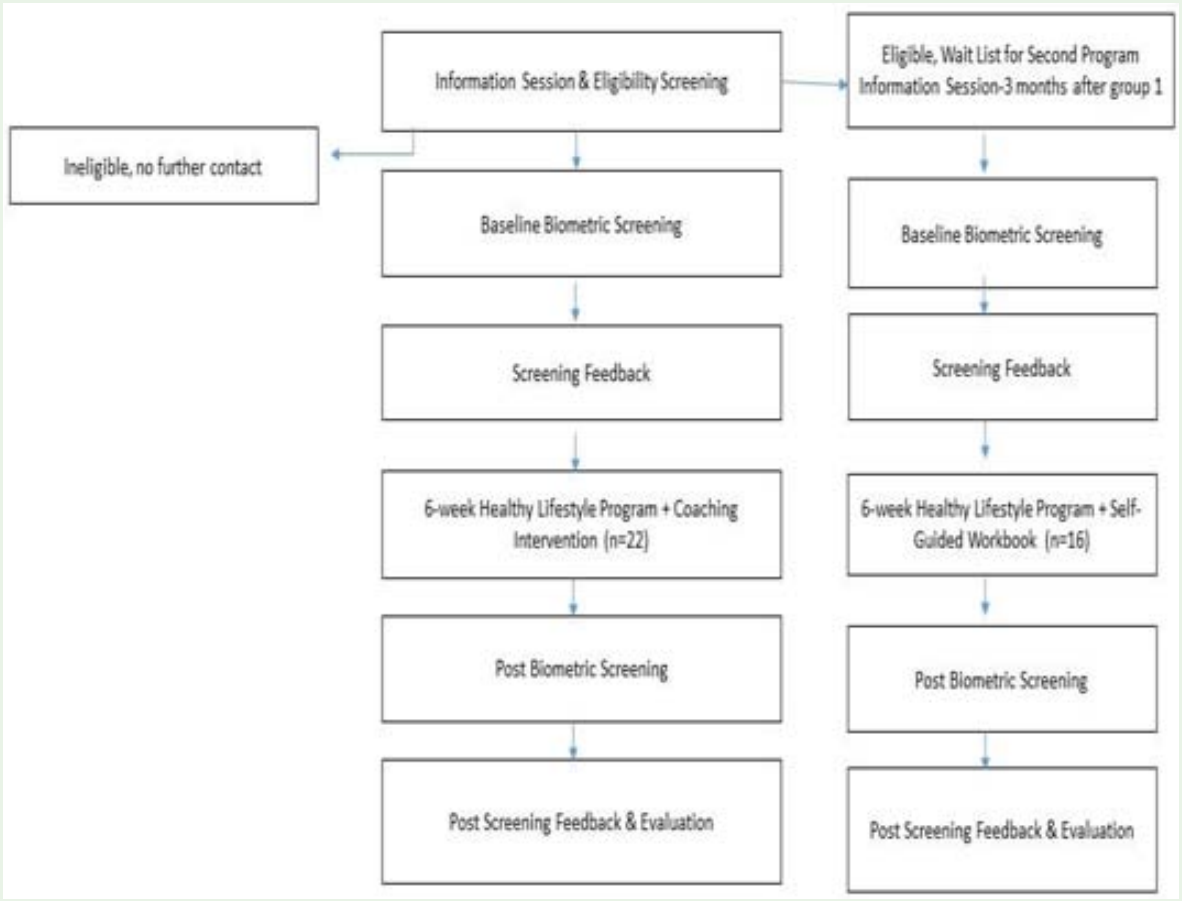

Figure 1: Healthy Lifestyle Program Study Design.

Table 1: Health Lifestyle Curriculum Overview.

Week	Theme	Learning Objectives	Sample Activities
1	Goal Setting	Identify SMART goals. Demonstrate how to set SMART goals. List the components of health.	Participants describe what "healthy" means to them. Discuss components of goal setting. Utilize case studies to practice goal-setting. Participants write a starting goal.
2	Physical Activity	List types recommended amounts of physical activity. List benefits of getting the recommended amount of physical activity. List physical activities they can do at home. List strategies for overcoming obstacles to physical activity.	Participants identify/discuss what it means to be physically active. Demonstrate sample exercises with bands/ tubing.
3	Healthy Eating	Explain how food affects health. List the food groups. Identify serving sizes. List the number of servings they should get each day from each food group.	Card game: Participants have to group different foods into correct food groups. Hands-on practice of measuring serving sizes.
4	Healthy Eating on a Budget	List strategies for eating healthy on a budget. List healthy snack options. List 3 fruits or vegetables they like that they had not tried before.	Brainstorm ideas for shopping healthy on a budget. Plan two healthy snacks. Taste a variety of fruits and vegetables.
5	Managing Stress	Explain the difference between "good" stress and "bad" stress. Identify 3 personal stressors. Create action plan to minimize their stressors.	Hands-on practice with meditation and stress management techniques. Practice identifying things we can control and are important.
6	Putting it All Together & Relapse Prevention	List chronic diseases for which the risk can be reduced by practicing healthy behaviors. List short-term benefits of a healthy lifestyle. Describe how healthy behaviors impact one another. Identify strategies for relapse prevention.	Create relapse prevention plan with coping skills, alternate activities, social support and high-risk situation plans.

they wanted to make that change, (3) identified whether they had ever tried to do this before, as well as previous success, (4) identify barriers to be able to carry out the behaviour change, and (5) identify strategies that would help them to be successful. The workbook also contained example health behaviour targets of change, sample goals to assist them in writing a specific goal, and a daily behaviour change tracking sheet.

Participant recruitment and retention

Participants were recruited via CRRT social networks, as well as flyers in the housing complexes, the local recreation center, and churches. Information sessions were held 1 week prior to the program to allow community members to ask questions. Once enrolled, participants in both groups received a 3-month individual membership to the local YMCA, babysitting, dinner, and a ten-dollar cash incentive for each session they attended.

Intervention overview

During the informational session, the CRRT collected contact information from participants and scheduled a time for their initial screening or placed them on a waiting list for the second session (random number assigned). The baseline and post-program assessment consisted of two appointments, each lasting approximately 45 minutes. The initial screening included the completion of consent forms, a 53-item health risk assessment (HRA) questionnaire, and anthropometric and biometric measurements. All participants received a reminder to fast at least 8 hours before the 5:30pm blood draw. Dinner was provided after each screening. The anthropometric and biometric data were entered into the health risk assessment. The CRRT and additional members of the research team were available to assist participants with the consent forms and the HRA completion.

After the screening, feedback session, and first group class, participants either utilized their workbook or met with their coach to set their first goal. At the conclusion of each group session, participants set goals for the following week. The workbook provided space to set goals, identify barriers, rate the importance of the goal, rate self-confidence in accomplishing the goal, reflect on healthy behaviours from the previous week, and re-establish goals based on areas that still needed to be addressed. The coaching group met for a 15-30-minute session with their coaches, who facilitated the process outlined above. Coaches were called or texted the participants to remind them of their sessions.

Data collection and measures

Health Risk Assessment (HRA): Participants completed a 53-item health risk assessment questionnaire [31] utilizing the specific biometric data from the screening pre and post program. The instrument included questions related to demographics, personal health history, physical activity and eating practices, substance use, mental and social health, safety practices, and readiness to change. The HRA report provided an overall wellness score from 0-100 based

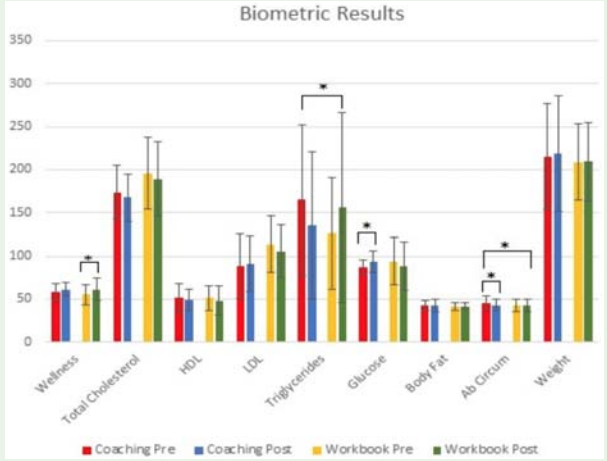

Figure 2: Within and between group differences for the health risk assessment and biometric data.

chronic disease risk and health behaviours. Cut-off points included 0-19 = caution/high risk; 20-59 = needs improvement; 60-79 = doing well; and 80 = excellent.

Confidence and motivation for behaviour change: Confidence in making identified behaviour changes and motivation (readiness) for change were each measured via one question on a Likert scale from not confident at all (1) to very confident (10).

Anthropometric and biometric data: A calibrated digital Tanita scale (model 310GS) and portable research grade stadiometer were used to measure height and weight. BMI was calculated. Blood pressure was measured using the Omron HEM907XL-Automatic Digital BP Monitor. Fasting blood samples were obtained via a One Touch Fine Point Lancet. Blood samples were collected via capillary tube and a CardioChek PA system, which provides immediate results related to glucose, triglycerides, and cholesterol concentrations. Waist circumference was measured at the natural waist.

Session evaluation: A 10-item pre- and post- knowledge test was administered at each session.

Qualitative summative evaluation: Following the final session, a brief summative evaluation focus group was conducted with participants in each group utilizing open ended questions related to the goal setting process, the group classes and overall program satisfaction. Questions included: What was most useful/helpful part of this program? What motivated you to attend and to keep coming? What was the impact of the screenings on your motivation? Probing was utilized to follow up on questions and provide clarification to answers.

Data analysis

All data were entered into a secured database, and all statistics performed with SPSS with a level of significance set at $p < .05$. Paired-samples t-tests were used to determine within group differences for biometric, confidence, readiness to change, and knowledge; a one-way ANOVA was used to determine differences between groups. An independent t-test was conducted to compare differences in knowledge between the coaching and workbook group. Qualitative data were recorded and transcribed and thematic analysis was conducted. The text data were read for content and then initial codes were assigned independently by two researchers. Similar codes were classified into categories and then collapsed into themes [32]. The themes were presented to a group of the women at a follow-up session as a method of member checking. Themes were substantiated with participant quotes.

Results

Thirty-eight African-American women registered for the program. Four women dropped out due to new employment opportunities. Complete biometric data was collected from 34 total participants (coaching n=19; workbook n=15) with a mean age of 50.58 (15.38) in the coaching and 54.20 (9.08) in the workbook groups. For both groups, mean attendance in the program was 92%.

Figure 2 provides visualization of the within and between group differences. The coaching group experienced a significant decrease in abdominal circumference. There were significant differences in abdominal circumference changes between the coaching group (M= -2.605, SD= 2.372) and the workbook group (M= -.433, SD= 3.294; F (1, 31) = 4.997, p= .032), although both groups decreased abdominal circumference, representing reduced risk for diabetes and other chronic diseases. There was not a significant difference in changes in wellness scores between the coaching group (M= 2.895, SD= 6.674) and the workbook group (M= 6.00, SD= 6.492; F (1, 32) = 1.858, p= .182). Both groups similarly improved their health risk.

There was no significant difference in reported readiness to make a behaviour change between the coaching group (M= 2.316, SD= 3.198) and the workbook group (M= 1.417, SD= 1.311; F (1, 29) = .849, p= .364), although both groups experienced a significant increase (Figure 3). There was, however, a significant difference in reported confidence to change (self-efficacy). The coaching group had a larger increase in reported confidence to change (M= 1.80, SD= .676) than the lay workbook group (M= 1.16, SD= .675; F (1, 32) = 6.534, p= .016).

Changes in knowledge

The scores for each pre/post session quiz are presented in Figure 4. There were significant increases in knowledge in both groups related to goal setting, physical activity, general healthy eating, and stress. While both groups showed slight increases in relapse prevention, there was no significant increase in knowledge for either group. The workbook group had significantly greater increases in knowledge score related to healthy eating on a budget, possibly due to more group discussion within the class.

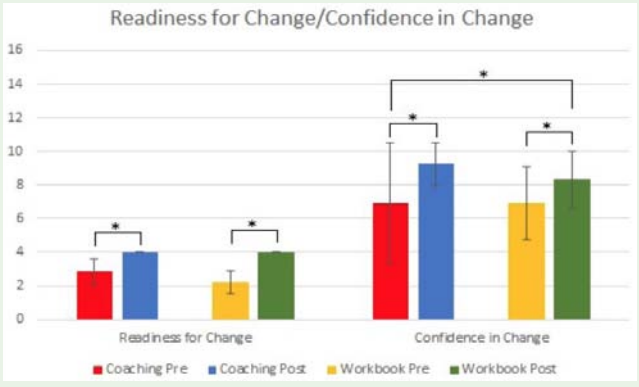

Figure 3: Pre and Post Readiness and Confidence in Change.

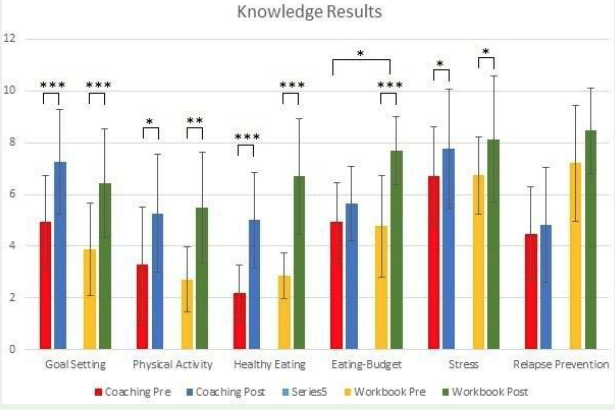

Figure 4: Pre-Post Knowledge Scores for the Healthy Lifestyle Curriculum.

Qualitative evaluation

Qualitative themes included having accountability, filling a void, connection to women in the community, needing personalized attention and encouragement, and managing stress and goals. At the end of the program, participants expressed satisfaction with the program, stated they benefitted from the peer accountability either through coaching or group class, and increased health knowledge as a result of the program. One participant shared that, "Some things I thought I knew, I really didn't." Another participant shared her insight as, "I realize health is a job".

Participants discussed the health program and coaching sessions as filling a void in their own lives and community. They described being thankful that they had the program to attend following the screening rather than "being left alone with their results". Participants not only gained knowledge, but felt an increased sense of connection to women in their community due to the strong group component of the classes and coaching. Some participants felt that group work and socialization made learning easier, especially given that participants felt a lack of encouragement in their daily lives. One woman stated, "Classes and coaching were both important for people in this community because we don't have any encouragement." Participants described the importance of having the program to provide a lot more detail on behaviour change that their doctors tell them to make "You know as many times as I've been to the doctor and they said my blood pressure was high, not one person told me what I needed to eat, not be specific, no salt, that's it. They did not tell me what foods to eat, but there was a lot of detail in this program. I've got something to go by when I come here".

Participants in both the workbook and coaching group reported the most helpful aspects of the program were understanding how to set a realistic goal and following through on managing and tracking the success of that goal, as well as access to the YMCA. They suggested that a structured time (versus left to their own scheduling) at the YMCA be provided to bring families, meet with coaches for workouts together, and promote healthy habits. Participants reported stress being difficult to change, but became easier with the techniques taught during the class. Other suggestions included adding a depression/self-esteem screening, since some expressed this as a major cause of unhealthy habits and a reason for not adhering to goals. Two women shared these thoughts, "I was hurt knowing how badly I had been treating myself, but it's because of low self-esteem" and "I found it real hard to keep my goals because of depression. It was nice to have the attention and know someone cared".

Discussion

There were several findings to note from the current study. Both groups experienced an increase in overall wellness scores (reduced health risk) from pre- to post-intervention. This increase represented movement from the "needs improvement" category to "doing well," indicating that both methods were valuable in increasing overall wellness and reducing health risk. Similar results were found for questions regarding self-efficacy and motivation to change. Both groups experienced change in those measures. Perhaps in underserved populations, simply providing timely access to personalized attention, support and informational resources, regardless of which kind of resources, is instrumental in initiating risk reduction. Results and personalized feedback related to the health risk assessment provided motivation to change, but the group education assisted individuals with increasing confidence to create change in their lives. It is likely that they had little to no prior experience with informational resources similar to the ones that were provided in the intervention. These results would indicate that providing targeted information and readily available programs related to healthy behaviours, regardless of the method, immediately following the health risk assessment is necessary and can be facilitated through a self-guided workbook combined with group education and coaching interaction. Having the program available immediately after the screening feedback may have capitalized on the participants' motivation to change and contributed to success. This is consistent with Bandura's social cognitive theory [10].

Changes in self-efficacy and motivation to change are especially important because they have been identified as mediators and predictors to behaviour change (namely weight and physical activity outcomes) to prevent chronic disease. [33, 34] Clark, et al. [35] demonstrated that one-on-one coaching interventions had a significant impact on participants' self-efficacy and confidence in maintaining a healthy lifestyle. By focusing on participants' strengths, motivations, and goal-setting, coaches can help participants improve a variety of health behaviours, including adherence to a physical activity program, nutritional diet, and stress reduction program, all of which are crucial for increasing overall wellness. Thompson, Goodman and Tussing-Humphreys [36] identified frequent education sessions and supervised group physical activity as potential key components in increasing self-efficacy in behaviour change interventions for African Americans. Another important aspect of increasing self-efficacy is eliminating perceived barriers to achieving a healthy lifestyle. Teixeira et al, [37] found that higher self-efficacy was one of the strongest predictors of weight loss, specifically in obese middle-aged women. Increased self-efficacy has also been associated with increased attendance in a health education program for low-income patients [11]. This may have contributed to the high participation rate in our program. A review of the literature by Lemacks et al [38] found that most studies with African American participants have a 58% participation rate. Thus motivation to change and self-efficacy are important predictors of the success of participants in attending health education programs and reducing their health risk when facilitated through personalized attention and feedback.

The curriculum showed statistically, significant increases in knowledge in all areas for both groups except relapse prevention. This shows the challenge of behaviour maintenance. The skills and planning needed to maintain changes over time, particularly in communities where resources are limited and the environment may not be conducive to sustaining positive behaviour change can impact the long-term effectiveness of healthy lifestyle programs. Middleton, Anton, and Perri [39] cite extended-care programs, skills training, targeted techniques for specific behaviours, and social support as promising approaches to long-term adherence. Extending the length of the program to include booster educational and lay coaching sessions through a maintenance period may provide additional positive outcomes in future programs. Thompson, Goodman and Tussing-Humphreys [36] suggested intervention outcomes would be improved through these measures and supervised physical activity.

Although there were limited significant differences in biometric changes between the workbook group and the coaching group, the coaching group experienced a significant decrease in abdominal circumference. This finding is of note, because waist circumference has been shown to be a more important factor than BMI in predicting obesity-related health risks and comorbidities and an association between higher waist circumference and a higher prevalence of hypertension has been seen in minority women [40-42]. These findings should be interpreted with caution due to the pilot nature of this study. Future research should explore this with a large sample to provide more evidence to substantiate these findings. Despite the small sample size, this finding could suggest that lay health coaching may offer additional benefits above and beyond the resources provided in the workbook alone. Participants in the lay coaching group may have felt more motivated to engage in exercise and positive health behaviours due to accountability to the coach. The coaches may have shared personal tips or helped develop confidence within the context of their community. Overall, these results provide additional support for the use of peer health coaches as a supplement to in health behaviour interventions. The current study also provides additional empirical research on the use of peer health coaching with low-income African-American women, who have rarely been the main population of interest.

The results of this study also provide support for implementing community-based group interventions for underserved communities. Participants in both groups stressed the importance of the social aspect of the group setting for increasing connection to their community, as well as an effective way to communicate health information and receive encouragement for behaviour changes. Joseph, et al conducted a study with similar results. Participants reported having a sense of discouragement related to losing weight. They attributed their success to the encouragement and emotional support from their community that pushed them to achieve their weight loss goals [43]. Additionally, participants reported the importance of having a structured program to provide support in increasing their knowledge and support for behaviour change following the screening, which has been shown to be important in reducing health disparities and providing access to health in low-income communities [44].

Additionally, the increase in knowledge and associated feedback provide an important reminder that knowledge is essential for behaviour change and may challenge health professional assumptions of the basic knowledge needs of African-American women. The positive change seen in both groups points to the importance of social connection, guidance and support for behaviour change. Even over the course of ten weeks, there were some small but significant changes in participants' biometric and confidence measures, indicating that an intervention conducted over a shorter duration of time could show measures of effectiveness and also be more convenient for participants.

Limitations

The findings should be considered in the context of the study's limitations. Additional studies are needed as this was a pilot-study. Future studies should increase the sample size in order to provide additional power in the statistical analysis and interpretation of results. Second, we relied on self-reported data for behaviour changes, which could have been influenced by social desirability. Additionally, there were challenges to biometric data collection in that, due to the timing of the blood draws, questions arose as to adherence to the full 8-hour fasting period given some of the erratic differences in pre and post biometric data. The blood draw was scheduled for later in the day based on recommendations from the CRRT. Women in this community did not attend early morning events and verbalized fear around blood draws making them more likely to miss the appointment. Finally, The CRRT were new to coaching, which can be a challenging process to navigate, particularly asking targeted questions that promote personal insight and change. Additional training and experience would enhance the impact of the lay coaching.

Future applications

Suggestions for future research include utilizing a combined approach of both the self-guided workbook and lay/peer coaching in addition to group sessions, as well as including a maintenance period following the program. Moreover, given that there were no significant knowledge increases in relapse prevention, providing additional sessions in these areas may provide more sustainable behaviour change. The blood draws presented a challenge with questions related to adherence to fasting, which may have confounded potential results. Facilitating the blood draw was an important consideration in the completion and success of this pilot study and may be an important factor to consider when working in this population. Future studies may explore other potential times for fasting blood work, such as later morning, that may reduce appointment no shows while decreasing the challenges with fasting. Additionally, as mobile apps are increasingly being utilized with various successes for behaviour change, [41] this may be included to assist with reminders, motivation and data collection. Although, interventions that include apps should also provide methods for interpersonal contact for peer accountability and utilizing the community as part of the behaviour change process. This research reinforces the need for peer accountability and connection to community and peers for the success of a behaviour change program. Group contact through classes and coaching facilitated successful behaviour change in this program through a support structure in which women reported lacking in their community. This study could provide a model for future translational lifestyle interventions for African American women residing in low-income, medically underserved urban communities.

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