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Preventing cardiovascular disease: Participant perspectives of the FAITH! Program

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Abstract

Striking cardiovascular health disparities exist among African-Americans in Minnesota compared to Whites; however, community-based interventions to address cardiovascular disease risk are lacking. This study explored participant perceptions of a culturally tailored, cardiovascular disease prevention program developed using a community-based participatory research process. Research participation perceptions, program benefits, and program satisfaction/acceptability were analyzed using a mixed-methods approach. Overall, acceptability was high. Findings highlight the favorable inclusion of African-Americans (research perception), knowledge gained about healthy lifestyle practices (benefits), and quality of the curriculum/speakers (satisfaction). Community-based participatory research may be useful in fostering the acceptability of behavior change interventions among marginalized African-American communities.

Keywords

African-Americans; cardiovascular disease; community-based participatory research; faith-based intervention; health disparities

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Trial Registration

ClinicalTrials.gov identifier, NCT02235896

Introduction

Minnesota (MN) has striking cardiovascular health disparities, with African-Americans having higher rates of cardiovascular disease (CVD) risk factors than their White counterparts including physical inactivity, poor diet, diabetes, and obesity (Centers for Disease Control and Prevention, 2015). There is a crucial need for primary preventive efforts to alleviate this burden of cardiometabolic factors which places African-Americans at higher risk for CVD. A number of community-based interventions targeting multiple health behaviors have proven effective in achieving healthy lifestyle change among African-Americans (Baruth and Wilcox, 2013; Resnicow et al., 2002). However, there is little to no integration of these programs within African-American communities in MN with prior studies solely focusing on one sector of the Black community, namely, African immigrants/refugees (Wieland et al., 2012, 2015). To date, there have been no evidence-based health interventions delivered through a community-based participatory research (CBPR) approach within the southeastern MN African-American community, particularly by Mayo Clinic.

The African-American community served by Mayo Clinic in Rochester, MN, is small (6.3% Blacks including African descendants and African immigrants/refugees) but is higher than the MN state average representation (5.2%) (United States Census Bureau, 2010). The African-American population in MN is rapidly increasing; from 1990 to 2010, it grew by 189 percent (Center for Health Statistics, 2009). In recognition of these changing demographics, Mayo Clinic has expanded its efforts in outreach to local racial/ethnic minorities, especially African-Americans. Due to the lack of established partnerships between this community and the institution, strategies must be implemented to better understand community perspectives on the most effective manner to achieve improved community health and eliminate health disparities. A CBPR approach provides an ideal means to facilitate capacity-building for a sustainable partnership between an underrepresented community and an academic medical institution as well as to address health disparities through research (Israel et al., 2005). This study builds upon outcome evaluation findings from a community-based CVD prevention program, Fostering African-American Improvement in Total Health (FAITH!), implemented through a CBPR process among underserved African-Americans residing in the southeastern region of MN (Brewer et al., 2016a). In this report, our main objectives are to: (1) describe our CBPR approach to establish a novel partnership with an underserved community by leveraging community expertise, input, and needs assessment; (2) share the perspectives of African-Americans within this community on participation in a cardiovascular health-focused intervention; and (3) provide insights to others aiming to conduct culturally relevant health interventions in similar demographic communities.

Methods

Partnership development

This study represents the first and only collaborative effort between the African-American community in Rochester, MN, and our medical institution on a lifestyle intervention focused on CVD prevention. There was a mutual interest by the study lead investigator (L.C.B.) and three pastors of predominantly African-American churches in Rochester, MN, to develop an

academic-community partnership to build upon a prior successful, community-based health program implemented within an urban, African-American faith community (Buta et al., 2011) with the ultimate goal of improving the cardiovascular health of their respective congregations. For context, the local African-American churches are comprised of small congregations ranging from 50 to 100 members. The conglomerate of the three partnering churches represented approximately 200 congregants of whom approximately 50–75 percent were adults aged ≥18 years. An initial in-person meeting was held with the church pastors to gauge their interest in further detail and to discuss whether the proposed intervention would benefit their congregation. The pastors indicated that the key drivers of their support of the program were their own personal concerns about the health of their congregations and the desire to actively involve their respective churches in health programming, as none had established health ministries. Both the study investigators and pastors were in consensus on the need to have frequent and open communication to maximize the engagement process of the collaboration.

Trust building through needs assessment

As there was no pre-existing working relationship with the interested churches, a CBPR approach was implemented for program development, study design, and implementation to best address the local African-American faith community needs and expectations using previously published methods (Buta et al., 2011). Led by L.C.B., a series of discussion groups was held at each church from December 2013 to June 2014 in tandem with church leadership and key auxiliary members as a needs assessment according to the PRECEDE–PROCEED model (Glanz et al., 2002). As the goal was to further develop rapport through informal interactions, these meetings were not audio-recorded; rather written notes were taken by the study team as per the congregations' preference. The series facilitated trust-building among each party by allowing for clear communication of goals and objectives related to addressing the congregations' health needs and barriers to achieving healthy lifestyle change and participation in health-related research. As the majority of the congregations had not actively participated in medical research and expressed some ambivalence to engagement in the research process, time was dedicated by the study investigators to fully disclose the research study primary aims, expected deliverables, and dissemination plans. There was a mutual desire to further explore the attitudes toward research among recruited study participants by survey. Both the study investigators and church leadership agreed on the importance of relaying the study results back to the community. Thus, the study team planned for a community-wide dissemination event at study completion and distribution of any study-related publications to the church congregations. Furthermore, several congregation leaders emphasized the need for involvement of a designated church representative in program planning and decision-making. Based on this direct feedback, the study investigators incorporated church liaisons, coined FAITH! Partners, to serve in this capacity. In order to foster full engagement and understanding of the study objectives by potential study participants, the group also suggested holding information sessions (i.e. kickoff events) at each church to render a complete description and requirements of the research project. The church pastors subsequently provided letters of intent indicating their understanding of the program objectives and research components and their commitment to full program participation.

FAITH! Partner involvement

FAITH! Partners (C.C., J.J., F.E., D.C.M.) were selected by each church pastor from their congregation to jointly work with the study investigators in culturally tailoring the program design and implementation to meet the needs of their respective congregations. FAITH! Partners played a key role as an interface between the congregation and the study team to foster credibility and accountability. They provided input on study design (i.e. recruitment goals and retention efforts), data collection (i.e. health assessment and survey time points and settings), and intervention implementation (i.e. appropriate number of education sessions, convenient timing, and locations). They also assisted in refinement of the education session topics, formatting and delivery methods. All FAITH! Partners were primary drivers of participant retention by distributing intervention promotional materials, sending reminders on intervention programming (by church announcements and email/telephone), and even arranging participant transportation to study-related events. Furthermore, the FAITH! Partners co-developed and refined all promotional, educational, and survey materials to ensure their cultural appropriateness. They enlightened the study investigators on the essential need to have African-Americans depicted in photographs and tailored messaging for the faith community on all participant correspondence.

Intervention

As reported in detail elsewhere, we jointly created a 16-week culturally tailored, community-based intervention focused on CVD prevention among African-Americans adapted from a prior health intervention (Brewer et al., 2016a; Buta et al., 2011) which was informed by the health belief model (Janz et al., 2002), social cognitive theory (Bandura, 1986), and the community mobilization model (Minkler and Wallerstein, 2002). Eight 90-minute education group-based sessions were held bi-weekly at the churches and other community venues that included interactive seminars by health professionals, videos on cardiovascular health topics, cooking demonstrations, and exercise classes. Mayo Clinic interdisciplinary experts were selected as seminar speakers as it was made clear in the needs assessment that qualified, well-trained health professionals and staff were preferred over trained laypersons. All education sessions were open not only to study participants but also to the entire church congregations as mutually agreed upon through the community engagement process. FAITH! Partners were actively involved in the promotion of the education sessions and facilitation of the session agendas within their respective churches. Each session was also opened and closed with a reflective prayer by the church pastors. The academic study team (predominantly the study principal investigators, L.C.B., S.N.H.) was present at all events to provide assistance as deemed necessary.

Study design and recruitment

The study consisted of a nonrandomized, single group, pilot evaluation with surveys completed by participants at post-intervention (week 16) and at 3-month post-intervention (week 28) during health assessments. The Mayo Clinic and University of MN Institutional Review Boards approved the study protocol. Data were collected from September 2014 to April 2015 and analyzed in 2016. Participants were recruited at kickoff events held at each of the participating churches in Rochester, MN, through the assistance of the church-

designated FAITH! Partners. Inclusion criteria required participants to be age ≥18 years and attend worship service at any of the participating churches. Following written informed consent, participants completed a baseline comprehensive health assessment including sociodemographic information, self-reported medical history, and health behaviors. Participants received a US$25 gift card at enrollment (September 2014), post-intervention (December 2014), and at 3-month post-intervention (April 2015) along with other incentives (program manual, cookbook, and fitness center membership).

Measures

Participants completed self-administered surveys at the health assessments which consisted of closed-ended questions (post-intervention survey) and open-ended questions (both post-intervention and 3-month post-intervention surveys). Survey questions were developed initially by the study investigators (L.C.B., S.N.H.) based on input from the community engagement process of the needs assessment. These questions were then presented to and reviewed by the FAITH! Partners who provided further suggestions for readability and understanding. The questions were grouped into three main categories: (1) research participation perceptions, (2) program benefits, and (3) program satisfaction/acceptability. For each survey, participants were also invited to provide any additional comments about the program. To minimize the potential for social desirability bias in the survey responses, participants were assigned a study ID number and all responses were de-identified by statistical analysts independent of the study team.

Analysis

Responses from closed-ended (quantitative) questions from the post-intervention survey were analyzed using descriptive statistics including means and percentages. Quantitative analyses were conducted with SAS version 9.3 (SAS Institute, Incorporated; Cary, North Carolina). Written responses from open-ended (qualitative) questions were extracted from both the post-intervention and 3-month follow-up surveys and compiled into one transcript. The responses were independently coded by two authors (L.C.B., E.J.M.) using methods of content analysis (Krippendorff, 2004), a systematic process of sorting and coding information based on the themes within each of the three categories of interest: research participation, program benefits, and program satisfaction/acceptability. Inter-rater agreement was 87 percent. Discrepancies were resolved by discussion with a third author (C.P.) until consensus was reached. Themes were consistent across the two surveys and are therefore presented as a conglomerate. Illustrative quotes for each theme were identified as part of the coding process.

Results

Participant characteristics

A total of 37 participants were enrolled into the study, most of whom had health insurance (69%) and were women (70%). Less than half (42%) had participated in a prior health-related research study. Full participant sociodemographics and self-reported medical history have been previously presented (Brewer et al., 2016a).

Research participation perceptions

Participants cited their interest in receiving information on nutrition (67%), general FAITH! Program education topics (61%), and the study investigators (56%) as the top three influences for attending the program (Table 1). A key theme that emerged was participants' emphasis on the importance of diversity in research studies, particularly the inclusion of African-Americans (Table 2). One participant commented, "I am just so happy that we are (Black people) included in such studies." Altruistic motives were also shared for their own research participation such as "to serve as an example for our community" and to "make a big difference in our community lives." Participants also found it important that the research provide knowledge "to improve our health."

Program benefits

Nearly all participants (97%) reported that the program met or exceeded their expectations (Table 1). The most commonly cited theme highlighting program benefit was a gain in knowledge toward healthy lifestyle practices through the education sessions (Table 2). Many also found enjoyment in the multi-component nature of the program including the informative educational content, medical expert interaction, and the live cooking demonstration. Illustrative comments are "The knowledge I received … will help me live a healthy lifestyle for my future" and "… the information will … remind me of the quest to maintain good health." The most helpful knowledge benefit was for heart healthy diet and nutrition for behavior change (limiting sodium, fat, and caloric intake). Other benefits were medical knowledge (high blood pressure, heart disease), health and wellness, physical activity, and spirituality in health. Participants also expressed a gain in self-efficacy for healthy behavior change: "… I can and will be proactive in my activities and eating habits."

Program satisfaction/acceptability

Participant satisfaction was high; 91 percent would recommend the education series to other church members or friends (Table 1). All participants found the group setting appropriate. The majority of participants (88%) rated the 16-week program length as "just right" to meet their education needs. This corroborates with the favorable participant attendance (62% of those enrolled at each session and 64% participant completion of the education series) (Brewer et al., 2016a). The education series also received high (>90% satisfied to very satisfied) ratings in terms of the variety, content, usefulness, and audiovisuals utilized. Satisfactory ratings were given on the health assessments (85%) and Mayo Clinic health-related brochures (88%). The central theme relayed was high satisfaction with the program speakers and education sessions, with many finding it "helpful" to have the ability to ask questions. Also, the curriculum topics were perceived as "on target for the African-American audience" (Table 2). There were a few recommended education topics for future programming including "stress/depression in the African-American/spiritual community," "generations," or family history of disease and "breast cancer." Suggested program format adjustments included accessibility of the speaker presentations within the FAITH! manual as well as a maximum education session length of 75 minutes. Also, there was an indication to shorten and consolidate the surveys as they were deemed as "too long" by some participants.

Additional comments

Of participants providing additional comments, several remarks coalesced into a theme of gratitude for the program within the local African-American community (Table 2). For example, one participant expressed this sentiment as: “Thank you so much for this program —I know you have changed and probably saved some lives. You have certainly changed mine.” Another joint theme that emerged was an appreciation of the bringing together of faith communities and honor to God for the “healing love that flows through this program.” Several comments also indicated participant motivation to implement behavioral changes and to engage in “more community health programs.”

Discussion

This study is unique and innovative as it is the first community-based lifestyle intervention for African-Americans, not only by our medical institution but within the entire county (Olmsted County, MN), in which there is significant growth of the African-American community. Through the use of a CBPR-based engagement process, a community-based CVD prevention program, FAITH!, was successful in forging an academic-community partnership with African-American churchgoers in a small metropolitan community. We recognize that partnering with the African-American faith community is a well-established strategy that health disparities researchers have successfully adopted to implement health promotion interventions (Campbell et al., 2007; Wilcox et al., 2010) with many adapting previously developed interventions (Dodani and Fields, 2010; Tussing-Humphreys et al., 2013). However, the distinguishing feature of our program relates to its “built from scratch” nature in congregations without an established infrastructure of a health ministry or denominational health promotion directorship (Wilcox et al., 2010). Another distinct element of our intervention compared to other church-based health programs is its integral use of health professionals and experts rather than commonly utilized trained church lay health advisors (Campbell et al., 2007) to deliver education and intervention activities. Although the “train the trainer” model (Campbell et al., 2007; Dodani et al., 2014) has been demonstrated as a powerful means to strengthen within-church resources, our use of external “experts as partners” built credibility, trust, and capacity between the academic team and congregations. Furthermore, our integration of a mixed-methods approach to assess participant perceptions of the program demonstrated their receptiveness to research participation, perceived personal and community health benefits of the program and high satisfaction with the program format and content. These findings have important implications for future research collaborations with this community and other underrepresented populations toward the development of further community-based health promotion programs to positively influence cardiovascular health behaviors.

As a complement to our integration of health experts, our purposeful inclusiveness of church leadership and FAITH! Partners in the program planning and implementation phases fostered and exemplified key CBPR principles of effective trust-building, co-learning, and collective decision-making to fulfill a mutual mission of addressing a community-identified health issue (Israel et al., 2005). Program acceptability was high and participants had overall positive perspectives about the FAITH! Program which supports the advantage and

acceptability of the CBPR approach to intervention design and implementation. A key theme from study participants was the study team's intentional inclusion of African-Americans in the study which also was a reflection of their own desire to contribute to the community by participating themselves. Importance was also placed on confidence in and connection with the research team which was at the core of the program's CBPR engagement process. The study investigators maintained regular communication and an ongoing presence throughout the entire program activities to demonstrate our commitment and accessibility to the community. This is consistent with other successful pilot community-based behavioral interventions which emphasize the importance of maintaining reciprocal communication between the academic and community partners (Strong et al., 2009). The specific education topics to promote nutrition and health were also reported as major factors toward participation. These facilitators to research participation including intrinsic (altruism, gain in health-related knowledge) and extrinsic (familiarity with researchers) factors have been identified previously among African-Americans (Hughes et al., 2015). Our promise and fulfillment of holding a community results dissemination forum (August 2015) further enhanced our accountability as research partners with this community.

As the academic-community partnership blossomed, there was a mutual desire from the study team and community partners to co-present our research findings at both academic and community forums (Brewer and Johnson, 2016, Brewer, 2016b). There was also a joint goal to pursue widespread dissemination efforts beyond scientific publication through media outlets for general audiences as this is a "touchstone" of true CBPR (Chen et al., 2010). Over the course of the program, our partnership has been featured in newspapers (Boese, 2016), magazines (Mettner, 2015), online blogs (Neutzling, 2015), and online videos (Medscape Cardiology, 2014). FAITH! participants also volunteered to provide video testimonials of their FAITH! Program experiences as a means to promote research participation, heath equity, and cardiovascular health (to view videos see: https://www.youtube.com/playlist?list=PLk_L2SICt7_Zb6DMzl8xHiAgU6hEUODNe) (Mayo Clinic Center for Translational Sciences Activities, 2015).

The program was rated remarkably beneficial given its focus on providing knowledge on healthy behavioral change. We prioritized cardiovascular health topics which are of particular concern to the African-American community given their high risk for CVD. High participant appraisal of the program content is complementary to our previous results demonstrating a statistically significant increase in cardiovascular health knowledge in this sample (Brewer et al., 2016a). The education content was well received by the participants as it was not only personally relevant and motivational but delivered by trained experts, which sets our intervention apart from other church-based interventions. The participants expressed a sense of being valued by having in-person access to health professionals outside of the formal environment of a clinic or hospital, and within the community-their church homes. This is likely a reflection of this group's marginalization and lack of receipt of prior community health programming either with or without health professional involvement. The expert-led sessions were deemed understandable by participants while still providing evidence-based information for participants to apply within everyday life. Without this key inclusion which was directly requested by church leadership as a part of our community

engagement process, the depth of understanding and receptivity of the participants may have been thwarted.

Ethnic minorities have indicated the value of appropriate integration of applicability and context to enhance satisfaction and acceptance of health education delivery (Barrera et al., 2013; Feathers et al., 2007). The culturally tailored nature of the intervention components to the African-American faith community (i.e. FAITH! manual and cookbook) received high satisfaction ratings, consistent with prior studies (Joseph et al., 2015). Our intentional involvement of the church FAITH! Partners in customizing the intervention components, particularly the ancillary study materials, was undoubtedly contributory to the high approval by the study participants. These efforts altogether illustrated the CBPR principles of addressing locally relevant health problems, recognizing the community as a unit of identity and building upon the strengths and resources within the community (Israel et al., 2005). Other health intervention programs rooted in CBPR have also gleaned positive appraisal and perceived benefits from participants (Woods et al., 2013). We also integrated processes to expand existing social and organization networks (i.e. African-American churches) to deliver the intervention which the participants found enjoyable and valuable toward faith community unity (Schulz et al., 2011). To increase program reach, future studies might consider delivery of the intervention through the Internet, mobile technology, or social media as 71 percent of the study participants indicated they would be interested in such a program.

The primary limitation of the study is its small sample size, thus our results may be largely relevant to a marginalized population in the upper Midwest. In addition, other qualitative methods such as focus groups with the study participants, rather than discussion meetings solely with church leadership and auxiliary members, may have provided more in-depth responses. However, the exclusive discussion groups with representatives of the congregations provided sound input for iterative program refinement. Also, the quantitative survey tools were not validated, which limits our ability to draw causal inferences. However, the survey questions were developed specifically to evaluate our intervention and were reviewed and approved by our community partners as a part of the CBPR process. Qualitative data are subjected to bias, but data analysis was done independently by two coders (inter-rater agreement was high) to ensure accurate interpretation of qualitative responses. Moreover, qualitative perceptions from the participants about the intervention converged with the quantitative program evaluation findings despite the limited sample size. As a non-random convenience sample of congregants from a prioritized group of local African-American faith communities, the results may not be generalizable to all African-Americans. Nonetheless, these preliminary results provide valuable insights to this understudied group (whose perspectives have not been previously heard) and are worthy of dissemination to build and sustain a relationship with this community.

This study adds to the current literature about establishing relationships with marginalized ethnic minority communities through community engagement and behavioral interventions. The strengths of applying the CBPR framework to health interventions are its inherent abilities to forge an academic-community partnership and to tailor an informative and community-accepted program to increase the likelihood of healthy behavior change among

the priority population (Wright and Suro, 2014; Yeary et al., 2015). The FAITH! Program's mission to develop a novel but productive relationship with a community not traditionally served by the academic medical institution's research entity instilled trust and mutual understanding among the community partners as they were involved in all planning phases. Our joint creation of a program "from the ground up," appropriate for this African-American faith community, rather than applying a previously implemented program is truly the foremost strength of the FAITH! Program. Throughout the program, it was a priority to promote the joint ownership of the program and that the ultimate goal of the intervention was to influence long-term behavioral change that will eliminate, or at least mitigate, the biopsychosocial risks associated with CVD (Glanz et al., 2015). This translated well to the study participants as evidenced by their noteworthy expressions of increased self-efficacy for healthy lifestyle change and desire to engage in more community health programming. This is critical, as health knowledge and awareness alone often does not consistently lead to healthy behavior change; however, confidence in one's ability to translate that knowledge into sustainable action is essential to deriving improved health outcomes (Bandura, 1986; Rollnick et al., 2008). This is at the heart of meaningfully impacting cardiovascular health disparities. Table 3 provides further recommendations and implications for strategic design and implementation of health behavior interventions in marginalized African-American communities in the context of our study findings.

In conclusion, our findings provide support for the acceptability and high satisfaction of the FAITH! Program among an underserved group of African-Americans. Understanding the perceptions and evaluation of academic-community partnerships is important for the development of future culturally appropriate, community health interventions within marginalized African-American communities, particularly those in MN. Results from this pilot study will inform a larger, randomized trial of the community-based, behavioral intervention for CVD prevention among this high-risk group.

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Table 1

Quantitative responses for FAITH! Program evaluation by survey category (N=36).[a]

	N **=36**
Research participation perceptions	
What influenced your decision to attend the FAITH! Program?	
Interest in nutrition	24/36 (66.7%)
Program subject matter	22/36 (61.1%)
FAITH! research team	20/36 (55.6%)
Since attending the FAITH! Program did you:	
Share program materials with friends and family	22/36 (61.1%)
Share program materials with healthcare provider	6/36 (16.7%)
Contact other program participants about my progress	6/36 (16.7%)
Have informal discussions with others about the program material	14/36 (38.9%)
Program benefits	
Education program met or exceeded expectations	30/31 (96.8%)
Program satisfaction/acceptability	
Would recommend this course to other church members or friends	32/35 (91.4%)
Group setting was appropriate for the education sessions	35/35 (100%)
Did the program education sessions meet the course objectives as outlined?	
Completely	29/32 (90.6%)
Partially	3/32 (9.4%)
How satisfied were you with: (% very satisfied/satisfied)	
Registration process	32/34 (94.1%)
Health assessments	28/33 (84.8%)
Variety of session topics offered	32/33 (97.0%)
Usefulness of the information presented	30/32 (93.8%)
Total course content	31/32 (96.9%)
Audiovisuals used	31/33 (93.9%)
Course manual	30/32 (93.8%)
FAITH! Cookbook	29/31 (93.5%)
Mayo Clinic brochures	29/33 (87.9%)
Helpfulness of the research team	31/32 (96.9%)
How would you rate the length of the entire course?	
Too long	1/34 (2.9%)
About right	30/34 (88.2%)
Too short	3/34 (8.8%)
How would you rate the scheduling of sessions?	
Too close together	1/33 (3.0%)
About right	32/33 (97.0%)
Satisfied with timing of education sessions for your church	32/33 (97.0%)
Interested in a health education program delivered through the Internet or other web-based application	25/35 (71.4%)

[a]Data are expressed as No. (%) unless otherwise indicated.

Table 2

Summary of emerging themes and illustrative quotes from FAITH! Program evaluation by survey category (*N* =36).

Category	Emerging themes		Illustrative quotes	
Research participation perceptions	**1**	Importance of inclusion of African-American/ Black individuals in research	**1**	"I am just so happy that we are (Black people) included in such studies."
	2	Altruism toward African-American community	**2**	"We have to serve as an example for our community. We can make a big difference in our community lives. We also would show our community how important it is to participate in order to find out how we can improve our health."
	3	Knowledge was gained	**3**	"I have found everything very enlightening in learning about my health and how to have a better lifestyle."
	4	Program was beneficial	**4**	"This program was a great investment of time for participants."
Program benefits	Expectations met			
	1	Knowledge gained regarding living a healthy lifestyle	**1**	"The knowledge I received … will help me live a healthy lifestyle for my future."
	2	Enjoyment of specific program components	**2**	"Information, medical experts, cooking demo."
	3	Satisfaction with presenters/research team	**3**	"Everyone went out of their way to help me questions, information."<br1>"Great info, great presenter[s], great time."
	4	Informative/educational	**4**	"Informative, beneficial, transformative."
	Most useful thing learned			
	1	Information regarding nutritional behavior change	**1**	"How to distinguish sodium intake, fat, and calories in foods and having option for something else." "How to eat and prepare food … and learn that we need lots of vegetables and fruits in our body."
	2	Specific medical knowledge gained	**2**	"That I am at risk for heart disease."<br1>"How to … watch out for my high blood pressure …"
	3	General health and wellness information	**3**	"All of the information presented … will remain with me and … remind me of the quest to maintain good health."
	4	Information regarding physical activity behavior change	**4**	"I need to be more physically active. I don't eat poorly—I'm just inactive."
	5	Spiritual impact of program; relationship between spirituality and health	**5**	"Faith is important to health."
	6	Heart disease risk/ prevention	**6**	"Black and African-American people are at a very high risk of heart disease!"
	7	Self-efficacy to change behaviors	**7**	"… I can and will be proactive in my activities and eating habits." "Able to effectively apply useful health techniques to combat diseases."
Program satisfaction/ acceptability	**1**	Satisfaction with speakers	**1**	"The sessions/speakers were well [knowledgeable] about the topics they presented. They answered questions and were helpful."
	2	Satisfaction with program in general	**2**	"On target for the African-American audience" "I really got a great enjoyment and information from participation in this program. The information was presented in a way that I really could understand it!"
	3	Additional topics requested	**3**	"Stress/depression in the African-American/spiritual community."
Additional comments	**1**	Gratitude for program/ research team	**1**	"Thank you so much for this program—I know you have changed and probably saved some lives. You have certainly changed mine."<br1>"I have never worked with a more professional group."<br1>"I am very thankful for this program, the speakers and those with the vision, drive and compassion to see it through."

Category	Emerging themes		Illustrative quotes	
	2	Inspired to make behavioral changes as result of program	**2**	“I am more self-conscious on what I buy to eat; I walk more every day to keep the concept on what I learned to keep it moving!”<br1>“I will participate now in more community health programs as they become available.”
	3	Program as an asset to church congregation	**3**	“It created respect and compassion in the churches that was brought together.”
	4	Expression of honor to God	**4**	“Thank God for the healing love that flows in and through this program. I am challenged, peaceful and calm in all the teachings that was given … May God’s choice blessing always be yours.”<br1>“There is nothing else to say, give God the glory for all that He has done!”
	5	Knowledge gained regarding living a healthy lifestyle	**5**	“Although I previously considered myself well informed and relatively healthy, there was plenty of information to learn, practical lessons to implement and lifestyle changes to better my/our overall quality of life.”

Table 3

Recommendations and implications for strategic design and implementation of health behavior interventions among marginalized African-American communities.

Category	Recommendations and implications
Research participation perceptions	• Highlighting the value of diversity in research particularly of the inclusion African-Americans strengthens the academic-community partnership. • Health behavior interventions (especially cardiovascular disease prevention programs) must provide useful educational material on healthy lifestyle change.
Program benefits	• It is essential to provide practical tips on health and wellness to participants in order to increase receptivity and sense of self-efficacy toward behavior change (i.e. healthy eating and physical activity). • The health information presented should be placed in the context of health disparities among African-Americans (i.e. high risk of cardiovascular disease within this group). • The inclusion of motivated, engaged, and respectful health professionals and experts increases participant program satisfaction. • Allow for integration of spiritual themes by both the community partners and study participants, especially when collaborating with faith communities.
Program satisfaction/ acceptability	• Efforts to include trained health professionals and experts with expertise in specific health conditions show a commitment to meet the needs of underserved communities. • Culturally tailored materials with pictorial depictions of African-Americans and culturally relevant content are essential to participant understanding and satisfaction.
Overall	• Build rapport with community leaders (i.e. church pastors) to establish trust and mutual understanding of the needs of the community prior to engagement in the research process. • Integrate community liaisons (i.e. church liaisons) to assist with program design and implementation along with health professionals and experts to deliver health education. • Establish a clear plan for dissemination of research-related findings which is supported by both the academic and community partners. • Interventions are perceived as more acceptable and useful by the community when culturally tailored and supportive of practical healthy lifestyle change.