

Training Community Health Workers to be Advocates for Health Promotion: Efforts Taken by a Community-Based Organization to Reduce Health Disparities in Cardiovascular Disease

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Abstract Compared to white adults, blacks are less likely to be aware of their cardiovascular risk factors and are less likely to respond appropriately to signs and symptoms of a myocardial infarction or stroke. This fact highlights the need for better dissemination of health information about cardiovascular disease among communities of color. Community health workers (CHWs) are important resources for disseminating health information. Recognizing this important role of CHWs, the Greater Southern Brooklyn Health Coalition and its community and academic partners developed a workshop designed to educate CHWs about the risk factors, signs and symptoms of cardiovascular disease. The purpose of this workshop was to educate CHWs so that they themselves could be better informed and thus, be in a better position to educate their respective clients. The resulting workshop, *Taking Action Against Cardiovascular Disease in Our Communities: A Training for Service Providers*, was a half-day workshop attended by 70 CHWs from

various community service organizations. Approximately 97% of attendees said that the workshop met their expectations. More than half said they learned the signs and symptoms of cardiovascular disease and about 90% said that they received clear and concrete information that they could use with their clients. These evaluations also provided critiques regarding aspects of the workshop that could be improved upon and other information which will be used as a formative tool in developing future educational initiatives. In conclusion, this workshop demonstrated that it was feasible to develop effective community programs targeted at educating CHWs about cardiovascular disease.

Keywords Community health worker · Health education · Cardiovascular disease prevention

Introduction

Several reports have highlighted the fact that compared to whites, blacks have a higher burden of cardiovascular risk factors. A comparison of risk factors between blacks and whites in the Third National Health and Nutrition Examination Survey (NHANES) showed that black women were significantly more likely than white women to have diabetes, abdominal obesity, and to be physically inactive. Compared to white men, black men were almost twice as likely to be physically inactive and to

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have hypertension [1]. The Behavioral Risk Factor Surveillance System (BRFSS) also showed that the prevalence of physical inactivity and hypertension was higher among black adults than among white adults [2]. The Minnesota Heart Survey also found that compared to whites, blacks had lower energy expenditure and lower rates of leisure time physical activity [3]. The National Health Interview Survey (NHIS) showed that on average, blacks were more likely to eat diets with high-fat content compared to whites [4]. Other studies have shown that blacks consume fewer than the recommended five servings of fruits and vegetables per day compared to whites [4]. These and other reports suggest that blacks have more health behavior risk factors for cardiovascular disease than do whites. Therefore, it is conceivable that much of the health disparities in cardiovascular morbidity and mortality between blacks and whites could be modified through health behavior change. However, an important prerequisite to effective health behavior change is health education.

Health education is the process of assisting individuals, either separately or collectively, to make informed decisions about matters affecting their health. This entails participation in various instructional activities that are designed to raise awareness, increase knowledge, and provide a set of skills [5]. To this end, several interventions have been developed to promote health education. However, in spite of these efforts, there still remains a lack of understanding and general awareness of the health behaviors that increase the risk of cardiovascular disease [6]. For example, many adults have a general understanding that elevated cholesterol and blood pressure can lead to cardiovascular disease. However, there is a lack of understanding of specific facts such as the desirable level for cholesterol or optimal blood pressure [7]. This is disconcerting given that the lack of knowledge of one's target systolic blood pressure is a risk factor for having poorly controlled blood pressure [8]. For blacks, this is a particular health concern because studies have also documented racial disparities in the understanding and awareness of cardiovascular disease risk and prevention facts.

A national study among women found that among those with cardiovascular risk factors, less than half reported that they were at increased risk due to the presence of that factor. Compared to white women, fewer black women were aware that cardiovascular

disease was a leading cause of death [9]. Racial disparities in the recognition of early warning signs of a myocardial infarction and the awareness of the public availability of automatic external defibrillators have also been noted [10, 11]. This lack of knowledge may be another contributing element in the racial disparity in cardiac mortality and morbidity that exist between blacks and whites [12]. Therefore, in this population the need for health education on the signs and symptoms and prevention of cardiovascular disease is great. The challenge to public health advocates is to identify culturally tailored and innovative mechanisms of disseminating health information.

Health care providers are often considered as a natural source of health information given their interaction with patients, medical knowledge, and training. However, for communities that have limited access to health care, providers may not be the most practical source of health information [13]. Even in situations where there is sufficient access to care, barriers such as language discordance, patient mistrust of the provider, and time constraints may render health communication between the provider and patient ineffective. Therefore, in circumstances where the health education needs of the population are high but traditional means of education may not be adequate, alternative strategies must be sought.

Community Health Workers (CHWs) are recognized as an effective method for providing health services to hard-to-reach and underserved populations. CHWs are individuals that work with members of the community to address problems such as health and social services access and who assist with navigation through health and social systems [14, 15]. In this capacity, CHWs offer social support and are a vital source of advice on a variety of issues [16]. A review of the services that are provided by CHWs found that the bulk of the services that they provide include case finding, case management, and outreach [17]. This is important given that several of the risk factors for cardiovascular disease are linked to many social and economic conditions such as poverty, lack of education, and poor access to care, conditions for which clients often seek help. Studies have also documented the benefits of including CHWs in health promotion programs. One study showed that employing CHWs as health educators improved knowledge about HIV risk and reduced risky health behaviors in a population at high risk for HIV [18]. Another study

among children with asthma, demonstrated that the use of CHWs helped to reduce the number of days of symptoms and the use of emergency services for asthma [19]. CHWs are able to effectively communicate health information to their clients because they often have established long and trusting relationships with the clients that they serve, they are familiar with the social, political, and environmental factors that influence the health and well-being of their clients, and they often share a common language or dialect with their clients [20, 21]. However, in order for CHWs to be effective in their roles as health educators, they themselves must have a basic understanding of the health risks that impact their clients.

This paper describes steps taken by a community-based organization, the Greater Southern Brooklyn Health Coalition, to educate CHWs on addressing health disparities in cardiovascular disease. *Taking Action Against Cardiovascular Disease in Our Communities: A Training for Service Providers* was a workshop developed to give CHWs who functioned as frontline workers in community organizations, a greater understanding of the health disparities in cardiovascular disease that exist in the communities they serve. The goal of the program was to provide CHWs with a fund of knowledge and skills set that would enable them to disseminate health information and promote awareness among the clients that they serve.

Located in Brooklyn, New York, the Greater Southern Brooklyn Health Coalition (GSBHC) was formed in 1997 with the purpose of identifying the organizations that best represent the major ethnic and religious groups in Brooklyn, as well as the major healthcare organizations serving them. The group was brought together to create an agenda for action and cooperation to address systematic healthcare concerns. Today, 99 agencies are members of GSBHC, including community-based organizations, hospitals, health insurance companies, home care agencies, nursing facilities, mental health agencies, and educational institutions. GSBHC represents the ethnic, religious, and geographic diversity of Brooklyn. Several of these communities are largely immigrant and minority populations and have the highest burden of cardiovascular disease risk factors. Community profiles from the New York City Department of Mental Health and Hygiene show that 50–80% of the people living in some of these communities are

African American. A higher percentage of them live below the poverty level and the median family income is around 30% less than for families living elsewhere in New York City. These communities also have a higher prevalence of cardiovascular disease risks and experience greater morbidity and mortality compared to the rest of New York City [22].

In order to address the pressing health care issues that affect the lives of Brooklyn residents, GSBHC convenes conferences, develops policy recommendations; trains health staff with cultural and language-specific curricula; provides educational opportunities for residents; provides technical assistance and networking opportunities to local community agencies.

One focus area of the Greater Southern Brooklyn Health Coalition is eliminating disparities in cardiovascular disease through community outreach and education. A key strategy for addressing the risk factors for heart disease and stroke is to educate the public about the importance of prevention and to promote public awareness of the signs and symptoms of a myocardial infarction and stroke, and the need to call 9-1-1. As mentioned, CHWs provide a critical link to the hardest-to-reach populations, the same populations that are at the greatest risk for cardiovascular disease. Thus, with joint funding from the Healthy Heart program of the New York State Department of Health and the Centers for Disease Control and Prevention of the U.S. Department of Health, GSBHC organizes trainings to provide skills based education on the prevention, detection, and management of cardiovascular diseases.

The objective of *Taking Action Against Cardiovascular Disease in Our Communities: A Training for Service Providers* was to educate CHWs and frontline service providers (including case managers, social workers, and home visiting aids) about the risk factors and signs & symptoms for heart disease and stroke. While these CHWs offer different types of services to their clients, they are all in the position to discuss cardiovascular disease with their clients.

Methods

Program Development

GSBHC partnered with several local Brooklyn hospitals and medical centers, educational institutions,

public health providers, physicians, nurses, and community-based organizations in order to identify experts in the field of cardiovascular disease. Specifically, GSBHC partnered with the Arthur Ashe Institute for Urban Health, Brooklyn Center for Health Disparities, Brooklyn College's Department of Health and Nutrition Sciences, Columbia University Medical Center, Weill Medical College of Cornell University, the New York City Department of Health and Mental Hygiene, and the State University of New York Health Science Center at Brooklyn to develop the workshop.

The content to be included in the workshop was selected by reviewing topics in cardiovascular disease that were most relevant to this target population. The decision was made to focus on heart disease and stroke given the impact that these conditions have on mortality in the black community, especially in Brooklyn. A list of specific topics on heart disease and stroke was developed. Based on this list, speakers who were active in community organizations, who were known in the community to have participated in similar workshops, and who had expertise in community health or cardiovascular disease were invited. Through consensus between the partnering organizations, the content of the forum, the final list of presenters, and location of the event was decided upon. Community-based organizations were then contacted and invited to send their CHWs to participate in this event. Community-based organizations were contacted via mailings, electronic mail, and by telephone calls.

Program Evaluation

The workshop was evaluated using an anonymous evaluation form which included both a quantitative and qualitative component. The quantitative component included 11 items that inquired about the effectiveness of the workshop in providing information about cardiovascular signs and symptoms, the effectiveness of the presenters, and the usefulness of the information provided. The response format was from strongly agree to strongly disagree. The quantitative items were analyzed using univariate analyses to describe the frequency of endorsement of each item. The qualitative component included four open-ended items that asked respondents to describe the parts of the workshops that

were most useful, those that were least useful, and to describe how they would improve upon the workshop. In addition, they were asked to list topics that they would like to hear about in future workshops. The qualitative items were analyzed by conducting a line-by-line analysis of all of the responses and then grouping similar responses together. Similar responses were then grouped to form key concepts which were then grouped to form larger categories [23].

Results

Description of Workshop

These collaborative efforts resulted in a 4 h workshop that was attended by 70 CHWs. Participants included community health workers, directors of community service programs, health educators, outreach workers, social workers, and home health attendants.

The specific content of the program is described in Table 1. The main topics discussed were cardiovascular health disparities, stroke, heart disease, and community-based strategies to reducing cardiovascular disease health disparities in Brooklyn. The program began with a general overview of the health disparities in cardiovascular disease in communities in Brooklyn. This presentation detailed specific neighborhoods and zip codes in Brooklyn that have disproportionately higher levels of heart disease and stroke. This introduction was followed by lectures on stroke and heart disease, the most common forms of cardiovascular disease that affects the communities served by the CHWs. The content of the presentations on heart disease and stroke were similar. Both discussions were highlighted by case presentations and discussed the etiology, pathophysiology, clinical manifestation, and treatment. Pictures of popular black celebrities who have experienced a stroke and died were presented in the discussion of stroke and real clinical cases on cardiovascular disease were presented. The purpose of these cases was to highlight the fact that both heart disease and stroke are prevalent. Moreover, the use of African-American celebrity cases was helpful since many of these celebrities were easily identified by the participants. The importance of receiving treatment when experiencing the signs and symptoms of a stroke or a heart attack was a teaching point that was reiterated in both talks.

Table 1 Program content

Topics	Specific focus of presentations
Health disparities	Definition of health disparities
	Factors which contribute to health disparities (access, language, cultural competency, risk factors)
	Barriers to treatment
Stroke	Barriers to diagnosis
	Definition of stroke
	Etiology and risk factors
	Pathophysiology
	Clinical manifestation
Heart disease	Treatment
	Definition of heart disease
	Etiology
	Risk factors (clinical and psychosocial)
	Pathophysiology
	Clinical manifestation
	Atypical clinical manifestation
Treatment	
Strategies to reducing health disparities in cardiovascular disease	Forming academic partnerships
	Community empowerment
	Health policy

This component of the workshop was followed by discussions on community-based approaches to addressing health disparities in cardiovascular disease. Representatives from the Arthur Ashe Institute for Urban Health, a community-based organization, detailed their efforts to increase knowledge and awareness of cardiovascular disease through innovative health education programs in urban beauty salons and barber shops. Similar community outreach efforts and policy initiatives were presented by the local department of health; New York City's Department of Health's Cardiovascular Disease Prevention & Control Program as a best-practice model and discussed partnership opportunities for community-based organizations with local government health agencies.

Qualitative Evaluation

Of the 70 participants, 65% completed and returned the evaluation form. Overall, the responses regarding

the effectiveness of the workshop were positive. As shown in Table 2, 39% of participants stated that before the workshop they knew little about cardiovascular disease, specifically about heart attacks and stroke and 33% did not know about the signs and symptoms of cardiovascular disease. More than half of the attendees said they learned the signs and symptoms of cardiovascular disease as a result of the workshop, 80% said they learned information that could aid them to better serve their clients, about 90% said that the workshop provided them with clear and concrete information that they could use with their clients. Overall, 97% of attendees said that the workshop met their expectations.

With regard to the usefulness of the program, attendee evaluations indicate that the workshop was useful, 95% of the attendees felt that the training was useful. For example, participants reported that they learned the signs and symptoms of a heart attack and stroke, and that the workshop provided them with knowledge to better serve their clients. Over 90% of respondents felt that the presenters were well-prepared, the presentations were clear, the presenters were easy to follow and that the presenters responded to their questions.

Table 2 Responses to the quantitative evaluation, $N = 45$

Evaluation variables	%
Knew little about cardiovascular disease, heart attack, or stroke	39
Knew little about the signs and symptoms of a heart attack and stroke	33
Learned the signs and symptoms of heart attack and stroke from this forum	58
Felt that the training provided useful information	95
Felt that the training provided information that could be used to better serve their clients	80
Felt that this training provided concrete information that can be shared in their line of work	91
Felt that the training met their expectations	97
Felt that the information presented was clear and understandable	97
Felt that presenters were well prepared and knowledgeable	97
Felt that presentations were useful and easy to follow	94
Felt that presenters listened and responded to questions	92

Qualitative Evaluation

Additional information regarding participants' perceptions of the workshop was also obtained from the open-ended items on the evaluation (Table 3). When asked to describe the aspects of the workshop that were most useful, responses fell into two categories: actual content of the presentations and post-presentation discussions. Participants reported that they found the actual content of the presentations such as the focus on the anatomy and physiology of the heart and brain, treatment modalities, and how communities could be empowered most useful. Participants also described the open discussions which followed the presentations as useful.

The aspects that they found least useful fell into categories of logistical factors and components that were omitted from the program. Logistical critiques included factors such as the location was too far for

some of the participants which lead to many participants and presenters arriving late. Some participants felt that the program omitted information on specific population such as Asians.

When asked how future programs could be improved, participants' responses were focused on improvements in format and content. For example, participants felt that the workshop organizers should have included more breaks, provided participants with water, shortened some of the talks, placed the audience closer to the screen, and allow questions after each presentation rather than only at the end. Starting on time was another suggestion for improvement. Respondents also suggested providing more reading materials such as copies of the slide presentations. Participants felt that the content of the information could be broadened by including information for specific age groups and by providing more practical ways to improve diet and nutrition. When

Table 3 Responses to the qualitative evaluation, $N = 45$

Items	Categories	Concepts
What part of the workshop was most useful?	Actual presentation	Focus on anatomy and physiology of the brain Specific aspects of heart disease risk factors Discussion of treatment modalities The use of specific medications Discussions from the Department of Health Discussions on community empowerment Provision of statistical facts on CVD for Brooklyn
	Post-presentation	Having the presenters stay after for questions Having the presenters interact with participants
What part of the workshop was least useful?	Logistics	Location was inaccessible Presenters were late Did not start on time
	Omissions	No discussion on Asian populations Not enough print material
What would you improve about the forum?	Format	More breaks Start on time Provide water to participants Shorten length of some of the talks Place the audience closer to the screen Allow for questions during the presentations and not just at the end
	Content	Focus on a specific age group Provide specific strategies for diet and nutrition Invite community members to present Include power point presentations in packets

asked to suggest topics for future programs, access to health care in underserved communities, childhood obesity, immigrant health, and building joint collaborations were cited.

Discussion

Taking Action Against Cardiovascular Disease in Our Communities: A Training for Service Providers was a collaborative effort between community-based organizations, academic institutions, and local government agencies designed to teach CHWs about cardiovascular disease. These entities collaborated to develop the content, identify presenters, and to invite participants. This venue provided an opportunity for CHWs from various disciplines to come together and share their experiences. While the majority of participants responded favorably to the content of the workshop, its utility, and the presenters, several lessons were learned in developing and implementing this program that can be applied in future programs. First, although a comprehensive presentation on cardiovascular disease was presented, some participants felt that certain information was omitted such as a lack of focus on specific age groups, practical strategies for nutrition and diet, and discussions about Asian populations. The focus of the program was on black adults because they were the predominant population served by the CBOs that partnered with the GSBHC. Based on these comments, future workshops will broaden the scope and include CBOs that serve more diverse ethnic populations. Second, the location was also an important factor in participant satisfaction. Some participants felt that the location prevented more participants from attending and may have contributed to lateness in starting the program. Future programs will need to select a more central location that is more accessible. This could be facilitated by asking CBOs to suggest potential locations. A third lesson that was learned was the need for both pre- and post-evaluations. Of the participants who completed an evaluation, 58% of the respondents stated that they learned the signs and symptoms of stroke from this workshop. It is possible that the remaining respondents may have already known about these facts therefore, the workshop added little to their knowledge. Alternatively, it is possible that the workshop did not successfully

provide an increase in knowledge to all of the participants. This could be better evaluated using a pre- and post-forum format. Finally, more aggressive measures are needed to increase completion of the evaluation as well as the quality of information obtained by the evaluation. Of the 70 participants, 65% returned their evaluations. The reasons why the other 35% did not return their forms are unknown. The evaluation forms were also anonymous therefore; no identifying information was included on the forms. As a result, we were unable to provide descriptive demographic statistics of the actual participants or the clients they served. In this workshop, the evaluations were inserted in a packet and perhaps not all of the attendees were aware that they were there. Making formal announcements during the workshop reminding participants to complete and return their evaluations is necessary.

This workshop provides an example of community education and outreach undertaken by a community academic partnership. Evaluations of the workshop suggests that it is feasible to develop educational programs targeted toward CHWs. The strategy used in developing the workshop can be replicated for different health education needs. The program was designed to be interactive and informative. Inclusion of an open discussion at the end of the workshop allowed participants to share their experiences and describe the challenges they faced when addressing heart disease and stroke in their work. They also discussed their role as providers in preventing heart disease and stroke in their communities. As a result of this workshop, CHWs were engaged in meaningful discussion about cardiovascular disease and thus, may be better prepared to educate their clients. This may ultimately help to reduce disparities in knowledge and awareness of cardiovascular risk factors.

The evaluations from this workshop focused on both logistical aspects as well as specific content. The suggestions of the participants provide practical ways in which the workshops can be improved upon. These evaluations provide a basis for developing future workshops targeted toward increasing health awareness among CHWs. CHWs can play a vital role in eliminating health disparities because of their unique roles as health advocates and their ability to interact with communities that may not have sufficient access to health care. This workshop was a step toward

enhancing the capacity of the CHWs to be more effective in their role as community health educators. Working with CHWs is an important partnerships that is necessary to improve health education and ultimately contribute to reducing health disparities in cardiovascular disease.

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