Published in final edited form as:

Am J Health Educ. 2014 ; 45(2): 76–85. doi:10.1080/19325037.2013.875961.

Perspectives of Puerto Rican Adults about Heart Health and a Potential Community Program

Irina L.G. Todorova, Shirley Tejada, and Carmen Castaneda-Sceppa

Northeastern University, 360 Huntington Avenue, Boston, Massachusetts, 02115, US

Abstract

Background—Puerto Ricans are the second largest Hispanic group in the U.S. and older adults have significant health disparities. Educational programs that address heart disease risk for this population have rarely been developed and implemented.

Purpose—To address this gap, the Heart Healthy Initiative for Puerto Rican adults is being developed. To develop it as a participatory program, the community members were asked about their perspectives.

Methods—Five focus groups with 28 participants, aged 45–60, were conducted, transcribed and analyzed using Thematic Analysis. In-depth analysis of meanings of health promoting behaviors, in the context of cultural beliefs and values was carried out.

Results—The following themes were identified: Health as balance and integration; Health as connection of self, connection with others; Cultural meanings of lifestyle choices; Stresses and struggles. Participants suggested that the program should have significant variety and a holistic perspective, be sensitive to different needs and motivations, stimulate mutual understanding and shared cultural meanings.

Discussion—The program needs to support lifestyle changes which maximally preserve traditions and to introduce multi-level changes.

Translation to Health Education Practice—The identified cultural meanings of diet, physical activity and relationships were taken into account to develop the educational curriculum.

Background

Cardiovascular disease (CVD) continues to be the leading cause of death in the U.S. with 32% of all deaths being attributable to it ¹. Even though the rates of death from CVD has been declining from 1998 to 2008¹ and the control of risk factors for CVD has improved substantially since 1999², still there are marked racial, ethnic and socioeconomic differences in health care quality and preventive measures among disadvantaged populations³.

Corresponding author: Irina L.G. Todorova, Center on Population Health and Health Disparities, Northeastern University, Robinson Hall 209D, 360 Huntington Avenue, Boston, Massachusetts, 02115, US, i.todorova@neu.edu.

ⁱ“Your Heart, Your Life”

Hispanics are the largest minority group in the U.S., comprising 16.3% of the total US population⁴ but they have several health disparities and generally receive worse healthcare than non-Hispanic whites (NHW)³. For example, data from NHANES III indicated that Hispanics are at greater risk of metabolic syndrome compared to NHW⁵. Older Hispanic adults also tend to have higher prevalence of hypertension than NHW, and importantly, more uncontrolled hypertension⁶. The CVD risk factors of overweight and obesity also show high prevalence and have increased in the last decades for several Hispanic groups in the US, particularly for US born Hispanics⁷.

Puerto Ricans are the second largest Hispanic sub-group in the U.S. and recent Census data show that more Puerto Ricans currently live in the U.S. Mainland than on the island of Puerto Rico⁴. There is high prevalence of several age-related conditions, such as cognitive impairment and physical disability, and these conditions appear at relatively earlier ages^{8,9}. Particularly older Puerto Ricans live with clear disparities in relation to metabolic conditions and cardiovascular disease risk factors^{10–13} as well as poor physical function⁸, perceived stress anxiety, and depressive symptoms^{14,15}. Older Puerto Ricans also have high socioeconomic disparities, including levels of poverty¹⁴, social isolation, high unemployment rates¹⁶ and difficulties in accessing health care¹⁷. Language barriers for Puerto Ricans have been associated with difficulties in accessing health insurance¹⁸. In our study with older Puerto Rican adults, aged 45–75 years¹⁹, we confirm the multiple health disparities for this population. In this cohort, about 20% of Puerto Ricans aged 45–75 years report CVD, close to 40% have diabetes and 24% impaired fasting glucose, 63% have abdominal obesity, 60% report having hypertension, and about half report depressive symptoms^{13,14}. Prevalence of obesity is higher than it is for the US population as a whole of similar age¹³.

In summary, the prevalence of metabolic conditions and cardiovascular risk factors in Puerto Ricans and particularly in older Puerto Ricans is high compared to the overall U.S. population^{3,7}. These numbers highlight the importance of implementing educational interventions to prevent such conditions from occurring and to reduce the disparate prevalence of CVD risk factors in the Puerto Rican population.

Educational programs are most successful when they take into consideration cultural meanings of health, illness and health promoting behaviors^{20–22}. This is important for reducing health disparities, since the customary health interventions and messages might not be salient for groups with prevalent health disparities²⁰. Defining and implementing cultural adaptation has been important for program development for Hispanic groups in the US^{23,24} including those for cardiovascular health²⁵. In this process, the active participation of members from the relevant communities in the exploration, design, application and evaluation of program effectiveness is considered key to their successful implementation²².

Thus, several authors have used participatory formats and focus groups with community members in order to directly ask them about their recommendations. One study used an empowerment model and conducted focus groups of low income women of different ethnicities. The authors reported that Hispanics show a preference for heart disease prevention programs that would address multiple CVD risk factors, emphasize staying

healthy, teaches specific skills to adopt heart healthy behaviors, and offers choices that influence behavioral change ²⁶.

A program for promoting cardiovascular health among Latinos is the Cardiovascular Disease Prevention and Outreach Initiative, *Salud para su Corazón*¹. In preparing the program, the authors also conducted a series of focus groups in order to ensure that it is culturally appropriate and relevant, and to determine knowledge and attitudes about heart disease and associated risk factors, identify media usage and preferences ²⁷. Conclusions from the focus group analysis indicated that heart health promotion interventions need to focus on information that is specific and concrete, easy-to-assimilate, consistent with health care practices, and responsive to peoples' lives constraints and struggles, while emphasizing self-control, help from family and friends and social support ²⁷. *Salud para su Corazón* has since been evaluated in different settings and overall, the program was successful in decreasing BMI, abdominal obesity, and waist-to-hip ratio, and improving self-rated health and depressive symptoms. Another culturally sensitive diabetes management program was developed, also starting with focus groups, to understand Mexican American's perspectives on such a program ^{28,29}. We have previously developed center- and community-based lifestyle interventions in older adults ^{30,31}. We showed that a peer-led model for disseminating an evidence-based group strength training and exercise program for older adults in the community was sustainable in the long term ³⁰.

According to the framework of cultural adaptation discussed by Resnicow et al. (1999) cultural sensitivity includes "surface structure" dimensions, as well as "deep structure" dimensions ³². Examples of surface structure, commonly addressed, include translating and presenting the programs in the language(s) relevant to the target ethnic community, having facilitators who speak that language and are members of the target community, and including culturally relevant elements such as ethnic foods and ethnic music. In addition, dimensions which deeply embed a program with the cultural meanings and community needs, could significantly impact the content and structure of the programs among ethnically diverse communities in order to further enhance its relevance and effectiveness. These would take into consideration cultural meanings, historical context, psychological attitudes, and impact of health behaviors for a particular community ³². To gain understanding of these cultural adaptations, qualitative research such as community based participatory research and focus groups are often used because they support a collaborative program development and understanding of cultural meanings and preferences ^{26,27,29,33}.

Purpose

Health promotion educational programs that are adapted specifically to the Puerto Rican culture, and particularly for older Puerto Rican cardiovascular health promotion, are rare. One study we were able to identify used focus groups to understand Puerto Rican women's meanings and behaviors related to heart health and disease ³³. To fill this gap and address the cardiovascular health risk for Puerto Rican adults, our overall purpose is to develop the Heart Healthy Initiative for Puerto Rican Adults (HIP) using a participatory community framework ³⁴. Thus, the HIP program is based on a multi-level framework of participatory research that integrates community engagement, social support, self and collective self-

efficacy and empowerment and capability building to facilitate heart health behaviors in Puerto Rican older adults. This theoretical framework is informed by Social Cognitive Theory (SCT), which integrates psychological and social concepts. According to SCT, people's adaptation of a new behavior (e.g. nutrition, physical activity) will be influenced by cognitive, behavioral and social factors, including community engagement and social support³⁵. The theory is based on the concepts of self- and collective-efficacy and empowerment and capability building³⁶, which we embed in the HIP program to enhance health protective behaviors to promote heart. The purpose of this paper is to present the participatory community-based study, which includes conversations with community members to inform the development of the culturally sensitive heart health program.

Methods

To develop the HIP program as a culturally appropriate participatory program, we initially conducted focus groups with representatives of the Puerto Rican community from the Northeastern region of the US. Focus groups were chosen since this method stimulates discussion among participants and thus expands our understanding of shared cultural meanings. Focus groups evoke discussions about community contexts and relationships. We used focus groups with the objective to increase our understanding of the needs of the Puerto Rican older adult community; and to learn what the potential participants in this program see as important for health and health promotion, what are the preferred characteristics and components of such a program, and what are the cultural meanings which may inform health promoting behaviors in this target community.

Participants

The study was approved by the Institutional Review Board (IRB) at Northeastern University in April 2010. Participants for the focus groups were recruited through a well-known and trusted community-based organization for Puerto Ricans living in an urban area in Northeastern US with which we have created collaborative partnerships in several projects³⁷. Recruitment was conducted by an Outreach Specialist from this community partner. The Outreach Specialist focused on housing authority buildings, churches, community organizations that served our participants, as well as the patrons of our community partners. We aimed to include in the focus groups participants of both genders, aged 45–75, who were of Puerto Rican ethnicity. Each focus group included men and women across socioeconomic status, in order to maintain diversity of the group. In March 2011 we conducted five focus groups with a total of 28 participants (20 women and 8 men). The relatively small number of men in the focus groups may be a limitation, however this gender ratio reflects that in our cohort study¹⁹ and generally in intervention group participation. Detailed demographical data are available for 20 participants, who were of ages between 45–60 years (mean 51.8 years), 13 were divorced or separated, and 12 were disabled and not working. Participants were given a \$25 gift certificate for their time commitment in the focus groups

Conducting the focus groups

The focus groups were led by a trained bilingual (English/Spanish) moderator member of the research group and author of the paper (S.T), who was skilled in facilitating the discussion and encouraging participation of the entire focus group. Additional training was conducted by the lead author of this paper who has extensive experience in qualitative research (I.T). We developed a focus group guide that was IRB approved and followed by the facilitator in a flexible manner. It included questions regarding participants' experiences with heart disease and opinions about importance of CVD prevention activities; current practices regarding nutrition, physical activity, stress management, social support networks and cultural activities; preferred resources for information on CVD prevention and management, community organizations and neighborhood resources for heart health promotion that participants are aware of and attend; preferred characteristics of a community based program that would be culturally-appropriate, including preferred location, time of day, length, and components of such a program; opinions about barriers and motivators for attending and sustaining such a community based health promotion program; suggestions for increasing sustainability of such programs.

Analysis

We recorded, transcribed verbatim, and translated the focus group discussions into English. A bilingual (English and Spanish) individual who was not an investigator or author of this paper performed the transcription and translation of the focus groups. Of the authors, one is English speaking; the others are bilingual in English and Spanish. We conducted the analysis jointly, using the English translation, the audio tapes, as well as discussion among the authors, to ensure maximal understanding of participants' meanings³⁸. We used an analytic approach based on thematic analysis³⁹, with a focus on lived experience and cultural meanings evoked in the discussions, with the support of Atlas.ti software. This included coding of transcripts close to the text and developing higher order themes and categories. In order to ensure validity of the qualitative analysis, we have been guided by the criteria for quality of qualitative research highlighted by Yardley (2000). We used dimensions of *Sensitivity to context* (theoretical, empirical, socio-cultural contextualization, eliciting and incorporating the opinions of participants); *Commitment and rigor* (prolonged exploration of the topic and collaborative interpretation, eliciting perspectives of different demographic groups, *Transparency and coherence* (provision of data excerpts and existing analysis trails in Atlas.ti); *Impact and importance* (in relation to the objectives of the analysis and the practical needs of the community, fit between research and practice)⁴⁰.

Results

Health as balance and integration

Focus group discussions brought forth multiple meanings of health in general and cardiovascular health in particular. Participants saw health as central to one's life and enjoyment of life. "The thing is if you don't have health, you cannot enjoy anything" (FG1, W2)ⁱⁱ. In particular, the heart was seen as being in the center of life, health and social

ⁱⁱFG = focus group number; W= woman; M = Man

relations, with everything that happens in one's life being dependent on and resonating with the heart: "You know, the heart, the heart is one of the most important organs, although all of them are important, but it's the heart, because without that, we are not going anywhere" (FG3, M2); "[The heart] affects your private life, your social life, your health ... but there are many things that we can do [to keep it healthy]" (FG3, M2).

Some of these meanings of health were behavioral, defining health as sustaining particular behaviors, such as being physically active, or having a healthy diet and other aspects of lifestyle. Movement, energy and activity were key elements in people's definitions of health "... to do exercise and to have good energy all the time, active, active." Healthy food and diet was also brought up frequently in people's definitions of health. Some people saw health in terms of balance in the combination of different behaviors, such as "having a balanced diet and daily exercise". This balance which is aimed for, is often a struggle, as one woman states: "So, I am balancing what I am eating, the things that I cannot eat, to the stuff that I like to eat, and it is true that is very difficult ..." (FG1, W2).

The idea of "balance" was extended to include balance between physical, mental and other dimensions of health. People stressed that poor health is connected to anxiety, depressed mood, and low self-esteem and talked about the body-mind connection, all of which has to be taken care of for optimal health. For example one participant used "nourishment" with a broad meaning, to symbolize sustaining also mental aspects of health, and achieving a balance between different parts of one's life:

If the person, mentally, if the person is not well nourished with her mind -
balancing her life and her personal life - if you don't have a balance, one of the two
is always going to go down. (FG1, W2).

Other participants talked of health as interconnectedness and integration of multiple aspects of one's physical, psychological and in some cases, spiritual being. This included interconnection of parts of the physical body: "If the brain functions, that same oxygen gets sent to the heart, it is very important" (FG2, W6). It also included interconnectedness between the "outside" of social interactions and physical appearance, and the "inside" of a well body, as well as "harmony" among many aspects of body, behaviors, and social connections.

How to control, how to eat, what to eat, do exercises, to have contact with other
people to have a variety of opinions, what did you eat today? what are we doing
today? where are we going today?-to have harmony with everything. (FG4, W5)

The implications of the above analysis are that the program would take into account multiple and complex meanings of health that participants bring to the meetings, and allow time to acknowledge them. It would include a variety of activities and components, in order to support the meaning of health as integration, to sustain interest and to offer choices for those participating, as well as ideas for balancing different ways of sustaining and improving health.

Health as connection of self, connection with others

Participants in the focus groups often invoked stories about friends and families in their discussions about health and heart healthy lifestyles. Some stated that social interactions were relevant to health and that they resonate with one's physical health and particularly the central organ of the heart. For example, one woman stated that what happens in the family affects one's heart: "I think in part the family dynamics affect a lot. There are times when you get involved with everything in the family and that can affect your heart." (FG1, W2). Supportive social interactions were seen as promoting health. The Puerto Rican lifestyle of gathering in the neighborhood, or the Plaza, where they "take in the sun" was seen as offering frequent, accessible, spontaneous social contacts. Participants commented that these kinds of interactions were now rarely available to them, the winter weather often given as a reason. The Puerto Rican lifestyle of living outdoors among neighbors for much of the year also promoted physical activity – this was described as a "natural" and spontaneous way of being physically active and was contrasted to the more closed lifestyle and more structured approach to physical activity in their current environment of the US mainland. One participant felt particularly strongly about the confinement in which he currently lives, compared to Puerto Rico:

The thing was that I arrived here, went inside my apartment and I felt like they just put me in prison. I am telling you like that, like I was in prison, I was going crazy, darn, I feel like a prisoner at home, I am going to get out of here." (FG3, M1).

One's family and particularly children and grandchildren were often cited as key reasons for maintaining one's health, changing health behaviors, including potentially participating in the HIP program. Some participants were taking care of family, children and/or grandchildren and felt it is important to be healthy in order to continue this care. Some were also taking care of people with disabilities, stating "people depend on me", so it was important for them to be healthy.

Aging and living as long as possible took on poignant meanings for some of our participants, since they saw their lives as key to sustaining the cultural heritage and identity of their family. Taking steps to improve one's health and live longer were important from the perspective of being there to transfer stories about Puerto Rico, the family's history on the island and their move to the mainland. One woman shared: One has to take care of oneself for the grandchildren. The generations are growing up and they don't know their grandparents. You see, you have to give the opportunity to a grandchild to get to know you, that they know about your heritage, where do you come from, because if we, all the grandparents die, they are never going to find out where they came from. (FG1, W2)

While the prevalent meaning of health and motivation for health was in the context of social relations, others resisted this meaning. Some tried to juggle the dichotomy of self-others, phrasing it in different ways. Others rejected the dichotomy, formulating an individualistic conception of health, stating for example "health is yourself":

I am going to sound selfish and I know that everybody's motivation here is about our children and about our grandchildren. But my motivation is about me, because I want to live one more day. If I don't take care of myself, nobody is going to take

care of me. And if I don't motivate myself to teach myself, to live well, to care for myself, for my health, nobody is going to grab my hand and say, "come", nor my grandsons, nor my granddaughters, nor my children. I am, I have to be my motivation. To know that I have to live for a better tomorrow. So, my motivation is going to be myself. You can't do it for nobody else but yourself. (FG3, M2)

The interactions among the members of the focus group, and in a future HIP group were also given importance. Emphasis was placed on the valuable, but rare sense of "understanding each other" in such a group. They reflected on how well they understand each other in the current conversation, and how rare that is since it has not happened in other groups they have attended. This was to a large extent about language, but it was particularly about the shared nuances of meaning and cultural knowledge, which went beyond the language. One participant, referring to other groups he has attended, stated: "They know the language but not [the meaning]; among ourselves, look how well we are understanding each other." (FG1, M1).

Thus, the program needs to build upon the value of social relationships within and outside the group – i.e. make time for group interactions and development of close relationships during the group meetings, as well as encourage sustaining connections outside the fixed time of these meetings.

Cultural meanings of lifestyle choices

During the focus group discussions, participants frequently contrasted their images of life in Puerto Rico with their current lifestyle in the US mainland. "I was not born in Puerto Rico, I was born in New York but I have lived in Puerto Rico for a long time and the cultures are very different, the one from here to the one there" (FG3,M2). As in the example given in the previous section, this contrast was often in the direction of naturalness and spontaneity of expression being associated with Puerto Rico, and more structure associate with the mainland. One dimension was the "naturalness" of Puerto Rican food, contrasted to the frozen and processed food on the mainland. Another dimension was the spontaneity of meetings, interactions, activities, movement they associated with life on the island, compared to the necessary planning, cold weather and inside exercises in the gym "where you go by yourself and feel lost in space", associate with the mainland. In discussions such as this, the conclusion was often that it is not only the external environment that affects health related behavior, but also what they presented as attitudes inherent to the Hispanic or Puerto Rican ethnicity such as: "Hispanics don't like to do exercises"; "We Hispanics eat a lot of salt"; "We, Puerto Ricans, eat large quantities"; "We grew up eating everything in Puerto Rico". Such generalizations give a basis for rationalizing behavior or its absence, but also show how changing one's behavior and lifestyle in an uncharacteristic direction, can also be seen as a shift away from one's culture and characteristics associated with one's ethnicity. This was particularly evident when the discussion was about food and Puerto Rican cuisine.

Food was an important element of people's lives, as it brought joy, social contacts, togetherness of family and friends. When talking about their favorite foods, participants were evidently excited and in a good mood, many of them stating "I like everything". One

woman felt that food was so important, that they would "...live to eat and not eat to live". The importance of food led to stacking up with large quantities, which could have to do with fear of food insecurity, or possibly past experiences with food insecurity:

"And the habits that we, Puerto Ricans have, and that's why we eat a lot, is to fill up the fridge from top to bottom and the more food we have, the more food we have, the more we are going to eat. That's why we are as we are. Because if we don't see our fridge full, where food is coming out, we are not comfortable". (FG2, W5)

"I get nervous when I see my fridge empty". (FG2, W6)

Food embodies highly important cultural traditions and was associated with Puerto Rican identity. Changing the Puerto Rican cuisine to make it healthier was seen as making it tasteless and unrecognizable from the perspective of one's traditions, for example, reducing salt made food "taste horrible". People talked about not being able to eat the changed food, and trying to "trick myself" into consuming it. They felt that the changes they had to make in their diets were "a sacrifice". They wanted to use their "own" seasoning, but the recommended diets did not allow that. One woman says:

And what things am I going to substitute, if I am not going to use salt, how am I going to use that garlic, how am I going to use that recazo (Puerto Rican coriander), that sofrito (Puerto Rican secret sauce). How am I going to deal with that to give it that flavor that I want, that I like it and that I can eat my dish, that makes me feel calmed, I liked how I cooked. (W2, FG3)

They come to the conclusion that discipline and control is needed to change behaviors. These changes were seen as particularly difficult, we believe not only because changing habits is inherently difficult, but also because these changes symbolize a distancing from one's traditions and identity. Additionally, since food was a center around which social connections were sustained, following a specific diet separated them also from other members of the family, who were eating different meals. We can hypothesize that this could be more salient as a consideration for Puerto Ricans adults living on the mainland, because as immigrants holding on to their traditional cuisine takes on greater importance as a way of preserving social connections and ethnic identity away from country of origin. Thus, the heart health program needs to take this dilemma into consideration and take extra care to present nutrition information and diet suggestions in a way that maximally preserves traditions.

Stresses and struggles

Participants found that the stress and anxiety caused them to overeat, and this they also related to the context in which they lived in on the mainland. Being inside the apartments, the cold weather, the limited opportunity for going outside caused anxiety and depression; this in turn led to eating as a coping mechanism. Some participants struggled with obesity, describing how it also affects their mood, causing them "a lot of depression."

Health struggles were related to age - they described how they were not able to keep up with children and grandchildren, how they feel out of breath, how they feel as if they are "killing

myself” when more active. Some also acknowledged that their health problems or de-conditioned state made their felt age much higher than their biological age. One woman describes how she has health problems, which she relates to coming to the mainland and the endless cycle of struggles, that they make her feel 30 years older than she is,:

Well, I am not going to follow a diet, because of health conditions. You get to this country and it seems that you start getting all sorts of things, oh my God. I, on Sunday, will turn 52 but I feel like if I am 80. And I have tried to start a diet but also, you start a diet ...my family, all have heart problems, problems with the heart, things with the heart so then, you try to follow a diet and do all the things but then, if you have depression and suffer from anxiety, then with those medications, what they do to you, is that they wear the body down. That is why you end up with more problems with the heart, and then start having problems with the liver then, sometimes you say, oh my God, look, and you continue gorging on everything. (FG3, W4)

Participants also talked frequently about the struggles they have faced with implementing behavior change. These were particularly related to physical activity and eating, and were connected to age and some of the themes discussed above. Physical problems caused them to struggle with everyday activities and minimal physical activity was an effort, so changes were very difficult.

The themes of control and discipline were very present in the participant’s statements. Many of their narratives describe struggles with self-control, self-limitations and discipline of self and others, mainly their children in regards to eating and physical activity.

So then, what do we need to do? It is discipline that is the most important here. Will power.... Everything is discipline, discipline and discipline and I know it works because is working for me. And it is not because I am a saint, because sometimes I fall off the wagon, I fall off from the truck, too. Sometimes I go to a little restaurant, because I like fried food and I know that no, but I am going to eat my fried shrimp with that and let’s go eat. But if I do it, I do it one day, once and that’s it ...you know, it is discipline, discipline, discipline, that is what it is.” (FG3, M2)

In the context of many stories of struggles with control and discipline regarding physical activity and eating behaviors, some also told stories of success in changing their lifestyle in their desired direction:

I started quite a while ago to deal with it, because is very difficult, I am not going to tell you that it’s easy, that a person, where we grew up eating everything in Puerto Rico. And you find yourself having to do a diet and having to change your eating habits, it is not easy. Then, I tried and I have accomplished it, you know, little by little I have accomplished it, but it is not easy. (FG3, W3)

Thus, one important issue that participants brought up was the difficulty of behavior change, the extent of self-monitoring, “willpower” and “discipline” that was constantly needed to achieve changes. Absence of willpower and self-discipline were seen as barriers to healthy behavior changes, and the extent of willpower and self-discipline needed to participate

regularly in a heart health program were seen as potential barriers for attendance. Many of them had been struggling with these issues for quite a while - sometimes with limited success, but at other times with more evident success, which they sustained, so as to be healthier as they age and thus “stretch life a bit”.

Additional characteristics of a heart health program

Participants saw several potential barriers to taking part in a heart health program, in addition to those illustrated above. Some felt that a barrier toward participating in similar programs before has been language barriers, discrimination toward Hispanics, as well as undocumented status. Others cited the absence of time, childcare or other care giving responsibilities, or frequent travels (to Puerto Rico), which limit participation. The cost of such a program could be a potential barrier - even minimal costs might discourage involvement. The cold weather, large distances and difficulty with transportation could also make participation difficult. Their perspectives on the characteristics of the facilitators of such groups were diverse. The facilitator should speak the same language, but more than that – should understand the culture and the context of the lives of the Puerto Rican community. They saw the facilitator as a teacher, who “teaches well”, has substantial knowledge of the topic and experience.

Thus, additional characteristics of a program that participants would find most adequate would include being conducted in Spanish; be provided at no cost or minimal cost, and being easily accessible by public transportation. They preferred that the program has a highly knowledgeable and culturally sensitive facilitator, and is sensitive to the needs of people with different health problems; symptoms and of different ages.

Discussion

The purpose of this study was to understand cultural meanings, perspectives and preferences of representatives of the Puerto Rican community in an urban area of the Northeast US through a collaborative process, on the basis of which to develop a heart health program. For this purpose we conducted five focus groups and explored cultural meanings of heart health and health promoting behaviors and the characteristics that such a program should have, from the perspectives of community members.

From the focus group discussions we identified several surface and deep dimensions³² relevant to the cultural adaptation of cardiovascular health programs for older Puerto Rican adults. Regarding the surface dimensions, we conclude that the HIP program should be developed to have significant variety, while presenting a holistic perspective. It would integrate discussions of multiple aspects of one’s life, and would allow time for discussions about participants’ broader life circumstances and relationships. Additionally, the program components would be sensitive to the needs of people with different health problems; symptoms and of different ages, be affordable, accessible through public transportation and offered in Spanish. Other authors have also concluded that programs would be most helpful if they include a variety of topics and activities as related to heart health^{29,41}. For example Newman et al (2010) illustrate the need for programs of multiple components for older adults, considering that they can be at risk simultaneously for multiple conditions and thus

multiple preventive goals would be relevant⁴² and Clark et al (2005) stress the importance of including components addressing both nutrition and physical activity in programs for older adults over a longer period of time ⁴³.

Further, from the study we concluded that the program should support participants' cultural identity through the arts, cuisine and other cultural practices. The program would thus allow for expressiveness and emotionality, particularly through culturally relevant forms of artistic expression such as Puerto Rican dancing ⁴¹ and Puerto Rican dishes. The program would be a place where people can communicate in a shared language and share the nuanced meanings of language and cultural knowledge; find friendship, warmth, information and ideas – so that it can be a “group where you feel at home”.

Additionally, we can identify deeper dimensions relevant to the cultural adaptation of such a program to the Puerto Rican older adults, which take into considerations cultural meanings which impact health promoting behaviors. Health gained its importance for the Puerto Rican adults within one's relationships, and some participants underscored that their motivation to stay healthy comes from wanting to be healthy and alive for their families, children and grandchildren. The motivation to sustain health for others, through the larger concept of “communal efficacy”, has been used successfully in intervention programs for example one which was selected as a model program for HIV prevention by the CDC ⁴⁴. This emphasis on being healthy to take care of family responsibilities, however, particularly the care-giving roles that many Puerto Rican women take on at this age, have been identified as a gender role conflict for Puerto Rican women ³³. The traditional caretaking role could on the other hand be a barrier to program participation and lifestyle change because it limits available time, and creates an image of femininity which is not consistent with taking time for self, being physically active outside of the physical work in the household ⁴⁵. In our focus groups some participants presented a more collectivistic understanding of self and responsibility for health, while others constructed an individualistic self and responsibility for health. Other authors have also found that low income women expressed a need to stay healthy and take care for themselves, rather than for others, which they never have time to do because of the expectation that they should be focused on others ²⁶.

Our findings are consistent with other work which has underscored the importance of social relations and social support for sustaining physical activity and other health promoting behaviors for Hispanics ⁴⁵. Participants stressed how much they valued the fact that within the group they would share language and meanings, and support each other through the process. Additionally, it was clear that movement and physical activity were constructed as social activities, and culturally meaningful ways of moving included dances, and games in their neighborhoods.

Cultural identity and cultural connection to the Puerto Rican community both on the island and the mainland are relevant to health behaviors. Changes in lifestyle were avoided or could not be sustained, when they were perceived to distance people from their cultural identity and cultural heritage. Food for example holds important social and emotional meanings of creating social closeness and warmth, bringing families together and symbolizing Puerto Rican culture ⁴⁶; thus changes to the Puerto Rican cuisine were

interpreted by older adults as potentially distancing from their families and ultimately their traditions, and thus were difficult to accept. Any heart health recommendation for lifestyle change should aim to introduce changes in a way that does not drain the foods of their cultural and social meanings.

Some of the older participants perceived themselves as being the anchors of Puerto Rican culture in their families, and they were concerned that if they were to go before being able to transfer traditions, the link to Puerto Rican culture would disappear for the younger generations. Thus they shared that they were motivated to stay healthy or to “extend life a bit” in order to be there for their families – both to take care of them as described above, and also to be the ones to preserve traditions. Yet as holders of tradition, they were somewhat conflicted, since they evaluated some aspects of Puerto Rican cuisine as unhealthy, and were concerned how to increase its health benefits while still preserving its uniqueness.

Lifestyle and behavior change were seen as difficult to achieve and to sustain in the longer term. The discussions were saturated with phrases related to discipline, control and self-monitoring, and with descriptions of struggles with such changes. Conditions which they had related to functional limitations, aches and pains, which they related to age, further exacerbated these struggles with behavior change. Cultural meanings of age become relevant – some Puerto Rican adults understand old age as starting early and thus often normalize age-related health problems, which could serve to de-motivate for physical activity or program participation.

There was a stark contrast between this internalized discourse of self-control as related to health behaviors, and the spontaneity and expressiveness evident in participant’s discussion of social interactions, culturally relevant activities, physical activity and others. Similarly to other work, movement was seen as natural and spontaneous, or “as a way of life”⁴⁵. Thus, we can interpret that the self-monitoring they felt was needed to improve heart health at some level is in contrast to important cultural expectations of spontaneity and expressiveness, and can further add to the sense of distancing from traditions. Structured forms of physical activity, as in gyms or organized sessions, could be seen as foreign. We have taken into account such meanings of behavior change in the program development.

Translation to Health Education Practice

Considering the above findings, we have confirmed the importance of continued involvement of community members in the HIP Program development, curriculum design and organization. In our previous work in developing community-based lifestyle interventions for older adults³¹, we showed that a peer-led model for evidence-based group strength training and exercise program for older adults in the community was sustainable in the long term³⁰. The HIP program also uses a peer-led format - in line with community participatory research and continuous dialogue^{37,47} we have invited focus group participants to also continue as peer leaders or HIP group participants. Several of the focus group participants expressed interest in being peer leaders for HIP groups and have undergone peer training.

We have now completed the HIP curriculum and in the process of developing it, we have considered the above identified themes for each session: introducing varied components of the program, including Puerto Rican foods, cooking demonstration, artistic activities; considering the relevance of relationships within group interactions, as well as family as motivation for health. We have introduced specific components and activities that are culturally meaningful, such as cooking Puerto Rican dishes and Puerto Rican dances. We have also paid attention to the “deep structure” dimensions of a culturally sensitive program and thus have structured time for discussion and acknowledgement of the dilemmas and struggles brought about by behaviors change, particularly acknowledging the concerns about behavioral changes that are perceived as cultural changes. The group meetings will be discussing the role of tradition and its maintenance; as well as the struggles of maintaining health changes in the context of age related limitations and cultural meanings of spontaneity in movement and other activities. The program curriculum is discussed and adjusted on an on-going basis through feedback from community members ⁴⁷.

Our study clearly illustrated that most participants were familiar with the risks to heart health and with the lifestyle changes which are needed in order to prevent or reverse heart disease. In addition to supporting individual behavioral change, the program, in partnership with the community, should work toward achieving social, environmental and policy level changes that would promote health. While such a multilevel framework already informs our work, the conclusions from this study further confirm the importance of this approach.

Conclusions and Recommendations

We have identified important characteristics and components of an educational health promotion program to prevent heart disease for Puerto Rican adults. Cultural meanings of lifestyle changes which impact health behaviors can be resources for program development and its cultural adaptation and implementation. The older Puerto Rican community in the US mainland has unique perspectives and preferences, and a specific cultural context. They are US citizens, and they often travel back and forth to Puerto Rico, or their family members can travel. Yet, they also perceive themselves as immigrants who are the anchors of Puerto Rican traditions for their families, relocated to a new land. Changes to lifestyle, which include changes to meaningful traditions, can be perceived as distancing from ones’ cultural identity. At the same time, cultural meanings of family, relationships, food and movement can be resources for health promoting activities. This study contributes to the literature because it addresses the needs and perspectives of community members regarding health promotion, particularly for older members of the Puerto Rican community who have significant health disparities, and for whom there is only limited information. Ultimately, investigators will benefit from including the community in the initial phases of the project planning, including doing a needs assessment and understanding the readiness of the community to successfully receive the program.

Acknowledgments

We thank the participants in the focus groups, our community partner La Alianza Hispana in Boston, MA. We acknowledge our funding from NIH/NHLBI grant # P50HL105185.

References

1. Roger VL, Go AS, Lloyd-Jones DM, et al. Heart disease and stroke statistics--2012 update: a report from the American Heart Association. *Circulation*. 2012; 125(1):e2–e220. [PubMed: 22179539]
2. McWilliams JM, Meara E, Zaslavsky AM, Ayanian JZ. Differences in control of cardiovascular disease and diabetes by race, ethnicity, and education: U.S. trends from 1999 to 2006 and effects of Medicare coverage. *Ann Intern Med*. 2009; 150(8):505–515. [PubMed: 19380852]
3. U.S. Department of Health and Human Services. National Healthcare Disparities Report. Rockville, MD: 2012.
4. U.S. Census Bureau. Statistical Abstract of the United States: 2012. 2012. <<http://www.census.gov/compendia/statab>>
5. Ford ES, Li C, Zhao G. Prevalence and correlates of metabolic syndrome based on a harmonious definition among adults in the US. *J Diabetes*. 2010; 2(3):180–193. [PubMed: 20923483]
6. Osthega Y, Dillon CF, Hughes JP, Carroll M, Yoon S. Trends in hypertension prevalence, awareness, treatment, and control in older U.S. Adults: Data from the National Health and Nutrition Examination Survey 1988 to 2004. *J Am Geriatr Soc*. 2007; 55(7):1056–1065. [PubMed: 17608879]
7. Singh GK, Siahpush M, Hiatt RA, Timsina LR. Dramatic increases in obesity and overweight prevalence and body mass index among ethnic-immigrant and social class groups in the United States, 1976–2008. *J Community Health*. 2011; 36(1):94–110. [PubMed: 20549318]
8. Castaneda-Sceppa C, Price LL, Noel SE, Middle JB, Falcon LM, Tucker KL. Physical function and health status in aging Puerto Rican adults: The Boston Puerto Rican health study. *J Aging Health*. 2010; 22(5):653–672. [PubMed: 20495158]
9. Mattei J, Demissie S, Falcon LM, Ordovas JM, Tucker K. Allostatic load is associated with chronic conditions in the Boston Puerto Rican Health Study. *Soc Sci Med*. 2010; 70(12):1988–1996. [PubMed: 20381934]
10. Castaneda C, Layne JE, Munoz-Orians L, et al. A randomized controlled trial of resistance exercise training to improve glycemic control in older adults with type 2 diabetes. *Diabetes Care*. 2002; 25(12):2335–2341. [PubMed: 12453982]
11. Tucker KL, Bermudez OI, Castaneda C. Type 2 diabetes is prevalent and poorly controlled among Hispanic elders of Caribbean origin. *Am J Public Health*. 2000; 90(8):1288–1293. [PubMed: 10937011]
12. Hajat A, Lucas JB, Kington R. Health outcomes among Hispanic subgroups: data from the National Health Interview Survey, 1992–95. *Adv Data*. 2000; (310):1–14. [PubMed: 10977762]
13. Van Rompay MI, Castaneda-Sceppa C, McKeown NM, Ordovás JM, Tucker KL. Prevalence of cardiovascular disease risk factors among older Puerto Rican adults living in Massachusetts. *J Immigr Minor Health*. 2011; 13(5):825–833. [PubMed: 21298483]
14. Falcón LM, Todorova I, Tucker K. Social support, life events and psychological distress among the Puerto Rican population in the Boston area of the United States. *Aging Ment Health*. 2009; 13(6):863–873. [PubMed: 19888706]
15. Falcón LM, Tucker KL. Prevalence and correlates of depressive symptoms among Hispanic elders in Massachusetts. *J Gerontol*. 2000; 55(2):S108–116.
16. Granberry, P.; Rustan, S. Latinos in Massachusetts selected areas: Boston. Vol. 36. Boston: Gastón Institute Publications; 2012. http://scholarworks.umb.edu/gaston_pubs/36 [Accessed 10.24.2012]
17. Rodriguez-Galan MB, Falcon LM. Perceived problems with access to medical care and depression among older Puerto Ricans, Dominicans, Other Hispanics, and a comparison group of non-Hispanic whites. *J Aging Health*. 2009; 21(3):501–518. [PubMed: 19318608]
18. Vitullo MW, Taylor AK. Latino adults' health insurance coverage: An examination of Mexican and Puerto Rican subgroup differences. *J Health Care Poor Underserved*. 2002; 13(4):504–525. [PubMed: 12407965]
19. Tucker KL, Mattei J, Noel SE, et al. The Boston Puerto Rican Health Study, a longitudinal cohort study on health disparities in Puerto Rican adults: challenges and opportunities. *BMC Public Health*. 2010; 10:107–107. [PubMed: 20193082]

20. Campbell MK, Quintiliani LM. Tailored interventions in public health: Where does tailoring fit in interventions to reduce health disparities? *Am Behav Sci.* 2006; 49(6):775–3.
21. Harkness S, Keefer CH. Contributions of cross-cultural psychology to research and interventions in education and health. *J Cross Cult Psychol.* 2000; 31(1):92–109.
22. Reese LRE, Vera EM. Culturally relevant prevention: The scientific and practical considerations of community-based programs. *Couns Psychol.* 2007; 35(6):763–778.
23. Hodge DR, Jackson KF, Vaughn MG. Culturally sensitive interventions for health related behaviors among Latino youth: A meta-analytic review. *Child Youth Serv Rev.* 2010; 32(10): 1331–1337.
24. Martin M, Beebe J, Lopez L, Faux S. A qualitative exploration of asthma self-management beliefs and practices in Puerto Rican families. *J Health Care Poor Underserved.* 2010; 21(2):464–474. [PubMed: 20453350]
25. Mier N, Ory MG, Medina AA. Anatomy of culturally sensitive interventions promoting nutrition and exercise in Hispanics: A critical examination of existing literature. *Health Promot Pract.* 2010; 11(4):541–554. [PubMed: 19193933]
26. Gettleman L, Winkleby MA. Using focus groups to develop a heart disease prevention program for ethnically diverse, low-income women. *J Community Health.* 2000; 25(6):439–453. [PubMed: 11071226]
27. Moreno C, Alvarado M, Balcazar H, et al. Heart disease education and prevention program targeting immigrant Latinos: using focus group responses to develop effective interventions. *J Community Health.* 1997; 22(6):435–450. [PubMed: 9403401]
28. Vincent D. Culturally tailored education to promote lifestyle change in Mexican Americans with type 2 diabetes. *Journal of the American Academy of Nurse Practitioners.* 2009; 21(9):520–527. [PubMed: 19845810]
29. Vincent D, Clark L, Zimmer LM, Sanchez J. Using focus groups to develop a culturally competent diabetes self-management program for Mexican Americans. *Diabetes Educ.* 2006; 32(1):89–97. [PubMed: 16439497]
30. Layne JE, Sampson SE, Mallio CJ, et al. Successful dissemination of a community-based strength training program for older adults by peer and professional leaders. *J Am Geriatr Soc.* 2008; 56:2323–2329. [PubMed: 19112654]
31. Nelson ME, Layne JE, Bernstein M, et al. The effects of multi-dimensional home based exercise on functional performance in the elderly. *J Gerontol.* 2004; 59A(2):154–160.
32. Resnicow K, Baranowski T, Ahluwalia JS, Braithwaite RL. Cultural sensitivity in public health: defined and demystified. *Ethn Dis.* 1999; 9(1):10–21. [PubMed: 10355471]
33. Lange J, Evans-Benard S, Cooper J, et al. Puerto Rican women's perceptions of heart disease risk. *Clin Nurs Res.* 2009; 18(4):291–306. [PubMed: 19741240]
34. Tejada, S.; Bonzi, G.; Roelofson, K.; Todorova, I.; Bickmore, T.; Sceppa, C. A Heart Healthy Action Program for Puerto Rican adults. The Centers for Population Health and Health Disparities Annual Meeting; Chicago, Illinois, US. 2011;
35. Bandura, A. Self-efficacy: The exercise of control. New York: Freeman; 1997.
36. Bandura A. Exercise of human agency through collective efficacy. *Curr Dir Psychol Sci.* 2000; 9(3):75–78.
37. Washington WN. Collaborative/participatory research. *J Health Care Poor Underserved.* 2004; 15(1):18–29. [PubMed: 15359971]
38. Esposito N. From meaning to meaning: the influence of translation techniques on non-English focus group research. *Qual Health Res.* 2001; 11(4):568–579. [PubMed: 11521612]
39. Braun V, Clarke V. Using thematic analysis in psychology. *Qual Res Psychol.* 2006; 3:77–101.
40. Yardley L. Dilemmas in qualitative health research. *Psychol Health.* 2000; 15:215–228.
41. Stacciarini JMR. Focus groups: Examining a community-based group intervention for depressed Puerto Rican women. *Issues Ment Health Nurs.* 2008; 29(7):679–700. [PubMed: 18592421]
42. Newman AB, Bayles CM, Milas CN, et al. The 10 keys to healthy aging: Findings from an innovative prevention program in the community. *J Aging Health.* 2010; 22(5):547–566. [PubMed: 20495156]

43. Clark PG, Rossi JS, Greaney ML, et al. Intervening on exercise and nutrition in older adults: the Rhode Island SENIOR Project. *J Aging Health*. 2005; 17(6):753–778. [PubMed: 16377771]
44. Hobfoll SE, Jackson AP, Lavin J, Johnson RJ, Schröder KEE. Effects and generalizability of communally oriented HIV-AIDS prevention versus general health promotion groups for single, inner-city women in urban clinics. *J Consult Clin Psychol*. 2002; 70(4):950–960. [PubMed: 12182278]
45. Fleury J, Keller C, Perez A. Exploring resources for physical activity in Hispanic women, using photo elicitation. *Qual Health Res*. 2009; 19(5):677–686. [PubMed: 19380503]
46. Bowen RL, Devine CM. ‘Watching a person who knows how to cook, you’ll learn a lot’. *Linked lives, cultural transmission, and the food choices of Puerto Rican girls*. *Appetite*. 2011; 56(2):290–298. [PubMed: 21172395]
47. Montoya MJ, Kent EE. Dialogical action: Moving from community-based to community-driven participatory research. *Qual Health Res*. 2011; 21(7):1000–1011. [PubMed: 21454885]