Engaging Community Partners to Develop a Culturally Relevant Resource Guide for Physical Activity and Nutrition

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Background: Community-based participatory research (CBPR) is an increasingly popular approach for obesity prevention efforts among ethnically diverse communities. There is limited documentation for practitioners and researchers attempting to initiate new CBPR partnerships within predominantly Hispanic communities.

Objectives: To document the process underlying the initiation of a new CBPR collaborative and the development of a culturally relevant community resource guide for physical activity and nutrition.

Setting: Three similar cities in southwest Kansas (40–60% Hispanic). The mission of local partner organizations included health or serving Hispanic community needs.

Results: The CBPR collaborative combined community-specific cultural and historical information with physical activity and nutrition health education materials into community-specific resource guides. The guides were tailored to each community, culturally relevant, and highlighted free and low-cost resources. The guides were printed in English and Spanish and distributed to residents. Evaluation of the guide's reach showed small-moderate dissemination, and good acceptance by community residents.

Conclusion: Collaborative CBPR partnerships for obesity prevention can be formed by identifying a common, realistic and practical goal such as the creation of a community resource guide for physical activity and nutrition. The approach is relatively noninvasive for community members, requires minimal resources from community agencies and represents a positive first step in the CBPR approach to obesity and chronic disease prevention. Currently, the guide is being used in combination with other health promotion efforts to prevent obesity and related diseases. Furthermore, our CBPR partnership continues to thrive and provide the necessary foundation for health promotion efforts. (*Ethn Dis.* 2012;22(2):231–238)

Key Words: Community-based, Hispanic, Physical Activity, Nutrition

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Introduction

Physical inactivity and poor diet are strongly linked to high rates of overweight, obesity and related chronic diseases across the United States.[1,2] Furthermore, substantial health disparities are evident for the US Hispanic population such that compared to Caucasians, Hispanics have higher rates of obesity and diabetes,[3] and lower rates of physical activity and fruit and vegetable consumption.[4] Thus, actions to improve Hispanic health and health-related behaviors are warranted at the individual, family, community, policy and environmental levels.

An increasingly popular approach for fostering trust and establishing working relationships for minority health promotion is community-based participatory research (CBPR).[5] The CBPR approach is characterized by a cooperative, engaging process of research by researchers and community members as equal contributors to the process.[6,7] Some of the principles and characteristics of CBPR include recognizing community as a unity of identity, building on strengths and resources within the community, facilitating collaborative partnerships and promoting colearning and capacity building among all partners.[6] These principles emphasize the process of community participation as an important outcome.[7] Benefits to the CBPR approach include more sustainable community programs, greater support from community organizations and members, support for long-term health behavior change, empowering the community for health-related issues and enhancing the cultural sensitivity of health programs and policies.[8]

Documentation of this process [CBPR collaboration] can be informative for researchers and practitioners aspiring to use a CBPR approach for health promotion within diverse communities.

Despite the many benefits of and opportunities provided by a CBPR approach, the initial stages of reaching out to the community and building trust within an underserved and ethnically diverse community is a major challenge for researchers and practitioners. Trust is especially important for individuals who have recently immigrated to the United States or had negative past experiences with university and medical researchers. Trust, or lack thereof, among researchers, practitioners and minority groups within the community may be an important influence on building and maintaining trust and communication patterns within their partnership.[9] Thus, the process of building trust requires a great deal of time, whereby each partner develops a mutual understanding of their similarities, differences, strengths and weaknesses. Over time, this understanding gradually develops into effective communication methods and a partnership style unique to their collaborative relationship and goals. Ultimately, the success of the

Table 1. Population characteristics of southwestern Kansas communities[a]

Variable	Kansas (population 2,778,599)		Garden City (Finney Co) (population 28,451)		Dodge City (Ford Co) (population 25,176)		Liberal (Seward Co) (population 19,666)	
	General Population	Hispanic Population	General Population	Hispanic Population	General Population	Hispanic Population	General Population	Hispanic Population
Female, %	50	46	49	47	48	44	49	46
≥18 years, %,	75	61	67	58	68	60	68	59
≥High school graduate, %	89	24	37	17	38	13	35	11
Individuals below poverty level, %	8	19	14	21	13	21	17	27
Total Hispanic or Latino population of any race, %	9		44		43		43	
Physically inactive, %[b]	40	39	34	NA	26	NA	27	NA
Overweight and obese, %[c]	64	70	62	NA	65	NA	62	NA
Low FV intake (<5 servings/day), %	81	86	82	NA	86	NA	88	NA

Sources: US Census and state BRFSS data.[10,21,23]
Co, county; NA, not available, FV, fruits or vegetables.
[a] Health-related variables are county level data, where all other data are city-specific.
[b] Defined as not meeting current national physical activity recommendations.[1]
[c] Defined as a body mass index greater than 25 kg/m^2.

larger community engagement objectives flow from an equal exchange among all partners.

Unfortunately, there is limited documentation in obesity and chronic disease prevention literature about the process underlying the initiation of a new CBPR collaboration with diverse and largely Hispanic communities. Documentation of this process can be informative for researchers and practitioners aspiring to use a CBPR approach for health promotion within diverse communities. Thus, the purpose of this article is threefold. First, we will document the process underlying the initial phases of developing our new community partnerships for obesity prevention among ethnically diverse, largely Hispanic communities in southwest Kansas. Second, we will describe how our community partnership has culminated in the development of a culturally tailored education and resource guide for physical activity and nutrition. Third, we will describe the ongoing efforts of our partnership to improve Hispanic health.

METHODS

Context

In Kansas, 8% of the population is Hispanic/Latino, with the majority of these individuals living in three micropolitan areas in southwest Kansas. According to the US Census Bureau, Finney County has become a majority-minority county,[10] most of the county's residents being of Hispanic descent. Adjacent to Finney County (major city/urban center: Garden City), Ford (major city/urban center: Dodge City) and Seward Counties (major city/urban center: Liberal) are similarly diverse when compared with the rest of Kansas (Table 1). Geographically, these three communities are near the Colorado and Oklahoma borders and have a thriving economy primarily based on agriculture, meat-packing, and cattle feed lots, which are the major employers for Hispanics in this region.[11] According to state-level data, Hispanic adults in Kansas have higher rates of overweight and obesity (60.7%) compared to national averages for this ethnic group (57.6%). Rates of diabetes are also slightly higher among Hispanics in Kansas (8.8%) than the general population (8.1%).[12]

Approach

Our long-term goal was to facilitate an ongoing CBPR collaborative for obesity prevention in these three southwest Kansas communities, however, our short-term goal was to build relationships with community organizations within the region and build our knowledge of the resources within the community, which would provide the foundation of a CBPR collaborative relationship for obesity prevention in southwest Kansas. This approach, referred to as asset-mapping[13] builds on the strengths and capacities of the community members and organizations in Garden City, Dodge City and Liberal.

One of the first challenges, however, was the physical distance between our university campus (Manhattan, Kansas) and partner communities in southwest Kansas (220–310 miles/354–499 km). To overcome this obstacle, we required financial resources to support face-to-face community engagement. Fortunately, as an integral part of land-grant university accreditation, Kansas State University created a Center for Engagement and Community Development,[14] whose mission is to promote engagement across the breadth of the Kansas State University campus. Because the health of Kansans is an area of focus within the Center for Engagement and Community Development, they provided funding for travel and meetings. With these resources in place, our

research faculty began to identify and contact community partners to provide health promotion experience specific to their community, information about community leaders, health needs and priorities, and already existing community resources for obesity prevention.

The first phase began with contacting representatives from several existing community organizations for introductory meetings. We felt that those individuals already working towards better health and wellness for the Hispanic community and the community at large would be the most interested in forming a CBPR collaborative for obesity prevention and would have the most knowledge and understanding of the community. During these meetings we had four main goals: 1) to introduce ourselves, convey our interest in minority health promotion and describe our resources and experiences that could benefit a CBPR collaborative; 2) ask the agency representatives to share the mission of their organization, and existing health programming offered within their organization; 3) gain their perspective on other individuals from their community we should meet regarding Hispanic health; and 4) to propose a collaborative partnership for the development of a community-specific, culturally-relevant, bilingual physical activity and nutrition guidebook.

Within our partner communities, many of the Hispanic residents are new immigrants and potentially unaware of community resources that support healthy behaviors. Therefore, a physical activity and nutrition guide to inform residents of these resources was our first step in facilitating positive health choices among residents. From the perspective of existing community organizations within southwest Kansas, the process of developing a resource guide for community residents provided the opportunity to explore the long-term establishment of an effective CBPR collaborative in a in a relatively noninvasive way. Additionally, it offered a common goal with a practical outcome from which to build a foundation for future health promotion programming and serve as a lasting resource for their organization and the larger community. Finally, from the perspective of the university researchers, it provided the opportunity to build knowledge of the built environment for obesity-related behaviors, social networks supportive of health promotion, an understanding of the region's history, a better understanding of the unique contributions, resources and social capital within each existing community organization, and allowed for the facilitation of a united vision for a healthy southwest Kansas.

Identifying and Engaging Community Partners and Description of Organizational Structure

Our first and most influential contacts within southwest Kansas were the Kansas State University Research and Extension area specialists and county agents. The mission of extension is to bring knowledge and resources from the university to the local level to solve public needs through nonformal, noncredit programs. County agents are community residents and university faculty whose objective is to take research-based programming from campus and put it into practice as community educators. Agents are a diverse group with a wide range of topic expertise that may include health, wellness, nutrition, community or youth development, and/or agricultural related disciplines. Our work primarily coincided with the family and consumer sciences agents whose work addresses health, wellness, nutrition, and community development.

In each of the three communities, our first contact with agents was either by phone or email, and subsequent face-to-face meetings with county and area family and consumer sciences agents yielded important information and historical understanding of the communities. Additionally, they facilitated connections with other local agencies including community health care clinics, hospital outreach programs, county/local public health departments, regional prevention centers, community foundations, faith organizations, parks and recreation, and other social services. Subsequently, each community agency was contacted primarily via phone or email, and where appropriate, scheduled for face-to-face meetings. These follow-up contacts addressed the objectives mentioned above in an attempt to explain the goals and purpose of the project. We also found that a snowball approach was useful in identifying potential community partners; asking each community agency to recommend other community agencies with similar missions. This process was repeated in each of the communities. Another helpful strategy we found was that after identifying a particularly helpful individual in one city, identifying and contacting their counterpart in a neighboring city.

Fortunately, several community agencies were enthusiastic about forming a partnership and developing a community resource guide for physical activity and nutrition. They provided researchers with necessary information and resources. For example, they informally talked about the history of each city and the recent rapid changes in the community's diversity and culture while the researchers took note of important facts. Researchers learned about the areas of the city that were most in need of health promotion, the mean age, socioeconomic status, educational background, physical activity and nutrition preferences of the community, and the nature of the social interactions among the diverse racial/ethnic groups in the area. Community partners also discussed the best ways to disseminate the guide and their concerns for the guide's long-term sustainability (ie, electronic access of the guide, scheduled updates, and future printings). These meetings frequently took place in southwest Kansas in the offices or organizations'

Table 2. Resources for physical activity and nutrition

Behavior Targeted	Type of Resource	Features Documented
Physical activity	Parks	Location Accessibility by car and walking (eg, sidewalks, crosswalks, parking) Features (eg, picnic tables, playgrounds, fountains)
	Fitness facilities	Location Contact information Cost was not documented due to frequently changing rates
	Trails, bike lanes	Location Distance Features (eg, benches, fountains) Surface (eg, paved)
Nutrition	Fruit and vegetable stands	Location Season of operation (if applicable)
	Stores that sell fruits and vegetables	Location
	Community gardens	Location Costs Contact information

facilities of the community partners. The represented partners included the county health department, community safety net clinic, local hospitals, community colleges, local coalitions and foundations, and faith organizations.

The CBPR partnership's organizational structure remained fluid during the time of the project. Initially, face-to-face meetings took place once every 3–4 months, though during the more intense periods of activity, meetings occurred nearly monthly as certain tasks needed to be addressed in a timely manner. Due to scheduling constraints with the community organizations, the researchers would often meet with small groups of partners in each of the communities rather than as one large group, working informally with open discussion about Hispanic health issues from both sides. In each of the three communities, most often there were 2–3 members of community organizations that were present for some or all of the meetings. There were 4–8 organizations represented by individuals in the meetings, depending on the community. Between the face-to-face meetings the researchers kept in contact with the community partners via email and phone. A quarterly newsletter was eventually established to inform community partners of upcoming events and travel associated with the project, national news on Hispanic health, and funding opportunities. The community partners often would meet on other community projects, however, there were no organized meetings on this specific project without the researchers present.

Developing the Physical Activity and Nutrition Guidebook

The purpose of developing the guidebook was to promote and increase awareness of physical activity and healthy eating resources in each of the communities. Previous literature has indicated the importance of parks for both physical and social activities among Hispanics,[15] and our local community partners confirmed similar trends for recreation in their cities. Therefore, consistent with an asset mapping approach,[13] research staff visited all of the physical activity and nutrition resources identified by our community partners within each city. Photographs of parks, trails and recreational facilities were taken and relevant features were documented (Table 2). Additionally, community partners provided input on important historical and/or cultural events and locations within the community. Despite similar racial/ethnic demographics, socioeconomic characteristics, and their close geographic proximity, community members had a greater desire for, and greater use of, a guide tailored to their city rather than a more general regional guide. Two of the communities wanted to highlight their historical downtown area; a short (~1 mile) route was mapped out that passed several historical sites or buildings to provide ideas for a walking route for community members. The other community wanted to highlight a route relevant to a local festival that could be used as an example of a walking route. To highlight meaningful attributes of each of the three cities, we developed a template for the guidebook that could be adjusted for each community and could also be updated by the community agencies after the initial guide had been created. This enabled us to maintain maximum flexibility to weave aspects of local historical and cultural importance into each city's guide while at the same time providing some local education for new immigrants to each of the communities.

Throughout the layout and assembly process, we had two priorities: a) the need for a guidebook that quickly connects with the user, and b) the need for a user-friendly guidebook regardless of the user's language preference and cultural background. To accomplish

these aims, both surface and deep structural dimensions of cultural tailoring were addressed as outlined by Resnicow et al.[16] Surface structure tailoring matches materials and messages to observable social and behavioral characteristics of the target population (eg, language preferences and photos of individuals in target population). Deep structure tailoring reflects more psychosocial, cultural, social, historical and environmental influences on health behaviors. Specifically, the cover of the guide was designed to integrate obesity prevention messages with images reflecting southwest Kansas communities, including the state flower and wheat, a common agricultural crop. We used an image of walkers to promote moderate physical activity, and a faceless image to be inclusive of all races and ethnicities. For each city, photographs and descriptions of local landmarks, parks, recreation areas, and grocery stores/markets were integrated throughout the guide to enhance relevance to the reader. Additionally, we incorporated pictures of, and nutrition information for, ethnically relevant foods and highlighted families and individuals engaging in activities that are common among Hispanics both nationally and locally (eg, playing soccer, social dancing).[17]

The text was first set in English at a 6th grade reading level. The nutrition education section included brief information on each of the food groups as described by the US Department of Agriculture's My Pyramid Guidelines.[2] Subsequently, local resources for fruits and vegetables were included (Table 2). The physical activity section included basic information about physical activity and associated health benefits from national recommendations[1] followed by local resources for physical activity (Table 2). Both nutrition and physical activity resources were displayed on a community map, integrated when appropriate, with public transportation routes.

After setting the text in English, it was translated into Spanish through the work of two translators. Each translator worked separately, meeting to discuss discrepancies and attain consensus on phrasing.[18] One physical copy of the guide (final size 8.5″ × 5.5″) contained the information in both English and Spanish, for the most inexpensive and easiest reproduction. The guide was printed so that all of the English information was presented on consecutive pages and subsequently all of the information was then printed in Spanish, however the Spanish information was rotated 180 degrees, starting with the opposite cover page, working toward the center of the guide. The resulting format allowed the guide to read like a book (left to right) regardless of the language preference of the reader, and avoided the appearance of one language taking precedence over the other.

Community agencies provided comments on specific elements of the guide using a method outlined by Parra-Medina et al[19] for developing culturally relevant health resource materials. Comments were obtained from individuals who were both English and Spanish speakers. Respondents used a 4-point Likert scale to address visual elements (16 items), formal and layout (9 items), content (16 items) and a general overall assessment (1 item). Questions about the Spanish and English sections of the guide were asked separately to ensure equal evaluation. Comments from 32 community partners were compiled and where appropriate, their editorial comments were incorporated into the guide.

The final version of the guide was printed based on the number of guides requested by each community partner. Compacts discs containing the electronic version of the guide were distributed to each community partner, provided in two electronic formats: Microsoft Publisher (Microsoft Corporation, Redmond, Wash) and Adobe Acrobat (Adobe Systems Inc., San Jose, Calif) to allow for updates. Community organizations disseminated the guide to community members through various community events and health promotion efforts, and were encouraged to post the guide on their agency websites for online access by the community members.

Outcome Evaluation

Originally, we planned to evaluate the reach of the guide within community agencies, rather than reach among community members. However, our CBPR collaborative was successful in attaining funding for a Hispanic Health Needs Assessment (HHNA),[20] which afforded us the opportunity to assess the guide's reach among community residents using a single group post-test only design. Based on the methods and suggested survey from the HHNA documents, we assessed demographics, and self-reported physical activity, fruit and vegetable consumption, height, and weight using the Behavioral Risk Factor Surveillance System modules.[21] With the aim of assessing the impact of the resource guide, we created four items asking about: 1) residents' awareness of physical activity opportunities; 2) residents' awareness of healthy eating opportunities in their community; 3) if they had seen a physical activity and nutrition guide for their community; and 4) if they perceived it to be useful. Our community partners were asked for input on questions relevant to Hispanic health that would be helpful to their organizations. These partners also provided feedback on drafts of the English and Spanish surveys.

The surveys were administered during a 6-month period, approximately 6–12 months after the guide had been distributed to community partners. Community agencies, many of the same organizations that assisted with the development of the guide, recruited community residents who self-identified as an adult Hispanic living in one of the three partner communities. Participants provided consent to participate and completed the self-administered survey. The survey was approved by the

Table 3. Demographic characteristics of sample evaluating the reach of the guide

Characteristic	Total Sample (*N*=189)	Garden City (Finney Co) (*n*=68)	Dodge City (Ford Co) (*n*=70)	Liberal (Seward Co) (*n*=51)
Demographics				
Female, %	71	70	60	89
Age, yrs-mean (SD)	32.2 (10.2)	33.5 (11.7)	30.2 (10.3)	33.2 (7)
Mexican Ancestry, %	84	97	70	85
<high school education, %	58	50	63	61
Employed full time, %	60	54	67	56
Health-related				
Body mass index, kg/m^2 (SD)	27.9 (11.9)	29.7 (15.3)	27.2 (9.2)	25.9 (8.0)
Physically active, %	49	47	46	57
Meeting fruit and vegetable recommendations, %	9	7	12	8
Guide-related variables				
Aware of physical activity opportunities, %	86	90	82	85
Aware of healthy eating opportunities, %	81	81	80	84
Aware of the guide, %	43	48	33	46
Finding the guide to be useful, %	99	97	100	100

Co, county.

Institutional Review Board at Kansas State University.

Community agencies successfully recruited a convenience sample of Hispanic community members to complete the survey (*N*=189; Liberal *n*=51, Garden City *n*=68, Dodge City *n*=70). Most participants (81%) completed the survey in Spanish. Most participants reported being aware of physical activity (86% across all three communities) and healthy eating (81%) opportunities in their community (Table 3). Encouragingly, 43% reported seeing a community guide for physical activity and nutrition, and of those who had seen it, most reported (99%) that it was useful. Although there were differences in these outcome variables by community, none were statistically significant. The results of the surveys were reported back to the communities in the form of a bilingual, comprehensive report for community partners and organizations and a brief report, a 4-page lay-oriented summary available in English or Spanish. The summary of this process is described elsewhere.[22]

Unfortunately, our resources did not afford the opportunity to assess the guide's direct impact on the health of community members, although we can assume, based on more intensive interventions published in the scientific literature, that the direct effect of the guide on objective health outcomes was minimal, at best. When sufficient financial funds are available, we recommend that practitioners and researchers attempting similar projects in the future budget for a comprehensive evaluation at the community resident level.

DISCUSSION AND LESSONS LEARNED

Although the primary tangible outcome of this collaboration was the development and distribution of the community resource guide, the establishment of collaborative partnerships between university researchers and community partners was equally, if not a more valuable outcome. It is through these partnerships that we have successfully applied for and received funding for ongoing and future CBPR opportunities, which should positively affect Hispanic health in southwest Kansas.

The process of forming our CBPR collaborative has provided valuable insight regarding barriers and enablers for future health promotion efforts. Our greatest challenge was making first contact with potential partners. Our snowball approach was most useful in identifying potential community partners, followed by seeking out similar counterparts in other cities. Finally, we learned it was effective to participate in already established groups and councils

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formed to address other community issues (eg, social services, crime prevention, teen pregnancy prevention, drug/alcohol addiction), garnering support from multiple partners in a short amount of time.

For the researchers, the large physical distance (220–310 miles/354–499 km) between the university's main campus and the southwest Kansas communities was a barrier. Therefore, we often relied on telephone or email communication, which was not as engaging and beneficial as face-to-face exchanges, especially when fostering relatively new relationships. We attempted to overcome this by working with the extension service in the communities we were engaging. In the future, employing regular internet-based video conferences may be more useful than telephone conferencing for maintaining relationships between trips to visit with community partners.

Another challenge was time as a resource and the need for active communication regarding how time is managed among each collaborative partner. Specifically, university researchers are often required to divide their time between teaching, research and service. This may lead to researchers becoming overly focused on a research methodology and measureable outcomes, not realizing that community agencies might choose a different methodology or outcome variable because they and the community are challenged by numerous environmental, social, and health concerns simultaneously (eg, domestic abuse, alcohol addiction, vaccinations, food insecurity). Furthermore, because other duties geographically bind the researchers to their university campus, perceptions may emerge among community partners that the researchers are not genuinely dedicated to the collaborative. Individuals working within the community agencies also experienced severe constraints with time, financial resources, and personnel resources and the need to devote attention to multiple health and social issues. As a result, a great deal of mutual patience, understanding, and seamless communication on the part of all CBPR collaborative partners is necessary for success and sustainability. Ideally, university researchers would listen more carefully to the collective needs of the community and respond by bringing experts from other specializations to facilitate a more well-rounded approach to community health. Lastly, our evaluation methods presented a limitation for clearly understanding the full impact of the guide on knowledge, awareness and health among residents of these communities. The use of a convenience sample and single group post-test only design limited the methodological strength of our findings, and future projects should consider a more comprehensive evaluation plan.

SUMMARY

The lessons learned from this project easily translate to other university-based researchers and community practitioners interested in initiating the formation of a new CBPR collaborative for the elimination of racial/ethnic health disparities for obesity and chronic disease. Although some of the steps taken were specific to our situation, the described process can easily be translated for other groups and settings targeting any type of health behavior. Additionally, we feel the major barriers expressed in this article and the potential solutions proposed will serve as a valuable resource for those intending to build new partnerships.

Using an asset-mapping approach in collaboration with our community partners, we accomplished our short term goal of building partnerships with community agencies within southwest Kansas, an ethnically diverse, largely Hispanic population. We gained knowledge of the physical environment, the social networks within the communities and a better understanding of the history and future vision of the community. Furthermore, we have succeeded in our long-term goal of facilitating an ongoing CBPR collaborative for obesity prevention in three southwest Kansas cities. As a tangible outcome of this project we developed a relevant bilingual physical activity and nutrition guidebook that serves as a useful tool for obesity and chronic disease prevention programs, and is now a sustainable and lasting resource for both the community and university with the potential to influence knowledge and health at a local level.

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