Bridging Research and Policy to Address Childhood Obesity Among Border Hispanics
A Pilot Study

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Background: Mexican-American children are disproportionately affected by obesity compared to other population groups. Although national guidelines recommend using environmental and policy approaches to address this public health issue, the majority of Mexican-American children do not meet physical activity recommendations.

Purpose: To describe a knowledge transfer process involving local decision makers to address childhood obesity and physical activity needs among low-income, Mexican-American children and to examine environmental policy recommendations generated in this process.

Methods: This pilot study employed a qualitative research design that included the dissemination of primary research data to local decision makers in the Texas–Mexico border region. Stakeholders attending public meetings were briefed about a research project reporting on the physical activity needs of Mexican-American children from impoverished neighborhoods known as colonias. Seventy-four stakeholders responded to an unstructured questionnaire and proposed policy recommendations. Data were collected January–April 2011 and analyzed July–September 2011. Data were analyzed using a content analysis technique.

Results: Four policy themes emerged from the data: (1) establishing sustainable community-based health programs; (2) improving neighborhood infrastructure and safety; (3) increasing access to parks; and (4) supporting community organizations to disseminate health education to parents and children.

Conclusions: Knowledge transfer processes planned and facilitated by researchers at public meetings with local decision makers are effective methods to influence policy development related to childhood obesity.

Introduction

The prevalence of obesity among young children aged 6–11 years increased from 6.5% in 1976 to 19.6% in 2008. Studies show that obesity is more prevalent among Hispanic children than among their non-Hispanic white counterparts. Although it is well documented that physical activity reduces the risk of obesity and other chronic diseases among children, national data show that about 60% of young Mexican-American children aged 6–11 years do not meet physical activity recommendations, in particular, that children aged ≥6 years engage in 60 minutes or more of physical activity every day.

Among multiple factors influencing physical activity, neighborhood characteristics (e.g., access to recreational
facilities, sidewalk conditions, and safety) play an important role. However, research indicates that communities where low-income and ethnic minority families reside have limited access to recreational facilities. Eliminating such inequalities affecting minorities requires multifaceted efforts; these include policy development because of its effectiveness in influencing health and obesity rates among underserved groups and increasing their access to physical activity resources. Grantmakers in Health stressed that public policy can change behavioral norms and improve the environment to reduce childhood obesity, and the CDC Guide to Community Preventive Services (www.thecommunityguide.org/pa/environmental-policy/index.html) recommended environmental and policy approaches to promote physical activity.

Research plays an important role in policy change, and knowledge transfer processes can bridge research and policy. Knowledge transfer is defined as "communicating research results by targeting and tailoring the findings and the message to a particular target audience." The WHO calls for addressing health inequality through knowledge transfer to close the gap between research and practice and proposes that published and unpublished information be shared with policymakers to link health research and its application to public health.

Although more robust research is needed to establish the health and policy impact of knowledge transfer processes, studies have found that knowledge transfer has influenced policy changes on public health issues, including promotion of newborn screenings and immunizations among women; increased governmental support for childhood programs in various states; chronic wound care at community settings; and cardiovascular and mental health initiatives. Despite these findings, there is paucity of research documenting policy development based on knowledge transfer involving researchers and stakeholders to address childhood obesity affecting underserved populations. The current exploratory study aimed to (1) describe a knowledge transfer process that engaged researchers and stakeholders in addressing the physical activity needs and environmental barriers among low-income, Mexican-American children at the Texas–Mexico border; and (2) examine physical activity and environmental policy recommendations generated during this process.

**Methods**

**Participants and Setting**

This exploratory study employed a qualitative research design using short oral presentations, a research brief, and a self-administered questionnaire at public meetings. Data were collected January–April 2011 in Hidalgo County TX and analyzed July–September 2011. Hidalgo County is the second poorest county in the U.S., and it is estimated that 42% of the 2294 colonias that exist in the Texas–Mexico border region are located in this county. Colonias are neighborhoods along the U.S.–Mexico border characterized by poor infrastructure. Colonia residents are very poor, have low levels of education, and have limited access to health care. On average, colonia families have three children.

Study researchers planned and facilitated a knowledge transfer process in collaboration with one community-based organization that had been a research partner since the beginning of the project. Initially, the researchers invited stakeholders to meet on the university campus to share research data with them and obtain their feedback on policy recommendations; however, stakeholder attendance was minimal. Therefore, researchers tried a different outreach strategy—requesting to be added to the agenda of public meetings where stakeholders met on a regular basis, including board meetings and advisory committee meetings. Stakeholders were county and city officials; promotoras (community health workers); community advocates; and school representatives. Public meeting organizers asked researchers to be brief, allotting them not more than 10 minutes to present their research. Table 1 lists the nine meetings attended by researchers.

<table>
<thead>
<tr>
<th>Public meeting</th>
<th>No. of stakeholders</th>
</tr>
</thead>
<tbody>
<tr>
<td>A Resource in Serving Equality (ARISE) Monthly Meeting</td>
<td>17</td>
</tr>
<tr>
<td>Texas A&amp;M Center for Housing and Urban Development (CHUD) Promotora Meeting</td>
<td>15</td>
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<tr>
<td>The City of Edinburg Parks and Recreation Board Meeting</td>
<td>10</td>
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<tr>
<td>Edinburg City Council Meeting</td>
<td>46</td>
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<tr>
<td>Pharr San Juan Alamo Independent School District Health Advisory Council Meeting</td>
<td>9</td>
</tr>
<tr>
<td>Edinburg Consolidated Independent School District School Board Meeting</td>
<td>19</td>
</tr>
<tr>
<td>2011 Texas Recreation and Park Society Institute Annual Meeting</td>
<td>28</td>
</tr>
<tr>
<td>Hidalgo County Border Colonias Program Board and Precinct 2 Officials</td>
<td>5</td>
</tr>
<tr>
<td>Lower Rio Grande Valley Development Council Board of Directors</td>
<td>35</td>
</tr>
</tbody>
</table>

*All public meetings were held in Hidalgo County TX and lasted ~90 minutes. Researchers gave a 10-minute oral presentation at each meeting and handed out a research brief to each attending stakeholder.*
(dissemination of research findings for public and policymaker understanding) and developing policy (promoting awareness and reframing of issues), the researchers systematically shared their research findings with stakeholders attending the public meetings using a 10-minute PowerPoint presentation and distributing to all meeting attendees a research brief, which was printed in color on letter-size high-quality paper with a two-sided format. Both the PowerPoint presentation and the research brief included a summary of the findings previously collected by the research team in a qualitative study with 67 Mexican-American children aged 8–13 years living in colonias (data reported elsewhere).29

Study findings presented to stakeholders showed that 40% of participating children in the study were obese and that the majority did not meet physical activity recommendations (78.7%). Findings presented to stakeholders also indicated that children perceived that their neighborhoods’ characteristics hindered their ability to be physically active. Neighborhood barriers mentioned by the children included trash on sidewalks, speeding cars, unleashed dogs, dark streets, and lack of access to recreational facilities. Children also voiced that having a park close to their home would help them be active and recommended building football fields and basketball courts in their neighborhoods.29

To obtain feedback from stakeholders about their policy recommendations to promote an environment supportive of children’s physical activity, the researchers asked them to fill out a self-administered questionnaire at the end of each public meeting. The questionnaire included two open-ended questions and was developed using a question route technique that allows researchers to address the topics to be examined according to the research aims.30 Questionnaire items were (1) What contribution could agencies/organizations like yours make to develop a built environment that supports physical activity in children? and (2) What policy should be pursued to develop a built environment that supports physical activity in children?

The questionnaire was initially administered to 17 stakeholders, and no revisions were necessary. The questionnaire was administered in English or Spanish, according to the preference of participants. The Spanish translation of the questionnaire was completed using a modified direct translation technique by a bilingual researcher native from Hidalgo County, and then revised by another bilingual researcher. A total of 184 stakeholders were asked to fill out the questionnaire and 74 responded. The response rate in this study was 40.21%, similar to that from previous research with stakeholders, which ranged from 34% to 53%.51–56

Data Analysis

Participant responses were transcribed verbatim and analyzed in the original language using a content analysis technique by two bilingual researchers; 41.9% of participants completed the questionnaire in Spanish. All respondent identifiers were removed to ensure participant confidentiality. A focused coding process was used to analyze the data; the text was independently analyzed. After the initial coding, a focused coding was used to combine or eliminate concepts, and to identify repeated concepts, major themes, and overarching domains. Results were compared, and in cases of theme and domain disagreement during the analysis process, the issue was discussed until consensus was reached. If no consensus emerged, the principal investigator’s decision prevailed. No major disagreements were identified by the researchers. The initial coding produced 15 concepts, and the final coding resulted in four major emerging themes and two overarching domains. The current study was approved by the Texas A&M University IRB.

Results

Data were categorized into two domains: (1) institutional contributions and (2) recommended policies. “Institutional contributions” refers to activities that were being implemented or could be implemented by the institutions that the stakeholders represented. “Recommended policies” refers to policies proposed by the stakeholders that should be pursued by institutions in general. Major emerging themes were identified for each domain. Table 2 illustrates participants’ quotes by domain and major theme.

Institutional Contributions

Stakeholders commented about activities their institutions could do or were currently doing to promote environments supportive of physical activity among colonia children. Two major themes emerged: healthy lifestyle education and infrastructure improvement.

Healthy lifestyle education. Most stakeholders said their organizations could engage in promoting nutrition education among parents. Others suggested that community organizations and government agencies should partner with schools to provide health and nutrition education to community members. Some stakeholders reported their organizations were educating parents through home visits and community presentations by community health workers.

Other stakeholders reported that their organizations could promote physical activity in neighborhoods and offer afterschool programs. Some respondents stated that they could organize events in which parents could learn about the importance of physical activity, and others indicated that their organizations already offered health education activities for children and adults. One organization offered afterschool activities during summer to promote health and fitness education at safe and clean facilities, as reported by a stakeholder. Another stakeholder stated that his/her group provided exercise equipment (e.g., jump ropes and soccer balls) and programs such as karate and yoga for neighborhood children.

Infrastructure improvement. Many participants reported that their institutions could engage in neighborhood beautification projects and provide communities with exercise equipment and facilities. Some respondents mentioned that they were already improving the infra-
structure of colonias with projects involving modifications to streets, roads, and drainage structures.

**Recommended Policies**

Four policy-related themes emerged from the data.

**Establishing sustainable, healthy lifestyle programs.** Many stakeholders called for policies mandating nutrition and physical activity programs. Stakeholders also proposed making physical education classes mandatory in all schools.

**Improving the infrastructure and safety of communities.** Stakeholders reported that local, state, and federal policy agendas should focus on improving the environment of colonias. They specifically stressed the importance of creating and repairing streets and sidewalks, as well as improving lighting conditions. Many stakeholders mentioned the lack of safety as a barrier to physical activity and proposed the enforcement of laws in neighborhoods and public areas to motivate more residents to be active outdoors. The stakeholders expressed a great need for increased police presence during evening hours in the colonias.

**Improving access to parks.** Many respondents suggested building more parks throughout the communities and making exercise equipment available for children. Another suggestion to increase access to parks centered on improving the local transportation system and keeping recreational facilities open to the public until late in the evening.

**Assisting community organizations.** Stakeholders proposed that community organizations receive financial support from the government to promote healthy lifestyle programs.

**Discussion**

This study described a knowledge transfer process through which researchers disseminated research findings to local decision makers in community settings. This process...
produced policy recommendations from stakeholders to promote physical activity among low-income, Mexican-American children living in border colonias. Although stakeholders were asked to propose policies to improve the physical characteristics of neighborhoods to make them more supportive of physical activity for children, their recommendations were not limited to this strategy. Stakeholders’ recommendations also focused on addressing childhood obesity through multiple solutions and interconnecting healthy lifestyles with community infrastructure and health education.

These findings suggest that recommendations proposed by stakeholders resonate with previous research providing evidence of the social and environmental influences on physical activity behaviors. Research supports the notion that neighborhood characteristics influence physical activity.\(^\text{5,40–45}\) There is strong evidence that children with access to parks are more active than those without such access,\(^\text{7,46–48}\) and that urban designs considering connectivity of sidewalks and streets (as well as neighborhood safety) support physical activity behaviors (www.thecommunityguide.org/pa/environmental-policy/index.html).

Although research shows community interventions are effective in promoting physical activity,\(^\text{49}\) previous studies suggest that nonprofit organizations face many challenges sustaining community-based programs in addition to their operational needs.\(^\text{50,51}\) Stakeholder respondents in the current study recommended increasing physical education in schools, and there is strong research evidence that physical education classes are positively associated with physically active children.\(^\text{49}\) Further research is warranted to investigate to what degree community stakeholders are knowledgeable about the scientific literature and in what ways such information influences their opinions and decisions when addressing childhood obesity.

The current findings show that a knowledge transfer process based on the dissemination of primary research data through PowerPoint presentations and a research brief in community settings is an effective strategy to influence policy development in relation to childhood obesity. A policy framework by Ottoson and colleagues\(^\text{13,28}\) proposes to examine policy contributions through a continuum of stages, including problem description and understanding, policy development, and policy enactment and implementation. Based on this framework, study results suggest that knowledge transfer planned and facilitated by scientists at public settings can contribute to policy and practice in at least several ways: by disseminating research data for policymaker understanding (pre-policy stage); by raising awareness among decision makers about childhood obesity (pre-policy stage); and by encouraging local decision makers to frame the issue into policy recommendations (policy development stage).

**Limitations**

This study has several limitations. The number of public meetings attended by researchers and the sample size of stakeholder respondents were small and not randomly selected; therefore, the sample may not be representative of border stakeholders from similarly impoverished geographic areas, and their recommendations cannot be widely generalized beyond this border region. Additionally, it is not clear if these stakeholder groups represented especially low-income or undocumented residents who might be among the most vulnerable populations. Other study shortcomings include the use of a questionnaire not previously tested for internal validity and reliability; no additional triangulation data collection methods; and no calculation of an internal reliability coefficient in the data analysis. Finally, a focused content analysis approach was used versus a more systematic audit of transcribed text using qualitative data analysis software.

**Conclusion**

Despite its limitations, this exploratory study responds to a gap in the public health literature underlining the need for obesity-related research that is better aligned with policy and practice.\(^\text{52}\) A process planned and facilitated by researchers to disseminate primary research data on physical activity issues among local stakeholders in community settings to produce policy recommendations is not a traditional academic practice,\(^\text{53,54}\) but it is a necessary strategy to address the complex phenomenon of childhood obesity. The need for bridging health research and policy as an effective way to change the obesogenic environment has been highlighted by national and international initiatives that acknowledge that health behaviors are policy-influenced.\(^\text{2,13,52}\)

An International Conference convening obesity experts from 33 countries in 2007 warned that because of the complexity of childhood obesity, it is imperative to use a systemwide approach and produce healthy policies based on evidence.\(^\text{55}\) The present study documents that a strategy linking research and policy development is a feasible exercise in real-world settings and has practical implications. Other regions with similar characteristics may replicate the methodology used in the current study to mobilize local stakeholders to take policy action.

Although investigating whether any policies were developed and enacted as a result of the knowledge transfer process described here is beyond the scope of the present study, a local stakeholder (A. Kass, Proyecto Azteca, personal communication, 2012) said that this process influenced her organization’s decision to design a healthy
neighborhood prototype in a *colonia* in Hidalgo County. The proposed neighborhood design includes a basketball court, a playground, and a community facility to promote physical activity among children and their families. The stakeholder mentioned that the research brief disseminated as part of the current study has been a useful tool to educate their constituents about physical activity needs and barriers among *colonia* children. Further research on community-based initiatives promoting healthy neighborhood designs is warranted to determine their impact on reducing childhood obesity.

The current study shows that researchers can play a critical role in the development of policies addressing childhood obesity by (1) disseminating research findings among local stakeholders in community settings and (2) mobilizing stakeholders to generate policy recommendations. Further research is needed to investigate the most effective research data presentation strategies among decision makers to influence health policy, and to conduct health impact assessments of existing and proposed policies addressing childhood obesity.

Findings from the present study have practical application and the potential to influence policy development beyond this specific research effort. A recommended next step is to bring together committed partners in the study region to further reframe the childhood obesity issue, building on the policy recommendations produced by this study. Stakeholders who participated in the current study should be part of an iterative process of mobilization, advocacy, and policy enactment. Previous research shows that building local partnerships with programmatic, promotion, and policy goals is an intermediate step followed by decision-making procedures in the overall policy change process.55–57 Local partnerships must then identify priorities and commit to a sequence of plans and regulations related to urban planning, zoning, land use, pedestrian safety, and/or economic development for improving current neighborhoods and regulating new ones.57–59

Finally, decisions for policy development leading to healthy and active communities should be framed within a socioecologic model, recognizing that health behaviors are not solely individually based but rather influenced by interpersonal, community, and policy factors.60 Particularly, policy development addressing childhood obesity in border Hispanic communities should be comprehensive, targeting not only physical activity behaviors but also nutrition education and urban development as recommended by local stakeholders in this study.

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