

Latina Voices in Childhood Obesity

A Pilot Study Using Photovoice in South Carolina

Myriam E. Torres, PhD, MSPH, Edena G. Meetze, DrPH, Julie Smithwick-Leone, LMSW

Background: South Carolina has one of the highest rates of obesity in the nation and, proportionately, more Latino children aged 2–5 years are obese compared to black and white children in the state.

Purpose: Latina mothers will identify the barriers and opportunities for physical activity for Latino children in West Columbia SC and propose policy recommendations.

Methods: This is a qualitative pilot study with 12 Latina mothers using Photovoice to identify barriers and opportunities for physical activity for their children. Community stakeholder and school staff interviews (eight) also were conducted. Latinas discussed the data collected and developed potential solutions to the problems. Data collection and analysis took place in the city of West Columbia during 2010–2011. Content analysis of focus groups and interview transcripts were conducted using descriptive qualitative coding techniques.

Results: Latina mothers positively described their neighborhoods as their homes but also identified several environmental barriers to physical activity including lack of transportation, not being able to speak English, lack of knowledge of their children's opportunities at school, and feelings of discrimination due to anti-immigration sentiments in the state. Mothers also proposed to improve their family diets, advocate for better equipment in public parks, building of community sidewalks, and increasing neighborhood police presence.

Conclusions: Latina mothers demonstrated knowledge about factors related to childhood obesity and proposed solutions to the problems and worked to organize their communities to present alternatives to policymakers. This study underscores the importance of including community input when planning programs addressing childhood obesity.

(Am J Prev Med 2013;44(3S3):S225–S231) © 2013 American Journal of Preventive Medicine

Introduction

The number of overweight and obese adults and children in the U.S. has increased within the past 20 years.¹ Data from the 2009–2010 National Health and Nutrition Examination Survey show that 16.9% of children and teenagers in the U.S. were obese in this time period.² South Carolina is no exception and has one of the highest rates of overweight and obesity, and physical inactivity, among adults in the country (67.4% and 27.8%, respectively).

In fact, the proportion of obesity among South Carolina Latino children between the ages of 2 and 5 years in

2009 was 37.3% compared to 27.3% and 26.4% for black and white children, respectively.³ Moreover, in 2011, about half of all middle-school children were not active, and approximately 30% of high school students were considered overweight or obese.³ These high numbers of overweight and obese children are startling because overweight and obesity in childhood can substantially increase the risk for serious childhood illnesses such as juvenile diabetes, heart disease, and cancers.

The U.S. Census Bureau⁴ reported that from 2000 to 2010, South Carolina experienced the highest growth among the Latino population (148%) in the U.S. In 2011, Latinos in South Carolina accounted for 5.1% of the population and were mainly young, with low levels of education and income.⁴ As the Latino population continues to grow in South Carolina, addressing their health needs is of the utmost importance in order to eliminate disparities and improve the state's health.

Racial/ethnic differences in health outcomes have been consistently documented in the U.S. and South Carolina. Studies have shown that as Latinos become settled in a

From the Department of Epidemiology and Biostatistics and Consortium for Latino Immigration Studies (Torres), Consortium for Latino Immigration Studies, Arnold School of Public Health, Arnold School of Public Health (Meetze), and PASOs Programs, Arnold School of Public Health (Smithwick-Leone), University of South Carolina, Columbia, South Carolina

Address correspondence to: Myriam E. Torres, PhD, MSPH, Department of Epidemiology and Biostatistics and Consortium for Latino Immigration Studies, Arnold School of Public Health, University of South Carolina, 730 Devine St., Columbia SC 29201. E-mail: Myriam.Torres@sc.edu. 0749-3797/\$36.00

<http://dx.doi.org/10.1016/j.amepre.2012.11.020>

region, they begin to adopt some of the customs from the area they have inhabited.^{5,6} Unfortunately, many of the practices they embrace can be detrimental to their or their families' health, such as consuming fast food and soft drinks, and over-usage of computers and video games.

Although increased acculturation to the U.S. lifestyle increases risk for obesity in Latinos, the reported relationship between acculturation and obesity has been inconsistent.⁷ One study⁸ in particular reported that Mexican-American children, as compared to children from other racial/ethnic groups, are at greater risk for physical inactivity because of increased computer and video game use. In fact, childhood behavioral and environmental influences greatly affect overweight and obesity among children.

Salud America! established the National Latino Childhood Obesity Research Agenda in response to the Latino childhood obesity crisis in the U.S. This group identified the Latino family as the most important factor in preventing childhood obesity among their children, followed by the community, school, and society.⁹ The CDC Youth Media Campaign Longitudinal Survey (YMCLS) reported that 61.5% of Latino children aged 9–13 years did not participate in organized physical activity during nonschool hours.¹⁰

Latino and black parents were more likely than white parents to perceive transportation, opportunities in their area, and cost as major barriers to physical activity participation by their children. In addition, Latino parents were more apt to be concerned about neighborhood safety (41.2%) as opposed to white (8.5%) and black (13.3%) parents. They reported more concern for their daughters (17.6%) than for their sons (14.6%).¹⁰

Obesity and behaviors related to overweight among Latino children may be associated with social and structural environments in which Latino children grow up,¹¹ but overeating in stressful emotional situations was found to be only moderately present among low-income, Latino Grade-4 students.¹² Parent weight has been shown to be strongly associated with child weight; however, whether this influence is primarily biological or social/structural is not entirely clear.¹³

The role of school and community factors on a child's health practices and BMI needs further assessment.¹³ Nevertheless, interventions geared toward the prevention of childhood obesity should include the sociocultural aspects of the Latino community.¹⁴

Cultural differences in the "ideal" body image for children and adults may contribute to the high rates of obesity among Latino children.¹⁵ As a whole, Latina mothers struggling with their own experiences of overweight and obesity express greater concern that their children will become obese.¹⁶ Personal interpretation of body mass is subjective, and unless parents perceive their child as overweight, admitting the need for a lifestyle change may

be impossible. A recent Boston study¹⁷ that looked at maternal beliefs and practices in the Latino culture revealed that the majority of mothers of overweight children did not perceive their children to be overweight.

Being from a family and culture that believes "chubby" children equal happy and healthy children can make it difficult to accept that being overweight, especially as a child, can increase risks for childhood illness. Direct assessment of parents' perceptions of body mass is difficult and not uncommon for Latino parents to express their overweight child do not eat properly.^{1,18} Providing Latino parents with an opportunity to personally assess the cultural, behavioral, and environmental factors that may be influencing their lifestyle choices can ultimately result in healthier alternatives and positive health outcomes.

One of the best methods to help marginalized individuals and communities share their voices and circumstances to date is Photovoice.¹⁹ This process allows those with limited power, due to poverty, language barriers, race/ethnicity, gender, and culture, to use photographs and/or video cameras to capture factors in their environment that may place them at risk for various negative health conditions, including overweight and obesity. Providing marginalized individuals and communities with a tool they can use to share their experiences as well as the obstacles they face on a daily basis is very empowering and can provide a means to solutions and healthier outcomes.

Purpose

The main goal of this project was to utilize the Photovoice process to empower Latina mothers to identify barriers and opportunities for physical activity for Latino children in West Columbia SC. The information gathered was used to generate policy recommendations for that area of the state.

Methods

This pilot project called "*Juntas Podemos* (Together We Can): Empowering Latinas to Shape Policy to Prevent Childhood Obesity" used a community-based participatory research (CBPR) method in which Latina mothers used the Photovoice technique to describe the barriers to and opportunities for physical activity for their children within their communities. Photovoice is a CBPR strategy that combines photography with grassroots action to identify health issues of interest to the community.^{19,20} Further, using all the data collected, the mothers developed potential solutions to the problems identified.

Mothers and community stakeholders were recruited by staff from the South Carolina maternal and child health PASOs programs, as well as SC Hispanic Outreach, a local nonprofit organization. Latina mothers, served by either program, were asked to participate in the project. The study, including the Photovoice training and implementation, received IRB approval from the University of South Carolina.

Data Collection with Latina Mothers

Data collection took place for 6 months in the city of West Columbia during 2010 and 2011. Initially, members of the research team received 18 hours of Photovoice training by a trained Photovoice expert. Training included information on how to facilitate Photovoice trainings with community members.

Twelve Latina mothers (study participants) were trained for 6 hours on the Photovoice technique. All participants signed informed consent forms before the training. The training was conducted in Spanish and included discussions about the ethics of picture-taking, how and when to obtain informed consent from photograph subjects, how to use a camera properly, and how to complete a documentation form for each picture taken. Each participant received a camera and practiced taking pictures.

Participants were asked to take photographs that they thought reflected opportunities and/or barriers that influenced their children's physical activity and nutrition choices. The mothers were instructed to take pictures at home, and in their neighborhoods and communities. Photographs were taken during 1-month increments for a total of 2 months. At the end of each month, completed camera data cards were given to the investigators who were responsible for developing the photos and providing them for discussion during each focus group meeting.

Two focus groups, of at least eight participants each, were facilitated by the researchers and provided the mothers a mean to share and discuss their pictures. To accomplish this, each mother chose the best two or three pictures and completed a SHOWED¹⁹ sheet that consisted of the following questions: *What do you See here? What is really Happening here? How does this relate to Our lives? Why does this situation, concern, or strength exist? and What can we Do to improve the situation, or to enhance these strengths?*

The women created flip charts with their pictures, respective titles and description, and posted their charts on the walls. Each participant was given a marker and asked to place marks on the picture(s) she believed best characterized the groups' view. Pictures with the most marks were chosen to represent the group as a whole. Each woman received a \$15 gift card every time she attended a meeting and, at the end of the project, was able to keep the camera as an additional incentive.

Interviews with Community Stakeholders

Interviews were conducted in English with two community stakeholders (a pediatrician and the City of West Columbia Community Liaison) and school staff (three English as a Second Language (ESL) teachers, two physical education teachers, and a state ESL coordinator). Interview questions were developed by the research team (Consortium for Latino Immigration Studies, PASOs programs, and SC Hispanic Outreach). Items asked about the type of physical activities Latino children were involved in, differences noted in activities between Latino and non-Latino children, and main barriers Latino children face to physical activity. All interviews were conducted, audio-recorded, and transcribed by SC Hispanic Outreach.

Data Analysis

Three focus groups were conducted by PASOs programs' trained facilitators and lasted approximately 1.5 hours each. Transcriptions, in Spanish, were given to the research team for

review and analysis. The last focus group was held after the first two focus groups had chosen their final pictures and the community and school stakeholders' interviews had been transcribed and analyzed. The final focus group consisted of participants analyzing the data captured through their pictures, identifying barriers and opportunities for physical activity for their children, discussing their reactions to the community stakeholders and school staff transcripts, and developing policy recommendations.

A conventional content analysis of all transcripts was conducted using descriptive qualitative coding techniques.^{21,22} Themes and categories were identified. Data were examined using constant comparison, and additional categories were added to reflect nuances in the data.²² Data analysis was guided by the Grounded Theory.²³

Results

Participants were 12 Latina women (11 Mexican and one Guatemalan) aged 25–30 years with an average of 7 years living in the U.S. and in West Columbia. Table 1 shows a summary of the findings by topics among community stakeholders, school staff, and Latina mothers. Analysis of the focus groups revealed the emergence of seven themes in three broad topic areas that are illustrated below.

Topic 1: Feeling of Belonging

The majority of mothers spoke about their homes using terms such as “my home,” “my neighborhood,” and “my city.” Photographs taken by the women described their environment as follows: “An afternoon together, enjoying a public place that's for everyone”; “Housework: helping and exercising” (Figure 1); and “New neighbors exercising together near the house.”

Topic 2: Barriers to Optimal Health for Their Children

Pictures reflecting these barriers were: “A soccer field, but sometimes we can't go for lack of transportation”; “Those of us that work, we take the children to where they keep them, and they just watch television and occasionally walk.” In addition, one woman took a picture of their children eating potato chips and sodas; the picture was named, “They're not eating healthy.”

Additional barriers described by the women that affected their children's ability to achieve optimal health revolved around feeling unsafe in their neighborhoods, because of the bad conditions of the roads, lack of sidewalks, cars speeding, traffic, and single male neighbors who drink alcohol and drive too fast. Some of the photo captions were: “Forgotten avenue. A street that needs fixing up”; “a street without sidewalks” (Figure 2); and “Vacant lot in front of the wooded area. Insecurity in the neighborhood.”

Table 1. Summary of stakeholder interviews and Latina mothers' feedback

Topic	Community stakeholders	School staff	Latina mothers
Who do Latino children play with?	With Latinos and non-Latinos	No separation	With Latinos and non-Latinos
Amount of exercise Latino children get compared to other groups	About the same	Same amount	Same amount, less formal
Any differences between groups?	More soccer Less commitment/more protection by parents Get outside more	Same More soccer More outside play	American kids have more opportunities because their parents have more opportunities
Barriers to physical activities for Latino children	Not as much access Work/transportation Don't feel accepted Don't know about opportunities	No barriers Language	Fear/racism experienced by parents No IDs Time Money, transportation, safety
Suggestions for increasing opportunities	Recreation centers or equipment close to neighborhoods Programs that include Latino children	Same opportunities Parents not knowledgeable Decrease logistical barriers	Reduce cost, transportation barriers for team activities Safe parks in neighborhoods Help parents understand programs and opportunities and organize

Other barriers affecting their children's well-being were related to feelings of discrimination and challenges presented by the anti-immigration legislation and political environment in South Carolina. One woman said, "There is a YMCA and my children say 'let's go there' . . . but that's when discrimination comes in because we're Latinos. The fear of running out and running into the police and because of our color, let's go somewhere else . . . insecurity." When the mothers spoke about the opportunities their children had for physical activity, their photos said, "Equipment in bad shape and places where often they don't let Latino children play" and "A pool, but there aren't many public ones for everyone to use."

Finally, the mothers mentioned other problems including: lack of money to buy exercise equipment or nutritious food; individual or cultural traditions; fast food that is cheap and easy to get; and the food in schools that is not nutritious. One photograph showed a family dinner and the title was, "Too greasy," and another one with a McDonald's sign had the title "Fast food: advertising or health?" A third picture showed a kitchen counter with food and was titled "Unbalanced food with no nutritional value."

Topic 3: Solutions Presented by the Mothers

In the last focus group, participants expressed feeling empowered to make changes on an individual/family



Figure 1. Housework: helping and exercising; labores del hogar: ayudando y haciendo ejercicio

Note: Photo used with permission.



Figure 2. A street without sidewalks; calle sin banqueta



Figure 3. Organic food, an in-home project; comida orgánica, un proyecto en la casa

Note: Photo used with permission.

level, including making healthier decisions regarding family diet, modeling healthy eating, and teaching healthy food choices to their children. The women also mentioned the need to use community resources to obtain information about healthy eating habits for the family and general services/information for their children's well-being. Those resources included pediatricians, school resource personnel such as nurses and teachers, hospitals, police, psychologists, and the U.S. Department of Agriculture's Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) program.

One photograph showing a solution proposal was: "Organic food, an in-home project" (Figure 3). Another picture revealed price differences between regular supermarkets and the flea market: "Vegetables and vitamins that are more expensive than at the flea market" (Figure 4). Finally, the women presented some ideas related to policy changes, including the proposal of organizing to meet with decision makers within the city, as well as with leaders in their trailer parks and children's schools. They said: "We should get together with our neighbors and go talk" and "By getting organized—altogether like the program says **'together we can,'** we can do it. Enough said."

Interviews with School Staff and Community Stakeholders

The interviews with community stakeholders and focus groups with Latina mothers revealed differences of perception between the school personnel, community stakeholders, and Latina mothers. The school staff that were interviewed noted no barriers for Latino children related to opportunities for physical activity. In contrast, community stakeholders emphasized the need to increase physical activity opportunities for Latino families.

Discussion

This pilot study found some similarities and several differences in the ways Latina mothers and community stakeholders perceive physical activity among Latino children. All three groups believe Latino children play with all children (Latinos and non-Latinos) equally and that they get the same amount of physical activity. In contrast, community stakeholders and school staff mentioned that Latino children play more soccer and play outside, whereas Latina mothers focused on the fact that non-Latino families have more opportunities to access physical activity facilities or play in organized sports than Latino families.

Latinas said that factors related to discrimination and lack of state-sponsored identification were barriers to physical activity for Latino children, whereas school staff did not seem to think there were too many barriers for them. The community stakeholders mentioned transportation, lack of knowledge about opportunities, and the fact that Latinos do not feel accepted in their communities as main barriers to exercising for Latino children. All groups suggested decreasing logistic barriers, such as lack of transportation, high costs related to organized sports, and lack of information as a means to promote physical activity among Latino children.

Latina mothers expressed fear and powerlessness due to the current political situation; the mothers mentioned that they would like more opportunities for their children. The Latina mothers said repeatedly that anti-immigrant sentiments and laws were affecting their children's health. Studies using Photovoice have been conducted since the mid-nineties²⁴; however, not many have included Latinos, and none have had Latina



Figure 4. Vegetables and vitamins that are more expensive than at the flea market; verduras y vitaminas más caras que en la pulga

mothers taking pictures of the realities associated with their children's physical activity.

Limitations

This was a pilot study with samples of 12 mothers and eight community stakeholders, making it impossible to generalize the findings. Additionally, some women stopped attending the focus groups because of difficulties with transportation and fear of leaving their home due to anti-immigrant sentiments in the state.

Conclusion

By participating in this pilot study, Latina women were able to express and analyze their perceptions about the barriers and opportunities for physical activity for their children, but after the process they seemed empowered to suggest concrete solutions for some of the barriers identified. Moreover, the mothers showed clear knowledge about the factors related to obesity in their children; this knowledge can be a source of support to reduce sedentary behaviors in their children.²⁵ The use of Photovoice was an appropriate community-based participatory research technique to use with a group of Latina mothers living in the city of West Columbia SC.

The perceptions of the women were different from those of the school staff and other community stakeholders, underscoring the importance of including the Latino population in research processes affecting their families. The results of this pilot project showed that the women could identify factors they believed were affecting their children's health and were able to propose solutions in which they could fully participate. Future studies should include full engagement of the Latino communities in the development of interventions to prevent obesity among Latino children. Health educators and healthcare providers should work side by side with the community to guarantee that programs can be successful because they take into account the social and cultural characteristics of the group as well as their knowledge.

Publication of this article was supported by the Robert Wood Johnson Foundation.

This study was funded by the Robert Wood Johnson Foundation through its national program, *Salud America!* The RWJF Research Network to Prevent Obesity Among Latino Children (www.salud-america.org). *Salud America!*, led by the Institute for Health Promotion Research at The University of Texas Health Science Center at San Antonio, Texas, unites Latino researchers and advocates seeking environmental and policy solutions to the epidemic.

The authors thank the Latina mothers who participated in the study and members of the *Acercamiento Hispano de Carolina del Sur* (SC Hispanic Outreach) who recruited the mothers, coordinated the focus groups, and interviewed community stakeholders.

No financial disclosures were reported by the authors of this paper.

References

1. Fuentes-Afflick E. Obesity among Latino preschoolers: do children outgrow the "epidemiologic paradox"? *Arch Pediatr Adolesc Med* 2006;160:656–7.
2. Whitaker RC, Orzol SM. Obesity among us urban preschool children relationships to race, ethnicity, and socioeconomic status. *Arch Pediatr Adolesc Med* 2006;160:578–84.
3. Simeon R. 2011 South Carolina Obesity Burden Report. SC Department of Health and Environmental Control/Division of Nutrition, Physical Activity & Obesity 2011. www.scdhec.gov/health/epidata/index.htm.
4. U.S. Census Bureau. Census Interactive Population Search 2010. 2010.census.gov/2010census/popmap/ipmtext.php?fl=45.
5. Lindsay AC, Sussner KM, Greaney ML, Peterson KE. Influence of social context on eating, physical activity, and sedentary behaviors of Latina mothers and their preschool-age children. *Health Educ Behav* 2009;36:81–96.
6. Perez-Escamilla R. Dietary quality among Latinos: is acculturation making us sick? *J Am Diet Assoc* 2009;109:988–91.
7. Wojcicki J, Schwartz N, Jiménez-Cruz A, Bacardi-Gascon M, Heyman MB. Acculturation, dietary practices and risk for childhood obesity in an ethnically heterogeneous population of Latino school children in the San Francisco Bay area. *J Immigrant Minority Health* 2011;11:953–7.
8. Anderson S, Economos C, Must A. Active plays and screen time in U.S. children aged 4 to 11 years in relation to sociodemographic and weight status characteristics: a nationally representative cross-sectional analysis. *BMC Public Health* 2008;8:366.
9. Ramirez AG, Chalela P, Gallion KJ, Green LW, Ottoson J. *Salud America!* Developing a national Latino childhood obesity research agenda. *Health Educ Behav* 2011;38:251–60.
10. CDC. Physical activity levels among children aged 9–13 years—U.S., 2002. *MMWR Morb Mortal Wkly Rep* 2003;52(33):785–8.
11. Strauss RS, Pollack HA. Epidemic increase in childhood overweight, 1986–1998. *JAMA* 2001;286:2845–8.
12. Garcia RS. No Come Nada. *Health Aff* 2004;23:215–9.
13. Rollins BY, Riggs NR, Spruijt-Metz D, McClain AD, Chou CP, Pentz MA. Psychometrics of the Eating in Emotional Situations Questionnaire (EESQ) among low-income Latino elementary-school children. *Eat Behav* 2011;12:156–9.
14. Elder JP, Arredondo EM, Campbell N, et al. Individual, family, and community environmental correlates of obesity in Latino elementary school children. *J Sch Health* 2010;80:20–30.
15. Scribner R. Paradox as paradigm—the health outcomes of Mexican Americans. *Am J Public Health* 1996;86:303–5.
16. Contento IR, Basch C, Zybert P. Body image, weight, and food choices of Latina women and their young children. *J Nutr Educ Behav* 2003;35:236–48.
17. Lindsay AC, Sussner KM, Greaney ML, Peterson KE. Latina mothers' beliefs and practices related to weight status, feeding, and the development of child overweight. *Public Health Nurs* 2011;28:107–18.
18. Baughcum AE, Chamberlin LA, Deeks CM, Powers SW, Whitaker RC. Maternal perceptions of overweight preschool children. *Pediatrics* 2000;106:1380–6.

19. Wang CC. Photovoice: a participatory action research strategy applied to women's health. *J Womens Health* 1999;8:185–92.
20. Wang CC, Redwood-Jones YA. Photovoice ethics: perspectives from Flint Photovoice. *Health Educ Behav* 2001;28:560–72.
21. Hsieh H, Shannon S. Three approaches to qualitative content analysis. *Qual Health Res* 2005;15:1277–88.
22. Pope C, Ziebland S, Mays N. Analysing qualitative data. *Br Med J* 2000;320:114–6.
23. Johnson CM, Sharkey JR, Dean WR. It's all about the children: a participant-driven photo-elicitation study of Mexican-origin mother's food choices. *BMC Womens Health* 2001;11:41.
24. Wang CC. Empowerment through photo novella: portraits of participation. *Health Educ Q* 1994;21:171–86.
25. Cong Z, Feng D, Liu Y, Esperat MC. Sedentary behaviors among Hispanic children: influences of parental support in a school intervention program. *Am J Health Promot* 2012;26(5):270–80.

Did you know?

You can search over 500 top health sciences journals online, including MEDLINE, via the *AJPM* website.

Visit www.ajpmonline.org today!