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RESEARCH ARTICLE

Understanding Cultural Factors Contributing to Obesity in Head Start Hispanic Preschoolers: Perceptions from One County Head Start

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Obesity rates among low-income Hispanic preschoolers are higher than those of low-income whites, highlighting the need for understanding the culturally factors that may contribute to obesity. Utilizing a community-based approach, a survey was distributed to Hispanic Head Start families; preschooler body mass index (BMI) was calculated. Two focus groups examined caregiver perceptions about weight status and meal practices. The rate of overweight/obesity in the preschoolers was 44%, whereas, 79.4% of caregivers reported child weight as "normal." Caregivers perceived "thinness" as a disadvantage, favored home-cooked meals, and expressed a desire for children to assimilate to mainstream foods, but these practices could contribute to unhealthy weight status. Obesity prevention within Head Start must account for caregiver perceptions of healthy weight and incongruities between cultural values, meal practices and weight guidelines. Findings provide considerations for Head Start programs when designing culturally-relevant obesity prevention programs that are responsive to Hispanic families' cultural needs and perceptions.

Keywords: low-income, Hispanic, preschoolers, obesity prevention, cultural perceptions

Hispanics are the fastest growing minority group in the US, with an estimated one in three US children identifying as Hispanic by 2030 (Colby & Ortman, 2015). The Hispanic community is at a higher risk for developing a variety of health conditions (Centers for Disease Control and Prevention [CDC], Minority Health, 2015) and low-income Hispanics in particular are at an increased risk of developing obesity. The prevalence of childhood and adolescent obesity is higher among Hispanics (22.4%) than among non-Hispanic whites (14.1%) (Skinner & Skelton, 2014). According to the Ohio 2014 Pediatric Nutrition Surveillance System (PedNSS) data, the

prevalence of obesity in low-income Hispanic children age 2 to <5 was 17.9% compared to 13.5% in low-income non-Hispanic whites (Hornbeck, 2016). Obesity during childhood places a child at higher risk for additional health risks such as diabetes, hypertension, and cardiovascular disease (Dietz, 1998), highlighting the need for identifying and intervening early within the Hispanic community, particularly among preschoolers. The reasons for this disparity in Hispanic preschooler childhood obesity rates are multifactorial, however it is critical to understand the specific influences of culture that may contribute to higher obesity rates among this population in order for culturally relevant interventions to be designed and delivered (Laws et al, 2014).

Literature Review and Theoretical Framework

The Institute of Medicine's *Accelerating Progress in Obesity Prevention* (IOM, 2012) report recommended a comprehensive approach to childhood obesity prevention that includes the community. The increasing socioeconomic and health disparities over the last twenty years (US Department of Health and Human Services, 2005; Berkman, 2009) underscore the need to design effective interventions that meet the needs of diverse populations. Before effective interventions can be designed and implemented, community organizations and stakeholders need to be engaged in a systematic process of identifying and outlining the relevant issues. Community level interventions require a research methodology that takes into account the social and cultural dynamic of a community and its members. As such, community-based participatory research (CBPR), a research paradigm that espouses equitable community partnerships to address community health issues and eliminate disparities, has become a widely accepted research approach used to better understand issues of public health concern (Israel, Schulz, Parker, Becker, 1998; Minkler, 2010).

Within CBPR, *community* is defined as individuals who share a common identity and may not include a geographical location (Israel, Eng, Schulz, & Parker, 2005). CBPR is an important community-based research paradigm because the practices and strategies improve the quality and validity of research findings through the inclusion of community members in the research (Israel et al, 2005b). This approach to research is unique in that it values the contributions and capacity of community members throughout the process (Minkler & Wallerstein, 2008).

CBPR methods have been used to combat childhood obesity and to better understand the disportionately higher rates of obesity among Hispanic children (De la Torre et al., 2014; Schaefer, Camacho-Gomez, Sadeghi, Kaiser, German, De la Torre, 2015). The Robert Wood Johnson (RWJ) Foundation's 2014 State of Obesity Special Report on Racial and Ethnic Disparities in Obesity recommends that community-based strategies and interventions are culturally and linguistically appropriate to maximize effectiveness. The report also highlights recommendations that Latino parents be educated about childhood obesity and the importance of healthy eating and promotes community partnerships to leverage resources and expertise to create solutions. For example, the Healthy RC Kids Partnership (RWJ, 2014) utilized CBPR collaboration between residents and community stakeholders in a low-income Latino community in California to identify barriers to healthy eating and active living. The Idaho Partnership for Hispanic Health project utilized CBPR to identify Hispanic families' barriers to healthcare through a community assessment. Results of the assessment subsequently informed the design of a community-based program. CBPR has also been used within Early Head Start, a birth to three

program for low-income families, to understand how the family support approach affected the health and development of the children (McAllister, Green, Terry, Herman, & Mulvey, 2003). Authors in these studies concluded that the CBPR approach enhanced the creation of conclusions which led to the development of more culturally relevant and effective programs.

Studies conducted among low-income Hispanic families have shown that Hispanics present certain beliefs and attitudes that may influence parent behavior regarding feeding practices (Vera-Becerra, López, & Kaiser, 2015) and that these beliefs and attitudes are different for non-Hispanic groups such as whites (Gomel & Zamora, 2007) and African Americans (Skala, Chuang, Evans, Hedberg, Dave, & Sharma, 2012). In a recent review, Russell et al. (2016) highlighted a gap in understanding the behaviors of parents and children from disadvantaged backgrounds that contribute to obesity in children. Evidence from this review suggested that predictors of child obesity in early life, such as unhealthy feeding practices, poor diet, and sedentary behaviors are more prevalent in economically disadvantaged families. However, only three studies in this review of the literature included Mexican families, and those did not specifically address cultural factors.

It is important to note that needs assessments and interventions developed as a result of the CBPR process are unique to each community and not necessarily transferrable from one community to another. As such, the needs and barriers of each community must be assessed. This is especially important for addressing the needs of Hispanic communities, which can differ from each other significantly in terms of immigration status, country of origin, income and educational levels, and integration within the larger community.

Project Background

Given that approximately 21% of Head Start families in the selected Ohio county self-identified as Hispanic in the 2014-2015 academic year, and that Head Start provides parent education, support and resources to build a healthy family, Head Start is an ideal organization to assist in generating a more comprehensive understanding of the multiple factors that contribute to the higher rates of obesity among low income Hispanic preschoolers in order to develop effective interventions (Office of Head Start, 2015). As such, the authors of this study partnered with an Ohio county Head Start program who had identified obesity as a health concern based on a 26.7% obesity rate among Hispanic preschoolers in the county. Utilizing a CBPR approach, the researchers, key stakeholders and community members developed a survey and conducted focus groups to assess the specific barriers present in the healthy weight status in this Hispanic Head Start community.

The purpose of this study was to better understand barriers that Hispanic families in this county face in raising healthy weight Head Start preschoolers. To achieve this goal, and based on previous findings of factors that contribute to obesity among low-income Hispanics, a multimethod research study was implemented to examine Hispanic parents' perceptions of 1) their child's weight status and 2) the influence of culture in their food selection, preparation and meal practices that may contribute to the child's weight status. The long-term objective of this study is to use this information for the design of culturally relevant obesity prevention interventions. The research questions that were generated in conjunction with Head Start leadership and an advisory board included: 1) What are Hispanic parents' perception of their

Head Start children's weight status? and 2) How does their Hispanic culture influence food and meal practices that might contribute to weight status?

METHODS

This study employed both quantitative and qualitative data collection methods. The quantitative data consisted of both a parent survey, and height and weight measurements of the Head Start preschoolers resulting in a calculated body mass index (BMI) percentile. The qualitative data were elicited via two Hispanic focus groups.

An advisory board, consisting of the researchers and Head Start parents, teachers, family service workers, and administration from this county, was created to collaboratively facilitate the research process. This advisory board was representative of the county Head Start community. The parent survey was developed by the advisory board to examine family meal preparation and eating practices. Survey responses were then used to inform questions for focus groups conducted with a sample of Hispanic caregivers to provide a deeper understanding of survey results.

The research team conducted a review of the literature prior to the initial advisory board meeting in order to better understand the categories for assessing child eating and physical activity behaviors. The National Health Nutrition Examination Survey (CDC, 2016) and *5-2-1-0* obesity prevention recommendations from the *Childhood Obesity: Assessment, Prevention and Treatment Expert Committee* (Barlow & the Expert Committee, 2007) were used to guide initial discussions with the advisory board. Survey development was done in conjunction with the input and feedback from advisory board members, who were not only members of the Head Start community, but individuals with a professional and/or personal understanding of child health. The advisory board identified important categories to assess, including child and family eating habits, intake of fruits and vegetables and sugar-sweetened beverages, physical activity, shopping, cooking, food insecurity, healthcare access, screen time, and demographics. Board members were instrumental in helping construct the questions to enhance participant readability and understanding. Several board members represented either parents or providers of Hispanic children enrolled in the program and as such were able to provide the research team with additional information on how to make the survey culturally-relevant and sensitive to the needs of the Hispanic families served by the program. Prior to survey administration, several parent representatives on the board completed the survey and provided additional suggestions on clarifying the wording of questions or survey instructions. The study was approved by Miami University's Institutional Review Board.

Participants

Participants for both the survey and focus groups included caregivers of preschoolers from one Ohio county Head Start program who self-identified as Hispanic during the 2014-2015 academic year. Participants were recruited with assistance from the Head Start teachers and Family Service Workers and data collection occurred during the monthly parent meetings. Recruitment flyers and posters were created in Spanish and English, disseminated to families and displayed at each Head Start site in the county. Participants were invited to attend the October monthly parent

meeting and were also incentivized for participation with lunch and a grocery gift card. During the monthly parent meetings, parents completed the survey and families were invited to participate in the focus groups. Sixty-three Hispanic caregivers completed the survey; demographic data for this sample is presented in Table 1. Participants for the focus groups included twenty-nine caregivers including one male and twenty-eight females. All focus group participants were first-generation immigrants from Mexico. No other identifying characteristics were collected from the participants to minimize potential concerns for possible undocumented families.

TABLE 1
Hispanic Survey Participant Demographic Data

Demographic Question	Frequency (n=63)	Percent
What is Your age?		
20-25	23	36.5
26-30	11	17.4
31-35	17	27.0
36-40	10	15.9
46-50	2	3.2
Primary language spoken		
English	2	3.2
Spanish	51	81
English and Spanish	7	11.1
No response	3	4.8
Which category Best describes you?		
Parent working in the home	48	76.1
Parent working outside the home	16	25.4
Parent in technical school or college	2	3.2
Teen parent in school	1	1.6
Grandparent/guardian	1	1.6
Number of children under 18 living in household		
One	7	11.1
Two	10	15.9
Three	28	44.4
Four	13	20.6
Five	2	3.2
Six	2	3.2
Seven	1	1.6

Which of the following adults live in your household?		
Mother	61	96.8
Father	47	74.6
Grandparent	3	4.8
Aunt/uncle/cousin	16	25.4
Sibling/in-law	2	3.2
Guardian/Foster parent	1	1.6
Step Parent	3	4.8
Boyfriend/Girlfriend/partner	1	1.6
Which best describes your family?		
Two-parent family	56	88.9
Female Head of Household	4	6.3
Male Head of Household	0	0
No response	3	4.8
Do you receive SNAP or Food stamp benefits?		
Yes	47	74.6
No	12	19.0
I don't know	1	1.6
No response	3	4.8
Do you receive WIC benefits?		
Yes	47	74.6
No	12	19.0
No response	4	6.3

DATA COLLECTION AND MEASURES

Quantitative

A 65-item survey, created in both English and Spanish, was developed in conjunction with the advisory board and included questions about weight status, food intake, meal- and food-related practices, and food insecurity, as well as specific questions about cultural foods and practices. The demographic data collected included self-identified ethnicity, home language, and household information. Survey data was collected during the monthly parent meetings in October 2015 in all of the Head Start locations in the county. Instructions for completion of the consent form and survey were read aloud in both English and Spanish. During the meeting, child height and weight were measured using the portable Health-O-Meter 800KL digital scale and Secca stadiometer and entered on the survey. A standardized measurement protocol was used to ensure consistent measurement. Body mass index (BMI) percentiles were calculated for each student using the Center for Disease Control's BMI percentile standards (CDC,BMI percentile calculation, 2015).

Qualitative

After the survey data was collected and analyzed, two forty five-minute focus group sessions were held at one of the Head Start sites in which all families were Hispanic. Parents who completed the survey were invited to participate in the focus group sessions. The Family Service Worker introduced the native Spanish-speaking researcher to the group. Consent forms were distributed, explained, and signed prior to participation. Both sessions were conducted entirely in Spanish. The focus group facilitator encouraged participation, promoting an open exchange of dialogue among the group, and all participants were provided the opportunity to contribute to the discussion and given adequate time to explain their experiences. The majority of parents (all but one at each session) were active in sharing their experiences. Table 2 outlines the focus group questions. Probing was used to follow-up on questions and provide clarification to answers.

TABLE 2
Focus Group Questions for Hispanic Caregivers

In a typical day, what types of foods do you eat? Tell me about the role of food in your culture. What is the importance of food and weight as an aspect of your culture? Please describe and provide examples.
What is your experience with meals in your home? Follow up: Do you cook? Do you eat meals together? Where do you eat meals? Is there anything you would like to change about your meal routine? What are your children's favorite meals?
Tell me about your grocery shopping experience. Tell me about the types of foods you purchase. Follow up questions: Is it easy to find the food you want from your culture? Are there foods that you would like to have but are not available?
Do you think there are differences between your food choices and eating habits, and those of other non-Hispanic families? It may help to think about when you eat, who you eat with, how often you go out for dinner, etc.

Data Analysis

Using SPSS (IBM Corp., 2013), frequencies were calculated from the quantitative data. The focus group recordings were transcribed verbatim in Spanish and then translated into English. Content analysis and open coding were conducted in which the transcripts were reviewed and then coded. Codes were assigned to the text; similar codes were classified into categories; categories were grouped to form themes (Strauss & Corbin, 1998). Themes were substantiated with participant quotes. The quotes were chosen based on their ability to best capture the central themes identified. Data saturation was achieved following the second focus group, at which time no new categories or themes emerged from the analysis of interview transcripts. The findings

were triangulated with information from the quantitative survey data and through member checking following data analyses of focus group sessions. The procedures for the data collection and analysis are outlined in Figure 1.

Figure 1. Data Collection Procedures

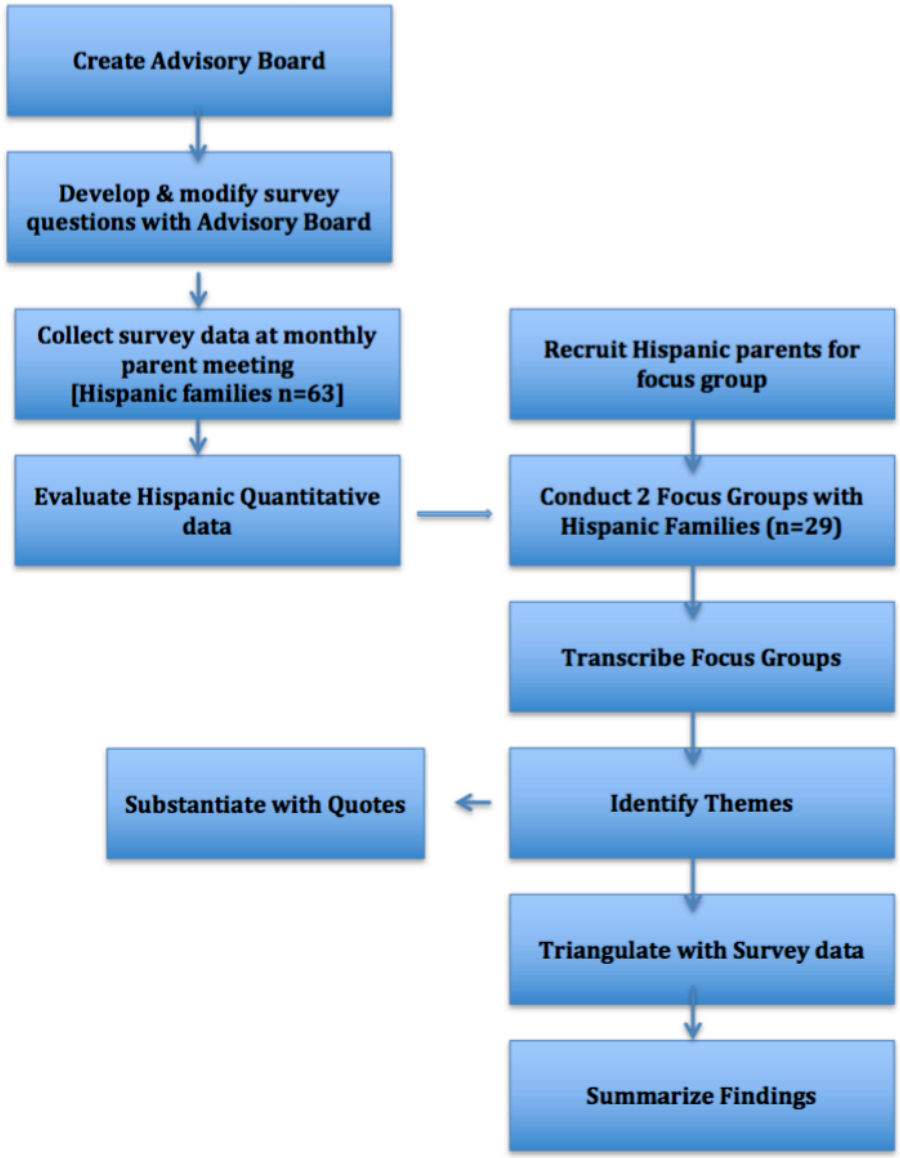

Figure 1. Data Collection Procedures

RESULTS

Survey

Sixty-three Hispanic caregivers completed the survey. Highlights of the parent survey are presented in Table 3**.** Responses related to weight perceptions, family meal preparation and dining habits, and cultural food accessibility are shown. Seventy-nine percent of parents perceived their child's weight as normal, whereas only 4.8% perceived their child to be overweight. Nearly 21% of parents were not confident that their child eats enough. In terms of meal preparation, 85.7% reported always preparing meals at home, 71.4% always prepare meals from their culture, and 36.5% perceive meals from their culture to be more nutritious. Over half of the respondents (55.6%) stated that foods from their culture are easily available. In addition to preparing meals at home, 76.6% of caregivers identified that they always eat meals at the table.

TABLE 3
Frequency Table of Survey Responses

Survey Question	Frequency n = 63	Percent
At this time, I think my child's weight is		
Underweight	2	3.2
Normal weight	50	79.4
Overweight	3	4.8
No response	8	12.7
I am confident that my child eats enough		
Never/Seldom/Sometimes	13	20.6
Often/Always	47	74.6
No response	3	4.8
Meals are prepared at home		
Never/1-2 days week	0	0
3-4 days week	0	0
5-6 days week	7	11.1
Every day	54	85.7
No response	2	3.2

My family eats meals at the table (versus in the car, in front of the TV or computer)		
Never/Seldom	8	12.7
Sometimes/Often	5	8.0
Always	47	76.6
No response	3	4.8
I prepare foods from my own culture (e.g. Mexican)		
Never/Seldom	0	0
Sometimes	3	4.8
Often	11	17.5
Always	45	71.4
No response	4	6.3
Where do you get information about healthy eating, active play, healthy growth and weight (Check all that apply)?		
Doctor/Nurse	51	81*
Internet/website/Google search	21	33.3*
Head Start school staff	26	41.3*
Friends	9	14.3*
Family members	12	19*
WIC	13	20.6*

Note. *These percentages are not cumulative

Focus Groups

Three major themes were identified through the qualitative data analyses: (a) Belief that "being skinny is not healthy" (b) Value of home cooked meals and eating together, and (c) Hispanic community network as a source of health and nutrition information. The qualitative themes are presented in relationship to results of the parent survey.

Belief that "being skinny is not healthy". The survey results indicated that Hispanic parents' perceptions of their child's weight were not congruent with the actual BMI measured by the research team, as shown in Table 4.

TABLE 4
Comparison of child actual BMI percentile and caregiver perception of weight status

	Underweight	Normal	Overweight/Obese	No response
Percent of children in BMI percentile classification	8.5%	47.5%	44%	N/A
Caregiver perception of child weight	3.2%	79.4%	4.8%	12.7%

All of the participants' comments related to weight focused on the disadvantage of thinness. In fact, one participant stated that, "In the Hispanic mentality, being skinny is not healthy". This statement points to a cultural perception of body image and the undesirability of being thin within this group.

> I let her eat because she is skinny and small…. she is skinny and I do not know about your families but my grandmother, for example, was obsessed about us not being skinny because she related skinny to not being healthy.

> I tell the pediatrician 'she does not gain weight' and she performs a physical on her. After all they said 'your daughter is well; her weight and height are OK; do not worry about her.' I still get concerned, but they say everything is OK, but I do not think she gains any weight.

> I have a daughter who is 8 years old, she is very skinny. Someone told her that she does not look Hispanic. And I ask her "why?". "Because I do not have hips and all Hispanic girls have hips.
> This concern about the disadvantage of "thinness" also led parents to cook in order to please their children or get them to eat more food, as well as providing new culture foods to accommodate their children's exposure to American foods.

Cook to please. Focus group participants collectively discussed the importance of "cooking to please". Conversations surrounding meal preparation highlighted parent concern regarding "thinness". Participants admitted to making a variety of foods in order to increase child food consumption during meal times, "I have to make a lot of food, hoping they would eat the same thing, but cooked in a different way." One participant stated, "You cook to spoil your children with what they like to eat". Another stated, "At times it seems like we have a buffet…..however I do make it hoping that they (the children) will eat it. We all try to cook what they like to eat so they can eat it". Parents expressed concern with their children receiving appropriate nutrients. Concern was also expressed about others' perception of their child's weight, as it related to thinness. One parent stated "She (the child) eats well, but she is slim, some people will think that she eats small amounts but she eats a lot. No one believes it".

Providing new culture foods. The focus group participants also reported attempts to maintain their traditional ways of cooking. However, they felt it was important to integrate American meals/foods into their children's diet in order to support the child's assimilation with American culture. Incorporating American foods was also cited as another strategy for increasing the amount and types of foods consumed by participants' children, especially as children became more accustomed to American foods through school meal programs. One participant stated, "My children eat homemade food. If they want to eat (fast food) like, three times a month, we take them to Wendy's, to give it (American food) a bit more." Providing these new culture foods is another way for caregivers to decrease their own concerns about the child being too skinny, as well as cooking to please their children and assuring that they will eat.

Sometimes I cook American food for my daughter. […] The oldest goes to school, eats American food. Then, sometimes she's invited to parties too, and her friends are American, they eat, and so I try to get her used to it, I cook macaroni and cheese, and other American meals.

Hispanic families perceived their cooking as a healthier option than the food provided by American families. One parent stated, "Americans eat what they take with them, they unpack it and put it in the microwave or the oven. And that's it." Although participants perceived American food to be pre-packaged and more processed than that prepared in the Hispanic community, they still felt it was important to offer American foods to their children.

Value of home-cooked meals and eating together. Results of the survey indicated that Hispanic families have several meal-related practices (cooking meals at home and eating meals at the table) that have been associated with lower obesity rates (Gable, Chang, & Krull, 2007). For instance, 85.7% of Hispanic families reported cooking meals at home every day and 76.6% reported eating meals at the table (as opposed to doing it in front of the TV or in the car). In terms of cooking meals from their home cultures, 71.4% of Hispanic families reported doing so every day, while 17.5% did so often. In addition, only 7.9% considered those meals less nutritious than typical US meals.

During the focus groups, participant comments indicated that cooking meals at home and eating together were valued practices in their country of origin and were traditions they wanted to instill in their offspring, "When I was a little girl…. we all eat together, and it was the time that we all share together". Another participant stated, 'In my house, we eat only the food that I cook, not food from another place. In my home, we have homemade food if my children want to eat food.'

Challenges with parenting at meal times. Although parents discussed the importance of eating together as a family, the majority of participants identified challenges faced during family mealtimes. These challenges focused on children's attempts to use electronic devices (such as tablets and IPads) or to watch television while eating. One participant stated, "The children are eating with the tablets next to them. I have to tell them that tablets are not allowed at the table."

> Sometimes they come to the table with their tablets or with their toys and I have to tell them that we need to sit down to eat. They sit down but they want to play with their toys and I say "put the toy to the side" and then they do not want to eat.

Another mealtime challenge discussed was parent perceptions of their children as "picky eaters". "My children do not like to eat anything green; no color green. What do you do? ...Do you think they should eat it? Do you pressure your children to eat it?" "There's a brand of milk I started buying for my children [...] but they don't like it. It is the same milk, the blue cap. Kroger brand they will drink, I don't know if it has a bad flavor. I think it does depend on the brand."

Parents discussed their own childhood mealtime experiences versus that of their children, "In Mexico, we used to eat first and play and watch TV when we were done." One participant stated, "I would like to pass practices/traditions on to my children, but now the rules have changed and children dictate the rules." Another replied, "Children used to listen to their parents-which is the difference."

Influence of Head Start on child eating practices. According to participant comments, Head Start plays a significant role on the eating practices of the children enrolled in the program. Child food preferences are often sculpted by the school environment, where meals and snacks are offered on a daily basis for children in the program. One parent shared "I have one daughter that likes stew broccoli but the other one does not because at school they do not cook it like that". Another parent stated that "I cook American food for my daughter because they are here….and go to school and eat American food there".

Changes in the type of milk offered at the school (transition from 2% to 1% milk) have created discrepancies and additional challenges for parents, "She has no problem drinking milk at home, but the milk at school is different. I think it's the flavor of the milk..[I buy] the one with the red lid". Another parent stated, "There is another milk with the blue lid, but it comes like clear water. My daughter does not like it because it tastes like water."

Hispanic Community Network for Health Information. Networks of support are strongly embedded within this Hispanic community. One participants stated "It is all about Hispanic mothers and mothers in general supporting each other during the morning that we have to go to work". Participants also alluded to information shared within their community. Health and nutrition information, while not necessarily verified as accurate or factual information**,** is shared among the women. For example, one caregiver stated" I do not know if you know who I am talking about, but she says broccoli can make some people sick." Other types of information shared included specific information about allergies "If you feel sick after drinking milk, it could be that you are milk intolerant".

While survey results indicated that 81% of Hispanics get their health information from the doctor or nurse, 33% selected internet and another 33% selected family or friends. Based on discussions, participants revealed that they received information from clinics, but they may not necessarily follow the suggestions. Internet information may be in the form of YouTube videos, which are typically found by their older children. One participant stated, "I hear about it (information) on the internet, about Cheetos, the fat ones with cheese. They are the ones that my daughter does not like since she saw the video." Another participant followed up by stating, "Cheetos, I honestly don't buy them because I have seen the YouTube videos and saw that Cheetos is made from petroleum."

DISCUSSION

The results of this study reveal important factors that must be considered when addressing obesity in low-income Hispanic populations including caregiver beliefs about ideal body weight and shape, the value and importance of traditional meal practices and the desire to integrate some of those practices with mainstream American practices, and optimal resources for obtaining information about child health and nutrition. An unexpected finding of this study was that some of the information obtained from the qualitative and quantitative methods did not align as anticipated. Data from the focus group interviews provided more nuanced understanding about parent perceptions and beliefs and in some cases, revealed the potential for misinterpretation when only one data source is viewed.

According to anthropometric readings, 44% of the sample was overweight or obese. However, the majority (79.4%) of parents perceived their child's weight status to be within normal limits for age. Examination of focus group discussions demonstrated that perception of child's weight status was influenced by family/cultural norms. The caregivers in this group expressed preoccupation about the undesirability of thinness, rather than concerns about obesity, a trend seen in other studies with Hispanic parents (Gomel & Zamora, 2007), and more importantly, they presented their weight perceptions in cultural terms, as reflecting Hispanic constructions of a desirable body, just as other Hispanic groups in the literature (Messiah, Asfour, Arheart, Selem, Uhlhorn, & Natale, 2015). This has important implications, since Hispanic parents' inability to recognize overweight due to their cultural and social norms may prevent them from engaging in obesity prevention (Ganter, et al., 2015). An additional concern is parents' lack of association between obesity and health problems, which echoes research that has suggested that Hispanic mothers do not associate their child's weight status with global ratings of their child's overall health (Baker & Altman, 2015). This positive perception of overweight (or lack of concern) may create barriers in the form of parent lack of engagement in behavior change around healthy eating and physical activity. Parents felt satisfied with the child's weight and therefore saw no reason to engage in action to make change. The implication of this finding is that obesity reduction interventions may not be effective unless caregivers understand and agree to the importance of maintaining a healthy weight. Additionally, school to parent communication about children's weight status needs to include important education regarding the relationship of the child's weight status to chronic health risks. This is an important factor as research has concluded that parental recognition of their child's overweight is inversely related to healthy eating habits and physical activity (Vanhala, Keinanen-Kiukaanniemi, Kaikkonen, Laitinen & Korpelainen, 2011). Collaboration with Hispanic parents to discuss healthy weight and develop culturally-relevant communications that are sensitive to beliefs and practices should be an important priority for the Head Start community. Head Start needs to take parental perceptions of weight into account when designing obesity prevention programs, as the lack of recognition of overweight creates barriers to change in healthy eating and physical activity.

The caregivers expressed their efforts to eat home cooked meals as a family as often as possible, a trend that mirrors the opinions of other low-income Hispanic parents (Skala, Chuang, Evans, Hedberg, Dave, & Sharma, 2012). Our research did not examine the specific content of these home-cooked meals, therefore further research needs to explore what constitutes these meals cooked at home and how country of origin influences menu selection. It is important to examine food selection and preparation practices at the local level because of the multiple

intricacies of Hispanic cultures that vary from country to country, and across socioeconomic and racial groups. In this study, Mexico was the country of origin for the focus group participants. According to Mexico's secretary of health, Mexico leads the world in childhood obesity. In a 2010–2011 census of weight and height of public elementary school students ages 6 to 12 in Mexico City, 43% of boys and 37% of girls were overweight or obese (Mexico Secretary of Health, 2015). These data suggest that one must not assume home-cooked meals based on country of origin food practices will necessarily result in a healthy weight and that it can be misleading to characterize Hispanic traditional food and meal practices as healthy (Vera-Becerra, Lopez, & Kaiser, 2015). Working with Hispanic families to generate new recipes, adapt their traditional recipes to make them healthier, and/or offering caregiver-child cooking classes to assist with picky eating could be effective strategies for improving weight status while simultaneously embracing their cultural heritage.

Hispanic caregivers reported adding to current family meal traditions to become "more American". The views expressed about American practices focused on offering children fast food and introducing them to "party foods" such as macaroni and cheese, hot dogs, and pizza. These views point to a need to develop intervention strategies that account for the value of both their own cultural practices and US-style eating. That is, families need guidance in choosing healthier American practices to adopt when attempting to help children integrate with the mainstream culture. The importance given to maintaining cultural meal and cooking practices, while at the same time adopting practices and foods of the new culture, show how the integration of different cultural attitudes and behaviors is not a clearly defined, one-directional development that leads to assimilation, but a complex process of multiple outcomes.

Caregivers reported they did not view health care professionals as the only source of information related to child nutrition and wellness. Although caregivers may be receiving nutrition information from healthcare providers as confirmed in our survey data, the focus group data suggest that we must consider the role of alternative sources of information for families and the extent to which these sources reinforce or challenge cultural perceptions of healthy weight and body image. This highlights the importance of better understanding how families obtain and share health information. For example, easy access to Internet content in Spanish makes health information less dependent on the medical establishment, which is, for the most part, an English-speaking medium. In addition, the caregivers also relied on their own individual and collective parenting skills. Hispanic families have been shown to disregard child feeding recommendations by healthcare providers based on the variances between these recommendations and cultural/family practices (Franzen-Castle & Augiree, 2015). Informal health communication strategies are common among US Hispanics (Katz, Ang, & Suro, 2012) and help explain why these caregivers did not problematize their relationships with doctors when discussing nutrition. Easy access to the Internet in the home language, and close community ties can be important assets for access to, and dissemination of health and nutrition information, but the example of the Cheetos video on YouTube shows that families need skills to critically evaluate the information they are receiving from these alternative sources. Possession of those skills should not be automatically assumed when preparing educational materials for the Head Start community.

IMPLICATIONS FOR PRACTICE

Interventions targeting Hispanic families need to consider the role of the caregivers' cultural practices as well as the social network in child rearing, feeding/meal practices and nutrition/health education. Data from focus groups confirm that Hispanic families seek information related to parenting and health from friends and family members. As such, networks of support need to be clearly identified and included in the education of Hispanic families. As Head Start examines strategies for addressing childhood obesity for this subgroup, interventions must purposefully consider the influence of a family's social network on the receipt and transmission of health information. Specific recommendations include:

- Ensure that Head Start policy council/advisory boards include families from the Hispanic community in order to examine if policies and communications are culturally relevant and sensitive to the needs of families in the program.
- Future research needs to examine the most effective way for educating and reaching Hispanic families that may be similar or different to how traditional Head Start families are educated. The overarching goal of Head Start is to support the mental, social, and emotional development of children while also providing children and their families with health, nutrition, social, and other services. Primary methods of family education include written messaging sent home in the child's backpack and monthly parent meetings held at the Head Start locations. Given what we have learned about the potential beliefs of Hispanic families and the role of the social networks, the question remains whether this is the best method to create transformational family change. Interventions such as recipe adaptation, meal/cooking strategies and selection of healthy American foods might be best if provided for the social network instead of just the Head Start family.
- Head Start may need to consider providing outreach education and support to the broader Hispanic social network to effectively permeate the community and impact health behaviors. In addition, given the perceptions of weight status, Head Start may consider reviewing communication methods for delivering child weight status information to parents as well as collaborating with local primary care physicians to ensure consistent, culturally-relevant health education. Future research may need to consider what the contents of that letter should be in order to meet the cultural needs of Hispanic families and communicate the importance and relevance of the child's weight status to his/her overall health.

CONCLUSION

The results of this report highlight the importance of using both quantitative and qualitative data to inform deeper understanding of the cultural practices and beliefs that contribute to childhood obesity in Hispanic families. The inclusion of members of the community of interest ensured that the findings generated were culturally relevant and sensitive to the needs of the Hispanic Head Start community in this county.

Findings from this study supported results of previous research in which Hispanic parents perceive their child's overweight status to be "healthy" due to a cultural norm related to undesirability for thinness. This belief may prevent parents from engaging in health promotion

and obesity prevention behavior change. The findings also revealed that the Hispanic culture influenced meals practices such as home-cooked family meals, cooking to please children's food preferences, and incorporating American foods to bridge food cultures, but these practices may contribute to an unhealthy weight status for the child. Additionally, while maintaining cultural meal and cooking practices was found to important to Hispanic families, adopting practices and foods of the new culture was also important. In light of that, families need guidance in choosing which American food practices to adopt that will support a healthy weight and help children integrate with the mainstream culture. Strategies suggested included working with Hispanic families to generate new recipes, adapt their traditional recipes to make them healthier, and/or offering caregiver-child cooking classes to assist with picky eating. Both the findings and implications from this study provide considerations for Head Start programs when designing effective, culturally relevant obesity prevention programs that are responsive to Hispanic families' cultural needs.

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REFERENCES

Baker, E. H., & Altman, C. E. (2015). Maternal ratings of child health in child obesity, variations by mother's race/ethnicity and nativity. *Maternal Child Health Journal, 19*, 1000-1009.

Barlow, S. E., & The Expert Committee. (2007). Expert committee recommendations regarding the prevention, assessment and treatment of child and adolescent overweight and obesity: Summary report. *Pediatrics, 120*, S164-S194.

Berkman, L. F. (2009). Social epidemiology: Social determinants of health in the United States; Are we losing ground? *Annual Review of Public Health, 30,* 27–41. Retrieved from http://www.annualreviews.org/doi/pdf/10.1146/annurev.publhealth.031308.100310

Centers for Disease Control. (2015). BMI percentile calculator for child and teen English version. Retrieved from http://nccd.cdc.gov/dnpabmi/calculator.aspx.

Centers for Disease Control and Prevention [CDC]. (2015). Minority Health: Hispanic or Latino populations. Retrieved from http://www.cdc.gov/minorityhealth/populations/REMP/hispanic.html.

Centers for Disease Control and Prevention, National Center for Health Statistics. (2016). 2013-2014 National Health and Nutrition Examination Survey (NHANES). Retrieved from http://www.cdc.gov/nchs/nhanes/nhanes2013-2014/questionnaires13_14.htm

Colby, S. L., & Ortman, J. M. (2015). Projections of the size and composition of the U.S. population: 2014-2016. *United States Census Bureau*. Retrieved from: https://www.census.gov/content/dam/Census/library/publications/2015/demo/p25-1143.pdf

De la Torre, A., Sadeghi, B., Green, R. D., Kaiser, L. L., Flores, Y. G., Jackson, C. F,…Schaefer, S. E. (2013). Niños Sanos, Familia Sana: Mexican immigrant study protocol for a multifaceted CBPR intervention to combat childhood obesity in two rural California towns. *BMC Public Health*, 13, 1033-1045. doi:10.1186/1471-2458-13-1033

Dietz, W. H. (1998). Health consequences of obesity in youth: Childhood predictors of adult disease. *Pediatrics*, 101, 518–25.

Franzen-Castle, L., & Augiree, T. (2015). Perceptions of body habitus and cultural health among Hispanic adults. *Journal of Immigrant and Minority Health, 17*, 1206-1213.

Gable, S., Chang, Y., & Krull, J. L. (2007). Television watching and frequency of family meals are predictive of overweight onset and persistence in a national sample of school-aged children. *Journal of the American Dietetic Association*, *107*(1), 53–61.

Ganter, C., Chuang, E., Aftosmes-Tobio, A., Blaine, R., Giannetti, M., Land, T. & Davison, K. K. (2015). Community stakeholders' perceptions of barriers to childhood obesity prevention in low-income families, Massachusetts 2012-2013. *Preventing Chronic Disease, 12(*E42), 1-11. http://dx.doi.org/10.5888/pcd12.140371.

Gomel, J. N., & Zamora, A. (2007). English-and Spanish-speaking Latina mothers' beliefs about food, health, and mothering. *Journal of Immigrant and Minority Health*, *9*(4), 359-67.

Hornbeck, C. (2016). *Early childhood BMI in Ohio, 2014*. PowerPoint presentation at the Ohio Early Childhood Health Network Meeting in Columbus, OH, May 31, 2016.

IBM Corp. (2013). *IBM SPSS Statistics for Windows, Version 22.0*. Armonk, NY: IBM Corp.

Institute of Medicine. (2012). *Accelerating progress in obesity prevention: Solving the weight of the nation*. Retrieved from https://www.nationalacademies.org/hmd/~/media/Files/Report%20Files/2012/APOP/APOP_rb.pdf

Israel, B. A., Eng, E., Schulz, A. J., & Parker E. A. (2005a). *Methods in community-based participatory research for health*. San Francisco, CA: Jossey-Bass.

Israel, B. A., Parker, E. A., Rowe, Z., Salvatore, A., Minkler, M., Lopez, J,...Halstead, S. (2005b). Community-based participatory research: Lessons learned from the Centers for Children's Environmental Health and Disease Prevention Research. *Environmental Health Perspectives, 113*(10), 1463-1471. doi:10.1289/ehp.7675

Israel, B. A., Schulz, A. J., Parker, E. A., & Becker, A. B. (1998). Review of community-based research: Assessing partnership approaches to improve public health. *Annual Review of Public Health, 19*, 173-202.

Katz, V. S., Ang, A., & Suro, R. (2012). An ecological perspective on US Latinos' health communication behaviors, access, and outcomes. *Hispanic Journal of Behavioral Sciences, 34*(3),437-456.

Laws, R., Campbell, K. J., van der Pligt, P., Russell, G., Ball, K.,…Denney-Wilson, E. (2014). The impact of interventions to prevent obesity or improve obesity related behaviours in children (0–5 years) from socioeconomically disadvantaged and/or indigenous families: a systematic review. *BMC Public Health*, 14, 779-796. doi:10.1186/1471-2458-14-779

McAllister, C. L., Green, B. L., Terry, M. A., Herman, V. & Mulvey, L. (2003). Parents, practitioners, and researchers: Community-based participatory research with Early Head Start. *American Journal of Public Health, 93*(10), 1672-1679. doi:10.2105/AJPH.93.10.1672

Messiah, S. A., Asfour, L., Arheart, K. L., Selem, S. M., Uhlhorn, S. B., & Natale, R. (2015). Relationship between parent demographic characteristics, perinatal and early childhood behaviors, and body mass index among preschool-age children. *Journal of Immigrant and Minority Health, 17*, 414–421.

Mexico Secretary of Health. (2015). *Obesity in underage*. Retrieved from http://www.imss.gob.mx/salud-en-linea/obesidad-menoredad.

Minkler, M. (2010). Linking science and policy through community-based participatory research to study and address health disparities. *American Journal of Public Health, 10,* 100: S81-7. http://dx.doi.org/10.2105/AJPH.2009.165720

Minkler, M., & Wallerstein, N. (2008). *Community-based participatory research for health: From process to outcomes (2nd Ed)*. San Francisco, CA: Jossey Bass.

Office of Head Start. (2015). *Head Start services*. Retrieved from http://www.acf.hhs.gov/programs/ohs/about/head-start

Russell, C. G., Taki1, S., Laws, R., Azadi, L., Campbell, K. J.,…Denney-Wilson, E. (2016). Effects of parent and child behaviours on overweight and obesity in infants and young children from disadvantaged backgrounds: Systematic review with narrative synthesis. *BMC Public Health,* 16, 151-164. doi:10.1186/s12889-016-2801-y

Schaefer S. E., Camacho-Gomez R., Sadeghi B., Kaiser L., German, J. B., de la Torre, A. (2015). Assessing child obesity and physical activity in a hard-to-reach population in California's central valley, 2012–2013. *Preventing Chronic Disease, 12*, 1-9. doi: http://dx.doi.org/10.5888/pcd12.140577.

Skala, K., Chuang, R. J., Evans, A., Hedberg, A. M., Dave, J., & Sharma, S. (2012). Ethnic differences in the home food environment and parental food practices among families of low-income Hispanic and African-American preschoolers. *Journal of Immigrant and Minority Health, 14*(6), 1014-1022.

Skinner, A. C,. & Skelton, J. (2014). Prevalence and trends in obesity and severe obesity among children in the United States, 1999-2012. *JAMA Pediatrics*, *168*(6), 561-566. doi:10.1001/jamapediatrics.2014.21.

Strauss, A., & Corbin, J. M. (1998). *Basics of qualitative research: Techniques and procedures for developing grounded theory.* Thousand Oaks, CA: Sage Publications.

The Robert Wood Johnson Foundation (RWJ). (September, 2014). The state of obesity: Better policies for a healthier America: Obesity prevention in Latino communities. Retrieved from http://stateofobesity.org/disparities/latinos/

U.S. Department of Health and Human Services; Agency for Healthcare Research and Quality. (2005). *2005 National Healthcare Disparities Report*. AHRQ Publication No. 06-0017: Rockdale, Maryland.

Vanhala, M. L., Keinanen-Kiukaanniemi, S. M., Kaikkonen, K. M., Laitinen, J. H., & Korpelainen, R. I. (2011). Factors associated with parental recognition of a child's overweight status: A cross sectional study. *BMC Public Health, 11,* 665-672. Retrieved from http://bmcpublichealth.biomedcentral.com/articles/10.1186/1471-2458-11-665.

Vera-Becerra, L. E., López, M. L., & Kaiser, L. L. (2015). Child feeding practices and overweight status among Mexican immigrant families. *Journal of Immigrant and Minority Health, 17*(2), 375-82.