

Nutrition and Physical Activity Environments of Home-Based Child Care: What Hispanic Providers Have to Say

Alison Tovar, PhD, MPH,¹ Nooreem Z. Mena, MS, RD,¹ Patricia Risica, PhD,² Gemma Gorham,² and Kim M. Gans, PhD³

Abstract

Background: It is important to understand the perceptions and beliefs of family child care providers (FCCPs) regarding which factors influence children's physical activity (PA), screen-time (ST), and dietary behaviors in order to develop and implement appropriate obesity prevention interventions. The aim of this qualitative study was to explore the aforementioned perceptions and beliefs of FCCPs in Rhode Island.

Methods: Four focus groups ($n=30$) were held with FCCPs. Providers were female, Hispanic, and Spanish speaking. Providers were asked about different aspects of feeding, PA, and ST behaviors. Themes were coded using NVivo10 (QSR International Pty Ltd, Doncaster, Victoria, Australia). Content analysis was used to analyze final themes.

Results: Providers understood the importance of providing opportunities for healthy eating and PA for the children they cared for, but there was room for improvement, especially with regard to certain feeding and ST practices. Several barriers were evident, including the lack of physical infrastructure for PA, cultural beliefs and practices related to child feeding, and difficulties working with parents to provide consistent messages across environments.

Conclusions: Given that FCCPs are aware of the importance of healthy eating and PA, there is a need to address the specific barriers they face, and operationalize some of their knowledge into practical everyday actions. This formative work will inform the development of a culturally relevant, multicomponent intervention for ethnically diverse FCCPs to improve the food and PA environments of their homes, which should, in turn, improve the dietary, PA, and ST behaviors of the 2- to 5-year-old children they care for.

Introduction

Close to one third of 2- to 5-year-old children are overweight or obese with clear disparities observed by ethnicity; 17% of Hispanic children within this age group are obese compared to 3.5% of their white, non-Hispanic counterparts.¹ Contributing to the obesity epidemic are unhealthy physical activity and eating patterns, including high consumption of energy-dense snack foods and inadequate fruit and vegetable consumption.^{2,3} This is troubling, given that early childhood is a critical period during which dietary intake and physical activity patterns, are developed.^{4,5} Although parents play a critical role in shaping children's food and physical activity (PA) preferences and determining their physical and social environ-

ment, the child care setting (nonparental care either at a center or family child care home [FCCH]) and its providers also play a critical role in shaping healthy behaviors.⁶ Child care providers can impact children's healthy eating and PA through their practices and attitudes and by providing supportive physical and social environments.⁷ Therefore, fostering effective strategies to help child care providers establish healthy eating and PA habits and promote healthy environments among disadvantaged populations is critical.

Many interventions and programs to improve healthy behaviors have focused on child care centers,⁸ yet 2 million (25%) of US children in nonparental care attend a FCCH,⁹ a child care setting where children are cared for outside of their homes by child care providers in the provider's home, rather than a center. Regulations for licensed FCCHs are

¹Department of Nutrition and Food Sciences, University of Rhode Island, Kingston, RI.

²Institute for Community Health Promotion, Brown University School of Public Health, Providence, RI.

³Department of Human Development and Family Studies and Center for Health Interventions and Prevention, University of Connecticut, Storrs, CT.

different, and in many cases less stringent, than those for child care centers.¹⁰ In fact, time spent in FCCH settings during infancy has been shown to be associated with increased BMI z-scores at 3 years of age, whereas time spent in child care centers has not.¹¹

In Rhode Island (RI), 28% of children are cared for in FCCHs,⁹ with at least 40% of the RI providers being Hispanic. A previous survey with RI family child care providers (FCCPs) found ethnic differences between Hispanic and non-Hispanic providers in reported feeding practices and attitudes.¹² In order to intervene and improve the FCCH environment, it is important to understand the perceptions and beliefs of FCCPs on what factors influence PA, screen time (ST), and dietary behaviors in children among ethnic minority providers. Therefore, the aim of this exploratory qualitative study was to examine the perceptions and beliefs of FCCPs in Providence, RI, on what influences a child's PA, ST, and dietary behaviors while under their care.

Methods

The work completed for this study is part of the formative stages of an ongoing project (R01HL123016), which is conducting a randomized trial to study the efficacy of a novel multicomponent intervention with ethnically diverse providers to improve the food and PA environments of FCCH and the diet, PA, and ST behaviors of the 2- to 5-year-old children they care for. As part of this project, there is an established partnership with Ready to Learn Providence (R2LP), a nonprofit organization that works on professional development for early childhood educators and providers in Providence to improve the education and health of young children. R2LP recruited providers for the formative research. To be eligible to participate in the focus groups, providers needed to be current FCCPs for children ages 2–5, speak English or Spanish, and be at least 18 years old.

Trained bilingual/bicultural (English/Spanish) moderators guided the focus groups and an assistant bilingual/bicultural moderator took notes, operated the digital recorder, and provided logistical support. All four focus groups were moderated by a research team member, while two other research team members served as the assistant moderators. Standard protocols were used to conduct these focus groups.¹³

Consent forms were reviewed and signed by the participants before the beginning of each focus group. All groups were digitally recorded and lasted approximately 90 minutes and participants also completed a brief demographic survey. A \$35 incentive to a local supermarket was provided for participation. The study was reviewed and approved by the institutional review board at Brown University (Providence, RI).

Moderator Guide

Investigators and study staff helped develop the content of the moderator guide. Revisions were made to simplify

language and improve cultural appropriateness of the questions and relevance to their jobs as FCCPs. The moderator guide focused on four domains (Table 1), which were driven by the aims of this study to identify: (1) influences on PA and ST behaviors; (2) influences on what and how providers feed children; (3) awareness of the home feeding and PA environment; and (4) their ideas for how to improve the food and PA environment of FCCHs. Domains were initially formulated to reflect the study aims and were revised as needed throughout the development of the moderator guide.

Statistical Analysis

The moderator and assistant moderators met after each focus group to discuss initial findings and impressions and were then discussed with the entire research team. The Spanish audio recordings were simultaneously translated and transcribed verbatim by trained bilingual research team members. NVivo software (version 10; QSR International Pty Ltd, Doncaster, Victoria, Australia) was used to assist in the organization of qualitative data for further analysis. All transcripts were read and reviewed by N.M., who identified initial concepts and themes and then reviewed together with A.T.¹³ Structural coding was used to categorize the data. Questions and key phrases from the moderator guide were used as structural codes.¹⁴ Using the structural codes, the transcripts were systematically reviewed. Text segments were then categorized into groups based on the moderator guide domains. Concepts and themes were then reviewed multiple times to ensure that all of the *a priori* and emergent themes were captured. These themes were then discussed with the entire research team. Descriptive statistics were computed from the survey data, using SPSS software (version 22; IBM Corp, Armonk, New York).

Results

A total of 30 FCCPs participated in one of four focus groups. All participants were female, Hispanic (predominantly Dominican, 77%), and Spanish speaking (Table 2). Mean age was 50 years; 50% had at least some college education or a college degree or higher. On average, providers care for 6 children and have cared for children in their home for 10 years. Eighty percent reported that they spoke to the children in Spanish. More than half of the providers had access to a smartphone and Internet.

Qualitative results are presented according to the moderator guide domains. Themes are incorporated within each of the domains with supporting quotes, as appropriate (Table 1).

Factors That Influence Physical Activity and Screen Time Behaviors in Preschool-Aged Children That Attend Family Child Care Homes

Providers were asked about what influences the activities that children do in their homes and what types of practices

Table 1. Moderator Guide Questions, Themes, and Quotes From Family Child Care Home Provider Focus Groups

Domain	Questions	Themes and representing quotes
Factors that influence physical activity and screen time behaviors in preschool-aged children in FCCHs	<ol style="list-style-type: none"> 1. What influences the activities that children do in your family child care home? Probes: Space? Equipment? Safety concerns? 2. What kinds of rules or practices do you have in your family child care home regarding watching TV and/or videos? Probes: Time limit on TV and electronics? Not allowing electronics from home? 	<p>Provider perceptions on how preschool-aged children can be physically active</p> <p><i>“Playing and learning ... I try to motivate them to learn the colors through a game ... I have a mat with colors and shapes and I tell them ‘jump on the blue rectangle! Jump to the red triangle!’ and the child jumps and at the same time learns the shapes.”</i></p> <p>Provider perceptions on appropriate screen time behaviors for preschool-aged children</p> <p><i>“I put the TV once a week, now when they tell me we want to watch TV I say ‘Okay we are going to watch half hour the TV but only TV and nothing more’ Its 30 minutes and we put one thing and it they will shut it off.”</i></p>
Influences on what and how providers feed preschool-aged children in FCCHs.	<ol style="list-style-type: none"> 1. What influences what children eat or drink at your family child care home? Probes: Cost? Flavor/appearance of food? Past trainings received? Age of child? Child’s food preferences? Food waste? 	<p>Perceived responsibility and program regulations</p> <p><i>“We have regulations but [some meal allotments] are cheap ... [so I say] if our child was in day care would I want them to serve this to them?”</i></p> <p>Cultural influences on food served</p> <p><i>“... On Halloween I [had] a party and I cooked [pizza] ... I told the parents, it was only that day because I don’t celebrate that, but we have to continue their culture as well.”</i></p> <p>Provider training and feeding practices</p> <p><i>“We learned [to] serve a quantity to the kids but they will only eat ‘til they feel satisfied, if the kid says he no longer wants anymore, we cannot obligate them to; we cannot force the kids to keep eating.”</i></p>
Awareness of home feeding and physical activity environment	<ol style="list-style-type: none"> 1. How do parents influence what their children want to eat or drink at your family child care home? Probes: Ask for/decline specific foods and beverages? Children make notice of conflicting rules between their home and the FCCH? 2. How do parents influence how active child are at your family child care home? Probes: Parents set restrictions on letting their children go outside? Parents set restrictions on how much screen time their child should be allowed per day? 	<p>Parents were a barrier to promoting a healthy eating and physical activity environment in the FCCH</p> <p><i>“I feel like the parents will influence the way they eat in a negative way, when the parent tells the kid not to eat something and you serve it at your house, and continue to repeat it ...”</i></p>
Improving the nutrition and physical activity environment of FCCHs	<ol style="list-style-type: none"> 1. What types of information or resources would make it easier for providers to serve healthier foods and beverages in a FCCH? Probes: Shopping on a budget? How to prepare quick and easy healthy meals? Reimbursement programs? Trainings? 2. What types of information or resources would make it easier for providers to help children be more physically active? Probes: Age-specific activities? Equipment and space? 	<p>Resources, programs, and trainings</p> <p><i>“That’s a good program because you go and learn, it helps you go a step higher and become familiar and [they] give you ideas because when you go your saying wow, I’m a mother so I know it all but that’s not the case and the training shows that and it’ll teach you things that will fascinate you.</i></p> <p>Provider perceived barriers to improving physical activity and screen time behaviors among preschool-aged children</p> <p><i>“What affects them not to be active? Well the sedentary life, the [electronic] games, the ones that watch TV and playing. That affects them a lot.</i></p> <p>Communication with parents</p> <p><i>“The communication with parents is big. We need to work together with the parents. It is important to introduce vegetables and fruits together.”</i></p>

Table 2. Sociodemographic Characteristics of Focus Group Participants (n = 30)

Age, mean ± SD	
50 ± 8.9	
	N (%)
Race	
White	4 (13)
Black	3 (10)
Asian	1 (3)
Mixed	7 (23)
Other	14 (47) ^a
Hispanic or Latino	30 (100)
US born	
Yes	1 (3)
No	29 (97)
Country of origin^b	
Dominican Republic	23 (77)
Guatemala	6 (20)
Marital status	
Single	6 (20)
Married	16 (53)
Separated or divorced or widowed	8 (27)
Education^b	
Less than high school	4 (13)
High school degree	10 (33)
Some college	9 (30)
College degree or higher	6 (20)
Years as a provider, mean ± SD	
10 ± 5.6	
Years in United States, mean ± SD	
21 ± 9.2	
Access to electronics/media	
Cell phone	22 (73)
Smartphone with Internet access	18 (60)
Use phone for communication (texts and/or e-mail)	18 (60)
Use phone for social media	15 (50)
Use phone for YouTube	23 (77)
Currently have data limit on phone	9 (30)
Access to Internet (in the home)	23 (77)
Access to DVD player (in the home)	26 (87)
Preference on receiving information	
Smartphone	9 (30)
Computer	2 (7)
DVD	15 (50)
Prefers more than one	4 (13)

continued on page 524

Table 2. Sociodemographic Characteristics of Focus Group Participants (n = 30) continued

	N (%)
Participation in federal nutrition programs	
SNAP	2 (7)
WIC	1 (3)
CACFP	16 (54)
More than one federal program	1 (3)
None	10 (33)
All data presented as n (%), unless specified otherwise.	
^a All those that specified other identified as Hispanic or Latina.	
^b n = 29.	
SD, standard deviation; DVD, digital video disc; SNAP, Supplemental Nutrition Assistance Program; WIC, Special Supplemental Nutrition Program for Women, Infants, and Children; CACFP, Child and Adult Care Food Program.	

and rules were in place related to PA and ST. Two themes emerged within this domain: the provider’s perception on how the children in their care can be more physically active and perceptions on appropriate ST behaviors.

Provider Perceptions on How Preschool-Aged Children Can Be Physically Active

Providers felt that there were multiple opportunities for the children to be physically active in their homes. For example, they felt that dancing was the most popular, most feasible indoor activity for the children to engage in. They also shared examples of other structured indoor activities, such as playing ball and “follow the leader.” The providers thought, however, that the children were always more active when playing outside, but they felt that there were opportunities for them to organize structured PA within their homes as long as it was scheduled into their day.

Provider Perceptions on Appropriate Screen Time Behaviors for Preschool-Aged Children

With regard to ST, most providers reported that they had time limits on the amount of television (TV) children could watch every day, and rules that prohibited parents from leaving the child at the FCCH with a tablet or iPad. They felt that children should not be watching TV all day, but they believed that watching educational programs, such as “Dora the Explorer” and the Baby TV channel, was not the same and did not really count as ST. Some felt that because these TV programs were a form of learning, time should not be limited, as one stated:

“You can’t limit them [time watching educational show] because there (is) a lot of good information that they can learn.”

Providers also said that it was necessary to sometimes use the TV so that they could have time for food preparation, for example:

“... but when I’m going to serve them I’ll leave it on for half an hour (referring to TV) while I’m preparing the food.”

However, others still felt that just because it was an educational show, watching TV did not provide an added benefit to the child:

“In reality the TV causes for kids to only sit down and do nothing so I took it out of my care; the thing I have is a computer where I could put in a DVD with music.”

Influences on What and How Providers Feed Preschool-Aged Children in Family Child Care Homes

Providers were asked what influenced the foods that children eat or drink within their homes. Within this domain, three themes emerged: the providers’ sense of responsibility for providing foods to the children, the influence of their culture on the foods served, and the training and current feeding practices they engage in.

Perceived Responsibility and Program Regulations

Overall, the providers felt that it was their responsibility as a caregiver to provide the children with nutritious foods. The providers repeatedly referred to state rules and regulations they had to abide by regarding meal times and the foods served. However, some felt that the state regulations and expectations was a source of added stress, and many felt that the well-being of the children should come before program regulations. For example, if their menu states that breakfast is at 8 am and a child arrives at 6 am, even though they are *technically* not allowed to serve breakfast until 8 am, they will still feed the child when he or she arrives. Many of the women discussed this issue. For example:

“They are kids; we need to put ourselves in the kid’s shoes most of the time so we could figure out their necessities. How can I leave them hungry if they get here at 7am?”

Cultural Influences on Foods Served

All of the providers reported that they cooked and prepared all of the meals served within the home and that most of the foods they serve were from their own culture. Commonly reported lunches included rice, beans, and tortillas. Although many of the providers discussed the importance of health and the quality of foods, when probed further, it was unclear whether all of the food served was, in fact, healthy. For example, when providers described the snacks they served, they mostly consisted of starchy foods, such as crackers and granola bars. Highly processed foods, such as hot dogs, chicken nuggets, and pizza, were mentioned as foods that were sometimes served for meals. Providers expressed their respect for other cultures and stated that other cultures did also influence the foods that they served because they were caring for children from different backgrounds. For example:

“I began to cook [Guatemalan foods] and I like rice with beans, I like everything, I have learned to make a little of everything.”

And ...

“[American culture], chicken nuggets, hamburgers, pizza ... (referring to how they serve these foods in their homes)”

The providers discussed the importance of attending previous trainings related to the Child and Adult Care Food Program (CACFP), where they learned about what constitutes healthy food and the appropriate portion sizes, and that this training has provided them with the knowledge to serve healthier foods and beverages. Some spoke about serving whole grains, limiting juice, and serving 1% or skim milk to children over the age of 2. However, despite the trainings, some provided foods that do not follow guidelines; many of these were foods from their cultures. For example, some providers stated that they served *morir soñando*, a common homemade sugar-sweetened beverage among Hispanic cultures. In addition, many spoke of a soup called *sancocho*, which all agreed contained multiple starchy vegetables. However, many still served the soup with white rice (even though they knew they should not), because that was how they were accustomed to eating it.

Also, despite being aware of age-appropriate portion sizes guidelines, many providers stated that they based portion sizes served to the child on the child’s age and physical stature. For example:

“It depends on the age and size. Like one child I give one amount and the younger one I will give half and if she asks for more I will give her more.”

Provider Training and Feeding Practices

The previous trainings that the providers received appeared to have a positive impact on traditional feeding practices that have been shown to have negative effects on children’s health. The providers stated that they learned that they should not force children to eat foods and that instead they now serve the foods, but not force the child to eat it. Providers spoke about adopting more-positive feeding practices, such as role modeling and positive encouragement, after attending a training session to get children to eat. For example:

“Because we have to follow the program, because we are the role models for the kids. I’ll serve the kids, I’ll sit with them there. I had kids that didn’t eat salad and when I served myself salad they would ask me, what is that? And I would explain to them, while also giving them a little.”

Although they stated that they did not pressure children to eat all of the food they served, many providers were still concerned that children may not eat enough food during snacks and meals. Many stated that they would “help” the child eat by spoonfeeding them. Others shared the belief that children needed to be “strong and healthy,” and that meant being “larger,” For example:

“Once, I got a child that didn’t even weigh three pounds! I gave him back to his mother, and he was over 25 pounds! He was gordísimo y grandísimo! [He was] más bonito (provider feeling very proud).” (He was very fat and big! He was more beautiful!)

Awareness of the Home Feeding and Physical Activity Environment

Providers were also asked about how parents influence what their children want to eat or drink at the FCCH. The major theme that emerged was how parents were a major barrier to promoting healthy eating and PA in the FCCH.

Parents as a Barrier to Promoting a Healthy Eating and Physical Activity Environment

One of the themes that emerged throughout the focus groups was how parents’ behavior at home influenced what occurred in the child care setting. Many providers perceived parents to be a major barrier to getting children to eat and drink more healthful foods and beverages in the FCCH. Providers perceived that parents were too busy and would often leave their children in front of a screen for many hours with unhealthy foods. They described that this is what encouraged the children in their care to want to engage in unhealthy dietary behaviors and request to watch TV or play with electronic devices. Providers also stated that parents would drop children off with unhealthy foods such as doughnuts and chips, and with smartphones or tablets, even though the provider had specific rules against these practices. For example:

“If a kid drinks a lot of soda at their house ... their parents are going to want us to continue that?”

And ...

“...they’ll bring it [tablet] and I’ll tell them I’m sorry but I don’t allow this ... its better if the parents take it.”

Providers also felt that parents’ beliefs were a major barrier to their children being more physically active while in the FCCH. Some providers stated that parents specifically told them that they did not want their children playing outside or being taken out in colder weather. Many providers expressed concerns over parents being upset if their child was injured. For example:

“Sometimes you are afraid of the parents. Sometimes you can be doing a great job for 5 or 10 years with the child until an incident happens and you can tell. The parents limit us a lot, some parents and I already had that experience. ...”

Improving the Nutrition and Physical Activity Environment of Family Child Care Homes

The providers discussed various ways to improve the nutrition and PA environment of their FCCH. One of the major themes that emerged within this domain, was: resources, programs, and trainings. They felt that having

more age-appropriate equipment that they could use indoors would help facilitate children being more physically active. They expressed how important it has been for them to attend trainings and that continued education for them is critical to continue to improve their home and the homes of other providers. They also wanted more training and ideas for overcoming barriers. Other themes that emerged were the barriers, related to improving PA and ST behaviors. Finally, another theme was the critical need for improved communication with parents to keep consistent messages between the home and FCCH environment regarding dietary, PA, and ST behaviors.

Resources, Programs, and Trainings

All of the providers felt that increasing the reimbursements they receive by the federal government for the foods and beverages purchased and served in their FCCH would help improve the food environment. One idea was more discount coupons to buy fruits and vegetables. Others spoke about wanting more educational materials related to healthy eating and recipes, without having to invest their own monetary resources, given that this could affect being able to keep up with other expenses. For example:

“We don’t have the resources, because what we earn [is not enough], for example ... I would like to invest 200 dollars on something but then if I invest it they’ll cut my lights or they’ll turn off something, so for them to give us the materials to work with the kids it could be much easier.”

All of the providers stressed the importance of more continued training and education to help improve the food and PA environments of their FCCH. For example:

“Another thing ... we have taken many classes that [have] helped. Before I didn’t give it too much value, I didn’t give my job too much value ... with all the training I have taken I learned so much and have over 1000 hours and I don’t mind learning more every year.”

Provider Perceived Barriers to Improving Physical Activity and Screen Time Behaviors among Preschool-Aged Children

Although all participants felt that PA was extremely important for the well-being of the children in their care, they expressed several barriers to increasing PA and limiting ST. For example, they felt that children were all different ages and had different preferences for certain activities and that some children had more difficult temperaments, and that these issues sometimes interfered with group PA. For example:

“I think that probably it’s a limitation for me because ... if I have a child of a different age ... maybe a child of two years and a child of seven years and the child of seven years may get bored when playing [with the two year old].”

Another barrier was their concern for the child's safety indoors. They felt that if a child got hurt by playing inside their home, they were responsible. In fact, several providers stated that parents made it clear to them that it was the provider's responsibility if something happened to the child when playing indoors. The same concern was not present for them being active outdoors. For example, as one provider stated:

"No it's more the safety between the children themselves [and getting hurt inside], not so much outside."

Other more common barriers included winter weather and having limited time during the day. Some providers felt that they could leave the children playing outside for hours, but they had a schedule they are expected to follow. Others spoke about not being able to take the children out because it was snowing or raining. However, all providers stated that they took the children out every day unless the weather prevented them from doing so. Although, when asked what temperature was "too cold" to take children outside to play, some providers said 50 degrees Fahrenheit.

Communication with Parents

Although all providers agreed that parental beliefs were a major barrier to both healthy eating and PA in the FCCH, they spoke about the need and responsibility as a provider to communicate with, and educate the parents on healthful behaviors in the home. For example:

"I realized I could also help other parents because it's very important for a provider because a kid spends a lot of time with you so you have to educate them."

And ...

"Information that will help would be like to have more communication [with parents about the importance of physical activity] now that winter's coming. There are parents who do not like to take their children out ... Some parents say no, no don't take my kids out because they will [get] sick. So I mean more communication with parents [would be helpful]."

Discussion

This study was able to explore perceptions and beliefs regarding what influences children's PA, ST, and dietary behaviors while in their care among urban Hispanic FCCPs. The higher risk of overweight and obesity for children in FCCHs, compared with children in child care centers, is well documented,¹¹ and this reinforces the need for a clear understanding of FCCP beliefs and perceptions to guide intervention development and implementation. All of the FCCPs that participated in our focus groups were Hispanic. Our previous work has shown that Hispanic FCCPs differ from non-Hispanic providers in their attitudes and practices,¹² and at least 40% of RI family child care home providers are Hispanic. No other studies have examined the

FCCH environments of these Hispanic providers. Thus, understanding and utilizing the findings from focus groups conducted with all Hispanic FCCPs is critically important.

We found that Hispanic FCCPs are concerned and feel responsible for the health and well-being of the children they care for and, in fact, often feel as if they are a second parent or extended family member. These providers are aware of the importance of healthy eating and PA, although operationalizing the knowledge into practical everyday actions is often lacking and challenging for them. Providers also strongly feel that parents negatively influence their children's healthy habits, and that there is an urgent need to find better communication strategies for working with and engaging parents in health education.

In our previous research, Hispanic FCCPs reported attending more training and found trainings to be more helpful¹² than non-Hispanic providers. This qualitative study corroborates these findings. The FCCPs in this study (all Hispanic) reported attending several trainings in which they reported learning a lot about the importance of nutrition and PA. Perhaps, because the Hispanic FCCPs in this study are starting with less knowledge and separate cultural beliefs, they may find trainings to be of even greater importance. Given that policies are more likely to be successful with trainings and education for child care providers,¹⁵ future research should support and document trainings for FCCPs, ensure that they are culturally relevant, and continue to translate theory into practical solutions.

In our previous survey, Hispanic providers were more likely than non-Hispanic providers to encourage children to finish the food on their plates.¹² This current qualitative research provides more insight into this finding, suggesting that although many Hispanic FCCPs are aware that they should not pressure children to eat, some still believe that children sometimes need adult help to ensure that they eat enough. Thus, FCCPs reported spoonfeeding the children or offering them other types of food that were not initially served. Other researchers have also found that Hispanic providers have more demanding feeding practices, such as making children eat all the food on their plate,¹⁶ and they are more likely to encourage children to finish their meals.¹⁷ There appears to be a disconnect between the agreement of FCCH providers with the theory of ideal feeding practices and their actual practices. The providers' actual practice of feeding children in their FCCH could be encouraging excessive food intake and interfering with children's self-regulation of food. All of these findings point to the need to improve the translation of evidence-based theory into practical trainings that provide real-world, culturally relevant scenarios and the discussion and identification of culturally appropriate solutions. Our findings also speak to the need for trainings that discuss body images given that traditional Hispanic cultural beliefs encourage eating more to have a larger body size, which is considered healthy and beautiful in that culture.^{18,19}

The discrepancies between parental beliefs and practices and those of the FCCPs found in this formative

research were also found in our previous work. Hispanic providers were more likely to agree with the statement that “parents say their children will eat certain foods at the daycare and not at home,” and that communicating with parents around nutrition is of great importance.¹² Providers in these focus groups discussed at great length the influence (mostly negative) that parents have on their children’s health habits and how challenging it is for them to instill healthy habits in the children when they are exposed to such negative behaviors and attitudes in their own homes. Providers were often frustrated and sad to see that some parents were sending their children to the child care setting with unhealthy foods and electronic games, including doughnuts or hot dogs for breakfasts and iPads in their bags. Providers felt comfortable talking to the parents about their policies and about the health and well-being of the children, but agreed that they needed better communication strategies as well as more education for parents. The relationship between FCCPs and a parent appears to be more intimate and close than at a child care center, as others have found,¹⁶ which may be beneficial under some circumstances, but may also make it more difficult for the provider to set clear boundaries and regulations.

Given that children in child care often do not meet national dietary guidelines^{20–23} and few structured PA opportunities exist,^{21,24} working to develop relevant interventions within child care settings such as FCCCHs is of great importance. Intervention studies in child care centers have demonstrated that PA^{25–30} and dietary practices^{31–34} can be improved and that the rate of change in BMI can be reduced.^{25,27,30,34–36} However, further research is needed to identify evidence-based obesity prevention policies and practices that can be implemented in child care settings, including FCCCHs.³⁷ To date, there are two obesity prevention experimental studies in FCCCHs^{22,38}; however, neither of these studies included Spanish-speaking providers. Our formative research demonstrates the importance of engaging with the community of Hispanic FCCCH providers to enable creation of culturally relevant interventions. The current formative research will inform the development of such interventions, which have been neglected in previous child care intervention research. Based on the results of our formative research, such interventions need to include: (1) how to incorporate safe play inside the home; (2) work on setting healthy policies within their homes and communicating them with parents; (3) clarifications on state regulations and how it influences their homes; (4) practical applications on how to help children self-regulate through the use of firm and responsive feeding; (5) education on how to work with different child temperaments and ages to facilitate group-based physical activity; and (6) tools for how to assess portion sizing for children in their homes.

Nonetheless, our study is not without limitations. Because focus group participants were recruited through Ready-to-Learn Providence (a well-liked agency where many of the FCCPs were trained), it is possible that social desirability

affected their responses and that the providers felt like they were being “tested” in some way and therefore tried to provide the “right answers.” However, the moderator did inform the group at the start that there were no right or wrong answers and that it was very important to learn from the FCCPs experiences. Our sample size was also limited and all of the women in our study were predominantly Dominican; therefore, the findings may not be generalizable to other Hispanic or other racial/ethnic groups.

Conclusion

FCCPs are aware of the importance of healthy eating and PA, but there is a great need to further operationalize this awareness and knowledge into practical everyday actions. This formative work will inform a multicomponent intervention that targets multiple behaviors while taking into account underlying cultural beliefs. In addition, future research should consider targeting multiple environments (child care providers and parents) to improve consistency of messages.

Acknowledgment

This project was supported by NIH R01HL123016.

Author Disclosure Statement

No competing financial interests exist.

References

- Ogden CL, Carroll MD, Kit BK, et al. Prevalence of childhood and adult obesity in the United States, 2011–2012. *JAMA* 2014;311:806–814.
- Kranz S, Hartman T, Siega-Riz AM, et al. A diet quality index for American preschoolers based on current dietary intake recommendations and an indicator of energy balance. *J Am Diet Assoc* 2006;106:1594–1604.
- Ogata BN, Hayes D. Position of the Academy of Nutrition and Dietetics: Nutrition guidance for healthy children ages 2 to 11 years. *J Acad Nutr Diet* 2014;114:1257–1276.
- Skinner JD, Carruth BR, Wendy B, et al. Children’s food preferences: A longitudinal analysis. *J Am Diet Assoc* 2002;102:1638–1647.
- Monasta L, Batty GD, Cattaneo A, et al. Early-life determinants of overweight and obesity: A review of systematic reviews. *Obes Rev* 2010;11:695–708.
- Gubbels JS, Kremers SP, Stafleu A, et al. Child-care environment and dietary intake of 2- and 3-year-old children. *J Hum Nutr Diet* 2010;23:97–101.
- Brennan L, Castro S, Brownson RC, et al. Accelerating evidence reviews and broadening evidence standards to identify effective, promising, and emerging policy and environmental strategies for prevention of childhood obesity. *Annu Rev Public Health* 2011;32:199–223.
- Larson N, Ward DS, Neelon SB, et al. What role can child-care settings play in obesity prevention? A review of the evidence and call for research efforts. *J Am Diet Assoc* 2011;111:1343–1362.

9. Kids Count Data Center. Children under age 6 in family-based child-care (percent)—2007. 2007. Available at <http://datacenter.kidscount.org/data/acrossstates/Rankings.aspx?ind=109> Last accessed October 2014.
10. Benjamin SE, Taveras EM, Cradock AL, et al. State and regional variation in regulations related to feeding infants in child care. *Pediatrics* 2009;124:e104–e111.
11. Benjamin SE, Rifas-Shiman SL, Taveras EM, et al. Early child care and adiposity at ages 1 and 3 years. *Pediatrics* 2009;124:555–562.
12. Tovar A, Risica P, Mena N, et al. An assessment of nutrition practices and attitudes in family child care homes: Implications for policy implementation. *Prev Chronic Dis* U2015;12:E88. doi: 10.5888/pcd12.140587.
13. Krueger RA, Casey MA (eds). *Focus Groups: A Practical Guide for Applied Research*. Third ed. Sage: Thousand Oaks, CA, 2000.
14. Guest G, MacQueen K, Namey E. *Applied Thematic Analysis*. Sage: Thousand Oaks, CA, 2011.
15. Weaver R. Predicators of quality and commitment in family child care: Provider education, personal resources, and support. *Early Educ Dev* 2002;13:265–282.
16. Porter T, Paulsell D, Del Grosso P, et al. *A Review of the Literature on Home-Based Child Care: Implications for Future Directions*. Mathematica Policy Research: Princeton, NJ, 2010.
17. Freedman MR, Alvarez KP. Early childhood feeding: Assessing knowledge, attitude, and practices of multi-ethnic child-care providers. *J Am Diet Assoc* 2010;110:447–451.
18. Akan GE, Grilo CM. Sociocultural influences on eating attitudes and behaviors, body image, and psychological functioning: A comparison of African-American, Asian-American, and Caucasian college women. *Int J Eat Disord* 1995;18:181–187.
19. Ceballos N, Czyzewska M. Body image in Hispanic/Latino vs. European American adolescents: Implications for treatment and prevention of obesity in underserved populations. *J Health Care Poor Underserved* 2010;21:823–838.
20. Benjamin Neelon SE, Vaughn A, Ball SC, et al. Nutrition practices and mealtime environments of North Carolina child care centers. *Child Obes* 2012;8:216–223.
21. Ball SC, Benjamin SE, Ward DS. Dietary intakes in North Carolina child-care centers: Are children meeting current recommendations? *J Am Diet Assoc* 2008;108:718–721.
22. Trost SG, Messner L, Fitzgerald K, et al. A nutrition and physical activity intervention for family child care homes. *Am J Prev Med* 2011;41:392–398.
23. Trost SG, Messner L, Fitzgerald K, et al. Nutrition and physical activity policies and practices in family child care homes. *Am J Prev Med* 2009;37:537–540.
24. Reilly JJ. Low levels of objectively measured physical activity in preschoolers in child care. *Med Sci Sports Exerc* 2010;42:502–507.
25. Fitzgibbon ML, Stolley MR, Schiffer L, et al. Two-year follow-up results for Hip-Hop to Health Jr.: A randomized controlled trial for overweight prevention in preschool minority children. *J Pediatr* 2005;146:618–625.
26. Williams CL, Carter BJ, Kibbe DL, et al. Increasing physical activity in preschool: A pilot study to evaluate animal trackers. *J Nutr Educ Behav* 2009;41:47–52.
27. Hannon JC, Brown BB. Increasing preschoolers' physical activity intensities: An activity-friendly preschool playground intervention. *Prev Med* 2008;46:532–536.
28. Dennison BA, Russo TJ, Burdick PA, et al. An intervention to reduce television viewing by preschool children. *Arch Pediatr Adolesc Med* 2004;158:170–176.
29. Trost SG, Tang R, Loprinzi PD. Feasibility and efficacy of a church-based intervention to promote physical activity in children. *J Phys Act Health* 2009;6:741–749.
30. Eliakim A, Nemet D, Balakirski Y, et al. The effects of nutritional-physical activity school-based intervention on fatness and fitness in preschool children. *J Pediatr Endocrinol Metab* 2007;20:711–718.
31. Williams CL, Strobino BA, Bollella M, et al. Cardiovascular risk reduction in preschool children: The “Healthy Start” project. *J Am Coll Nutr* 2004;23:117–123.
32. Johnson SL, Bellows L, Beckstrom L, et al. Evaluation of a social marketing campaign targeting preschool children. *Am J Health Behav* 2007;31:44–55.
33. Endres J, Barter S, Theodora P, et al. Soy-enhanced lunch acceptance by preschoolers. *J Am Diet Assoc* 2003;103:346–351.
34. de Silva-Sanigorski AM, Bell AC, Kremer P, et al. Reducing obesity in early childhood: Results from Romp & Chomp, an Australian community-wide intervention program. *Am J Clin Nutr* 2010;91:831–840.
35. Fitzgibbon ML, Stolley MR, Schiffer L, et al. Hip-Hop to Health Jr. for Latino preschool children. *Obesity (Silver Spring)* 2006;14:1616–1625.
36. Reilly JJ, Kelly L, Montgomery C, et al. Physical activity to prevent obesity in young children: Cluster randomised controlled trial. *BMJ* 2006;333:1041.
37. Ward DS, Vaughn A, Story M. Expert and stakeholder consensus on priorities for obesity prevention research in early care and education settings. *Child Obes* 2013;9:116–124.
38. Ostbye T, Mann CM, Vaughn AE, et al. The keys to healthy family child care homes intervention: Study design and rationale. *Contemp Clin Trials* 2015;40:81–89.

Address correspondence to:

Alison Tovar PhD, MPH

Assistant Professor

Department of Nutrition and Food Sciences

University of Rhode Island

12 Ranger Hall

Kingston, RI 02881

E-mail: alison_tovar@uri.edu