



Short communication

Toddler-feeding practices among Mexican American mothers. A qualitative study[☆]Virginia Chaidez^a, Marilyn Townsend^b, Lucia L. Kaiser^{b,*}^a Nutrition Department, University of California, Davis, One Shields Ave, Davis, CA 95616-8669, United States^b University of California, Davis, One Shields Ave, Davis, CA 95616-8669, United States

ARTICLE INFO

Article history:

Received 26 May 2010

Received in revised form 18 December 2010

Accepted 17 February 2011

Available online 24 February 2011

Keywords:

Toddler feeding
Indulgent feeding
Mexican-American
Latinos
Qualitative research

ABSTRACT

Little is known about toddler feeding practices, particularly among Mexican American mothers. A convenience sample of 18 Mexican-American mothers with toddlers participated in individual in-depth interviews. In determining *what to feed* her child, mothers tended to cater to the child's preferences rather than exposing the child to different foods or repeating attempts to feed previously unaccepted foods. In deciding *when to feed* food or beverage, more than half said the child's cue was primary. Findings indicate that an indulgent feeding style may dominate compared to other styles in the toddler developmental stage in Mexican-American mothers.

Published by Elsevier Ltd.

Introduction

The prevalence of obesity has become alarmingly high among young Latino and Native American children in the US (Anderson & Whitaker, 2009). More research is needed to guide culturally appropriate interventions because differences in child-feeding practices and styles (authoritarian, authoritative, indulgent, or neglectful) have been observed among diverse ethnic groups (Hughes, Power, Orlet Fisher, Mueller, & Nicklas, 2005). Controlling and restrictive maternal practices appear to increase the risk of overweight in white, middle-class children (Faith, Scanlon, Birch, Francis, & Sherry, 2004). However, permissive, indulgent feeding styles and practices, such as frequent child-led snacking, may precede the development of overweight in Latino children (Kaiser, Melgar-Quinonez, Lamp, Johns, & Harwood, 2001; Larios, Ayala, Arredondo, Baquero, & Elder, 2009; Olvera & Power, 2009).

The above studies were conducted among preschool and school-age children, not toddlers. Relatively little research on dietary intake and feeding practices has been conducted in toddlers. The Feeding Infants and Toddlers Study (FITS) was a cross-sectional dietary intake survey of eating patterns in a random national sample of over 3000 infants and toddlers (Briefel,

Ziegler, Novak, & Ponza, 2006). Although FITS describes many aspects of infant and toddler feeding, neither FITS nor have other studies investigated toddler feeding styles. To help fill the gap, this formative research was conducted to identify relevant behaviors, influences and attitudes that may reflect feeding styles in Latino parents with young children.

Methods

The University of California at Davis Institutional Review Board reviewed and approved this study. Mothers gave informed, written consent before interviews took place.

Sampling

A convenience sample of 14 Spanish- and 4 English-speaking Mexican-American mothers participated in individual in-depth interviews. Word of mouth and in-person solicitation was used to recruit participants through various community agencies including Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) and Healthy Moms and Babies in the northern California counties of Sacramento and Napa. Inclusion criteria included being of Mexican descent and having a child between 12 and 47 months of age.

Qualitative methodology

In-depth individual interviews took place in participants' homes and averaged 1 h in duration. Table 1 illustrates the

[☆] The authors would like to thank the Gustavus and Louise Pfeiffer Research Foundation for financial support, Luz Elvia Vera Becerra for help in Spanish translation, and the women who participated in this research.

* Corresponding author.

E-mail addresses: vachaidez@ucdavis.edu (V. Chaidez), mstownsend@ucdavis.edu (M. Townsend), llkaiser@ucdavis.edu (L.L. Kaiser).

Table 1
Questions used for interviews.

Regarding current child-feeding practices:
 How do you decide *when* to feed your child?
 How do you decide *what* to feed your child?
 How do you decide *how much* to feed your child?
 What are some of your child's *favorite foods* to eat?
 What are some of your child's *favorite beverages* to drink?
 Does child use a (1) *bottle* (2) *a cup* (3) *or both*?
 When did your child start using a cup?
 What type of cup? (1) *training/sippy cup* (2) *regular cup*
 How do you know *when* it's time to offer something to drink?
 How do you know *what* drink to offer your child?

Regarding child-feeding perceptions/beliefs:
 What kinds of foods would you like your child to have more of?
 What are the difficulties in doing this?
 What kinds of foods or drinks would you like your child to consume less of?
 What are the difficulties in doing this?
 How concerned are you about your child becoming too heavy/too thin?
 What preventive measures do you think are important or effective to help children maintain a healthy weight?
 What do you think are some of the reasons people give other drinks to children instead of water?
 What do you think there are some of the disadvantages or problems with drinking mostly juice or other types of sweet drinks?
 In your opinion, what are some of the most concerning childhood illnesses or diseases for you?
 Why do you feel this way?

Regarding child-feeding advice:
 Has any healthcare professional ever given you advice about your child's nutrition?
 If a nutritionist from WIC advised you to give your child water for drinking in between meals, how difficult do you think that would be to follow?
 What kind of advice have you received from other family members or friends about what to give your child to eat/drink?
 Which sources of information do you follow the most? trust the most?
 Speaking from your own experience, what advice would you have to give others about what to give children to eat or drink?

questions used in the interviews. These questions were pilot tested on six women to ensure questions were understood; engaged participants; and provided appropriate interview flow and timeliness. This method was chosen to accommodate needs of mothers with young children, avoid transportation problems, and provide a safe, confidential environment to share information. Factors related to social status, hierarchy, ethnicity, age, gender, and linguistic differences can bias responses (Seidman, 1991). To minimize bias, the interviewer was a bilingual graduate student who is also a Mexican-American mother of similar age to the mothers.

Data analysis

Eighteen individual interviews were tape-recorded, transcribed and analyzed using the constant comparative method (Strauss & Corbin, 1998) with the use of a software program (Nudist 6, Doncaster, Australia). Interviews were independently read and analyzed by two analysts. First, each analyst compiled a list of major topic areas from the transcribed interviews. Next, the two analysts came together to identify major emerging themes.

Results

Participant characteristics

The median age of mothers was 26 years with a range of 21–36 years. Toddlers had a median age of 20 months with a range of 12–46 months (only one was not in the 12–36 month range). The median years of residency in the United States was 7 (range 1–25 years). Fourteen mothers were born in Mexico and the

remaining four, in the U.S. Median maternal education was 9.7 years (range 5–14 years). Most women (83%) had breastfed their infants. Mothers reported introducing solid foods at the median age of 5 months.

Major themes

Eighteen topic areas were identified in the first phase of data analysis. Based on these topics, two emerging themes identified distinct patterns of feeding practices during: (1) infant feeding practices, including introduction of solid foods and (2) toddler-feeding practices where the diet is in transition to a family meal pattern. The remaining themes were identified as major influences on feeding. These included: (3) attitudes and perceptions related to child body size and (4) role modeling and food access within the household.

Infant feeding practices

Mothers expressed concern in waiting too long for fear that the infant would reject foods. Diarrhea and vomiting were some of the cited physiological ailments that were believed to occur if a child was not accustomed to a food. While half mentioned that they introduced solids based on the doctor's advice, three responded that they would follow their mother's advice to feed a child earlier than the current recommendation. In introducing solid foods, mothers were inclined to follow the infant's cue. If a child indicated a dislike for a food, the mother would avoid it altogether indefinitely. A few quotes that illustrate these points include the following:

"In WIC... they tell you not to give solid foods until 6, 7 months. I say at that age they are very big just to be starting to eat. I never paid attention to that. I have seen many children who don't know how to eat and when they give them food, they get sick from stomach problems." (Spanish-speaking mother)

"The reason they were started was to see what she was going to like the beans or will I have to make some specific changes with her foodwise, to not give her that or give her something else." (English-speaking mother)

Toddler feeding practices: what, when, how much

Table 2 summarizes themes and supporting paraphrased responses for toddler-feeding practices. When mothers were asked child-feeding questions, often multiple factors were involved in their decision-making. Hence, the number of responses exceeds the number of women who answered the question.

In determining *what to feed* her child, mothers tended to cater to the child's preferences rather than exposing the child to different foods or repeating attempts to feed previously unaccepted foods. One mother explained that because the child is still little he should get more or less what he wants. Another mother said that she does not like to see her children cry and that this is a problem mothers have in refusing requests. Overall, parents try to make sure their children get a variety of foods that the entire family eats without fretting too much about getting enough of some foods like vegetables. Some quotes include the following:

"Oh she will be the one deciding. If she points to the apple, maybe she'll point to the peanut butter in the refrigerator. Or she'll nod her head that she doesn't want that. Like I tried to give her a banana last night and she nodded no, no and she'll point to something else and we give her something else." (English-speaking mother)

"In the morning, I offer him pancakes, cereal or toast. I always offer those three. Sometimes, he says 'no' like if he ate a lot of

Table 2
Emerging themes for toddler-feeding practices ($n = 18$).

	No. of responses
Parents determined WHAT to FEED their toddler based on:	
1. Child's decision/catering to child's preference	12
2. Foods available in the home	10
3. Protein staples were commonly a convenient food when a meal was not prepared/available	5
4. Food prepared for everyone/family meal	4
5. Choices given by parent	3
6. Frozen/convenience foods/eating out	2
7. WIC or other health professional advice	2
Parents determined WHAT to provide their toddler to DRINK based on:	
1. Providing limited choices (juice, water, milk, <i>aguas frescas</i>)	8
2. Consideration for choices lower in sugar or less sweet	5
3. What others (parents/siblings) are drinking/modeling	4
4. Child's indication/decision of the drink	3
5. WIC advice and provision	2
6. Mood of child which may indicate hunger vs. thirst: in this case a 12 month old is fussy and mother knows this is a cue that he wants breastmilk, and when thirsty, he accepts water.	1
7. What the parent perceives to be lacking	1
Parents determined WHEN to feed their toddler based on:	
1. Child's indication (verbal, gestures, going to fridge, etc.)	12
2. When other family members or the mother herself eats	5
3. Schedule	1
Parents determined WHEN to offer/provide something to drink to their toddler based on:	
1. Solely on child's indication	10
2. Mother's 'feeling' that child might be thirsty	4
3. When the mother herself drinks, she offers some to her child	2
Parents dictate HOW MUCH they will feed their toddler and what they expect the toddler to eat based on:	
1. Child's indication to stop	14
2. Serving a small portion (~1/8 cup to 3/4 cup)	9
3. Altering amounts	1

supper. Almost always it is he that decides. Sometimes I decide. Then I wait a while until he wants to eat what I am going to give him, because if not, he won't eat it" (Spanish-speaking mother)

Unlike determining *what to feed*, determining *what to drink* yielded more structure around the decision-making. Mothers tended to offer some kind of sweet beverage daily, often more than once a day. The comments also revealed the early influence of role modeling on child feeding behaviors. Several mothers indicated that if someone was drinking a soda, the child was allowed to have some sips of soda. One mother said she avoided giving soda by offering the child juice instead. Example quotes includes:

"Most of the time I try to give him juice at dinner so he doesn't get bored with water. (Interviewer: so you would say he drinks it daily?) For dinner, I try to, but if he doesn't drink it, I'll change it to water" (English-speaking mother)

"If he sees that I am going to drink soda, he knows that he drinks juice and wants juice. If he sees that I keep juice where he can reach it, if he sees I am going to have soda, he goes and opens the door and asks that I give him juice. When we go to McDonald's I pour out the soda and give him juice. His juice in the cup as if we were all drinking the same thing" (Spanish-speaking mother)

In deciding *when to feed*, more than half of mothers said that it was based on the child's cue. Less often the toddler was fed when the mother or other family members ate. Only one mother

indicated that her child was fed on a schedule. It was also not uncommon for others in the household to influence child feeding. Several mothers mentioned that even though the toddler indicates s(he) wants a food or drink, requests are sometimes prompted by a household member consuming that food or beverage.

Much like *what to feed* and *when to feed*, mothers determined *how much* their toddler should eat based largely on the toddler's cue. That is, the toddler indicates when (s)he has had enough to eat. The one exception was a mother with a thin toddler who felt she needed to make the toddler finish her food. When probed to find out how much they actually served their toddler, mothers demonstrated serving portions that ranged from 1/8 cup to 3/4 cup. Some additionally commented that they served portions they believed their child could eat or in small amounts to avoid making a big mess.

Attitudes related to body size

Mothers perceived their child's weight status seems to be a general indicator of success in their efforts of nourishment. However, there were mixed responses on the desirability of chubby body size among the six women who commented on the matter. Three women indicated thinness as undesirable either because their mother or mother-in-law discouraged it or in one case, the pediatrician found the infant was underweight. Conversely, three mothers felt thinness was desirable. Two of the mothers previously liked the idea of a chubby baby, but growing concerns of overweight children made them content that their toddler was now thinner. The third mother commented that she struggled with her weight her entire life, so she did not particularly want her children to be '*llenito*' or chubby. Some quotes include the following:

"I am worried that he will get thin because my three children have all been thin. I would like to have a child a little chubbier but never have." (Spanish-speaking mother)

"A lot of people say he's small but I guess it's because he breastfeeds more than bottle-fed babies do. The doctor says he's perfect (Interviewer: So you are not particularly concerned?) No, it doesn't really bother me" (English-speaking mother)

Role modeling and access

Household food availability was the most frequently identified environmental factor to influence toddler intake. Overall, most mothers indicated that there was free access to food in the home for any member of the family, and even a young toddler was capable of acquiring almost anything at any time. Older siblings were considered important influences on what the toddler consumes. Mothers often expressed their frustration with the influence that the school food environment has on their older children's food preferences. In turn, these older children become role models for the toddler.

Discussion

The pattern of responses to the 'what', 'when', and 'how much' to feed their toddlers may be related to an overall indulgent or permissive feeding style. Even when the food was perceived to be 'bad', mothers in our sample used strategies to avoid an outright refusal. Soda was an example where mothers offered alternative sweet beverage such as juice or allowed in small amounts to appease the child, particularly in cases where consumption was initiated by an adult.

The themes reported here are similar to those in other studies conducted among Latino families with young children. In focus groups, Mexican-American parents of preschoolers reported that frequent child-led snacking is common and expressed ambivalence

about sticking to regular meal and snack schedules for young children (Kaiser, Martinez, Harwood, & Garcia, 1999). An ethnographic study of reasons for prolonged bottle-feeding among Mexican-American toddlers reported that mothers believe they should give as much milk as the toddlers want and that chubbiness is desirable (Brotanek, Schroer, Valentyn, Tomany-Korman, & Flores, 2009). Similar to our findings presented here, Latino mothers of preschoolers in Southern California reported that children's food preferences were key in considering what to prepare for meals (Gomel & Zamora, 2007). These observations suggest that even young Latino children often determine 'what' foods are served and 'when', in contrast to the Satter's principle that parents should bear this responsibility (Satter, 1986). Unlike Satter's division of responsibility, the indulgent feeding style of parents in our sample is characterized by the child's role to determine *what* and *when* to feed. Furthermore, if the parent does not maintain the responsibility of determining *what* and *when* to feed, then the child no longer bears the responsibility of determining *whether* to eat.

Despite research indicating that repeated exposure is important to develop preferences for novel foods (Birch, McPhee, Shoba, Pirok, & Steinberg, 1987), this crucial piece of knowledge was not reported by any of the mothers. In contrast, the comments appear to reflect a situation where the parent seeks to discover what the child accepts or likes and then provide that food. In a focus group study of WIC mothers, Spanish-speaking mothers described the process of introducing solid foods before four months of age as a way to train the stomach for other foods and even as a "test" to see if it works well (Heinig et al., 2006).

More parent education is also needed about role modeling and juice consumption. In offering juice in a soda beverage cup, parents can only employ this strategy so long before the child learns to demand soda. According to a national study, intake of fruit-flavored beverages is higher among Hispanic than non-Hispanic infants and toddlers (Mennella et al., 2006). As children grow older, their preferences begin to shift from juice to less nutritious beverage choices, including carbonated drinks (Skinner & Carruth, 2001). Excess consumption of juice, juice-drinks, and sweetened beverages is associated with increased risk of overweight in Mexican-American preschoolers (Melgar-Quinonez & Kaiser, 2004).

Given the small sample size of this qualitative study and the fact that most mothers were first-generation Spanish-speakers, it is not possible to tease out the influence of immigration, length of US residence, and food insecurity on infant and toddler feeding practices. Other studies suggest that these factors may influence child feeding practices in Latino populations. For example, having an exclusively Spanish-speaking mother increases risk of overweight as early as 24 months (Sussner, Lindsay, & Peterson, 2009). There may be differences in attitudes about preferred child body size based on country of birth that need further exploration (Guendelman, Fernald, Neufeld, & Fuentes-Afflick, 2010). Among Mexican-American families in California, greater food insecurity is associated with lower household supplies of fruit and vegetables (Kaiser et al., 2003) and increased consumption of fat, saturated fat, sweets and fried snacks (Rosas et al., 2009). Mexican immigrant mothers who reported greater levels of past food insecurity are less likely to monitor intakes of sweets and snack foods in their young children (Kuyper, Smith, & Kaiser, 2009).

Conclusion

Findings from this research suggest that an indulgent feeding style may be evident in the toddler developmental stage among

Mexican-American mothers. To our knowledge, this study is the first formative work to explore maternal perceptions related toddler feeding practices in a Mexican-American audience. This information can be used to guide the development of instruments to explore systematically factors related to food patterns and nutrient intake in Mexican-American toddlers.

References

- Anderson, S. E., & Whitaker, R. C. (2009). Prevalence of obesity among US preschool children in different racial and ethnic groups. *Archives of Pediatrics and Adolescent Medicine*, 163(4), 344–348.
- Birch, L. L., McPhee, L., Shoba, B. C., Pirok, E., & Steinberg, L. (1987). What kind of exposure reduces children's food neophobia? Looking vs. tasting. *Appetite*, 9(3), 171–178.
- Briefel, R., Ziegler, P., Novak, T., & Ponza, M. (2006). Feeding infants and toddlers study. Characteristics and usual nutrient intake of Hispanic and non-Hispanic infants and toddlers. *Journal of the American Dietetic Association*, 106(1 Suppl. 1), S84–S95.
- Brotanek, J. M., Schroer, D., Valentyn, L., Tomany-Korman, S., & Flores, G. (2009). Reasons for prolonged bottle-feeding and iron deficiency among Mexican-American toddlers. An ethnographic study. *Academic Pediatrics*, 9(1), 17–25.
- Faith, M. S., Scanlon, K. S., Birch, L. L., Francis, L. A., & Sherry, B. (2004). Parent-child feeding strategies and their relationships to child eating and weight status. *Obesity Research*, 12(11), 1711–1722.
- 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), 359–367.
- Guendelman, S., Fernald, L., Neufeld, L. M., & Fuentes-Afflick, E. (2010). Maternal perceptions of early childhood ideal body weight differ among Mexican-origin mothers residing in Mexico compared to California. *Journal of the American Dietetic Association*, 110(2), 222–229.
- Heinig, M. J., Follett, J. R., Ishii, K. D., Kavanagh-Prochaska, K., Cohen, R., & Panchula, J. (2006). Barriers to compliance with infant-feeding recommendations among low-income women. *Journal of Human Lactation*, 22(1), 27–38.
- Hughes, S. O., Power, T. G., Orlet Fisher, J., Mueller, S., & Nicklas, T. A. (2005). Revisiting a neglected construct. Parenting styles in a child-feeding context. *Appetite*, 44(1), 83–92.
- Kaiser, L. L., Martinez, N. A., Harwood, J. O., & Garcia, L. C. (1999). Child feeding strategies in low-income Latino households. Focus group observations. *Journal of the American Dietetic Association*, 99(5), 601–603.
- Kaiser, L. L., Melgar-Quinonez, H. R., Lamp, C. L., Johns, M. C., & Harwood, J. O. (2001). Acculturation of Mexican-American mothers influences child feeding strategies. *Journal of the American Dietetic Association*, 101(5), 542–547.
- Kaiser, L. L., Melgar-Quinonez, H., Townsend, M. S., Nicholson, Y., Fujii, M. L., Martin, A. C., et al. (2003). Food insecurity and food supplies in Latino households with young children. *Journal of Nutrition Education and Behavior*, 35(3), 148–153.
- Kuyper, E. M., Smith, D., & Kaiser, L. (2009). Does food insecurity influence child feeding practices? *Journal of Hunger and Environmental Nutrition*, 4, 1–11.
- Larios, S. E., Ayala, G. X., Arredondo, E. M., Baquero, B., & Elder, J. P. (2009). Development and validation of a scale to measure Latino parenting strategies related to children's obesigenic behaviors. The parenting strategies for eating and activity scale (PEAS). *Appetite*, 52(1), 166–172.
- Melgar-Quinonez, H. R., & Kaiser, L. L. (2004). Relationship of child-feeding practices to overweight in low-income Mexican-American preschool-aged children. *Journal of the American Dietetic Association*, 104(7), 1110–1119.
- Mennella, J. A., Ziegler, P., Briefel, R., & Novak, T. (2006). Feeding infants and toddlers study. The types of foods fed to Hispanic infants and toddlers. *Journal of the American Dietetic Association*, 106(1 Suppl. 1), S96–106.
- Olvera, N., & Power, T. G. (2009). Brief report. Parenting styles and obesity in Mexican American children. A longitudinal study. *Journal of Pediatric Psychology*, 35(3), 243–249.
- Rosas, L. G., Harley, K., Fernald, L. C., Guendelman, S., Mejia, F., Neufeld, L. M., et al. (2009). Dietary associations of household food insecurity among children of Mexican descent. Results of a binational study. *Journal of the American Dietetic Association*, 109(12), 2001–2009.
- Satter, E. (1986). *Child of mine*. Palo Alto: Bull Publishing Co.
- Seidman, I. E. (1991). *Interviewing as qualitative research: a guide for researchers in education and the social sciences*. New York: Teachers College Press.
- Skinner, J. D., & Carruth, B. R. (2001). A longitudinal study of children's juice intake and growth. The juice controversy revisited. *Journal of the American Dietetic Association*, 101(4), 432–437.
- Strauss, A. L., & Corbin, J. M. (1998). *Basics of qualitative research: techniques and procedures for developing grounded theory* (2nd ed.). Thousand Oaks: Sage Publications.
- Sussner, K. M., Lindsay, A. C., & Peterson, K. E. (2009). The influence of maternal acculturation on child body mass index at age 24 months. *Journal of the American Dietetic Association*, 109(2), 218–225.