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Acculturation among Latino Primary Caregivers and Physician Communication: Receipt of Advice Regarding Healthy Lifestyle Behaviors

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Introduction

Obesity among children has reached epidemic proportions, particularly among Latino children [1, 2, 3]. Data from the National Health and Nutrition Examination (NHANES) illustrate that 38% of Mexican children are obese or overweight, compared to 30.7% of White Americans and 34.9% of African American children [3]. By the age of four, Latino children have obesity rates that exceed those of their White and African American counterparts. Recent studies examining physical activity and nutrition among Latino children also report high rates of overweight or obese Latino children [1, 4, 5]. For instance, Elder and colleagues [4] observed that nearly half of elementary school children were at risk for being overweight (> 85 percentile for their age), while Buscemi et al. [1] found that over 63% of Latino children, ages 2-17, were either overweight or obese. The high prevalence of obesity among Latino children is problematic, as it contributes to the likelihood of obesity-related health problems as adults [6], such as cardiovascular disease, hypertension, and type 2 diabetes [2].

Ecological systems theory (EST) explains how the health behaviors of Latino children are influenced by individual, family, and community factors [2, 4]. Increased weight among Latino children has been associated with significant changes in dietary and sedentary lifestyles, often associated with acculturation [7]. As Latino families become more acculturated, their intake of fat [8, 9], and soda consumption increase [2], while their fruit and vegetable consumption decrease [2, 7]. Acculturation among Latinos is also associated with increased sedentary lifestyles including lower frequency of physical activity [2,7]. Areas of low socioeconomic status (SES) offer a low cost of widely available fast foods, snacks, and sugared drinks which are also associated with higher rates of childhood obesity [2].

Unfortunately, Latino children are more likely to be uninsured than their African American or White peers, and this disparity may impede upon the availability and quality of care [2]. In addition, they have low rates of physical activity when compared to their European American counterparts [5, 10]. Low income Mexican American children demonstrate greater rates of sedentary behavior and spend more time indoors than their European American peers [5]. Encouraging parental support to increase physical activity and decrease sedentary behavior among children is crucial. Current research suggests that parents expect doctors to demonstrate the ability to tactfully discuss the area of obesity with them and their children and provide advice regarding healthy eating [11]. Parents also expect health care providers to share information with them regarding their child's weight, physical activity, diet, and sedentary practices [12]. However, physicians do not appear to always meet these expectations, such as in the area of television viewing [13].

Health care providers have substantial opportunities to provide obesity prevention guidance during well-child care [2, 8, 14]. They can play an active role in advocating for restricted television viewing, and the promotion of physical activity, healthy food choices, and safe places for children to exercise [2]. While they regard childhood obesity as a condition that requires treatment, the lack of parental involvement, patient motivation, support services, and limited reimbursement pose barriers to addressing childhood obesity [15]. Unfortunately, limited studies have examined how health care providers communicate with Latino parents regarding nutrition, exercise, and weight management of their children [8]. These limited studies suggest that that even after controlling for income, education, and quality of care, Latino parents report lower quality ratings of their nutrition and physical activity counseling [13].

Communication gaps between providers and patients may contribute to these disparities, as well as differences within counseling content and duration. Cultural values and expectations also shape satisfaction among Latino primary caregivers, as Mexican immigrant mothers expect a long-term relationship with their child's primary care provider, and are frequently disappointed in the limited amount of time spent with their providers [16]. Similarly, Berry et al. [8] observed that Latino parents desired interactions with health care providers that demonstrated respect, genuine concern, and familiarity with their child's needs. They also preferred to receive health information from their health care providers as a primary source of information, particularly information in Spanish that was well written and provided clear instructions regarding nutrition and exercise, such as a booklet.

Given the continued need to understand physician communication regarding the promotion of healthy lifestyles behaviors of Latino children, the current study aims to add to this limited body of research. In particular, the purpose of the current study was to explore associations among sociodemographic variables, such as acculturation, and receipt of physician advice regarding children's eating habits, weight, amount of screen time, physical activity, and use of recreational center among Latino primary caregivers.

METHODS

Design

The present study was a cross-sectional analysis that used baseline data from MOVE/me Muevo, a randomized controlled childhood obesity prevention trial based in public recreation centers. The primary aim was to evaluate the effectiveness of a multi-level intervention to prevent the onset of overweight and obesity as determined by the child's body mass index [17]. This study was approved by the San Diego State University Institutional Review Board.

Sample

Participants included 541 children (aged 5-8 years old) who resided within San Diego County, CA and their primary caregiver. The sample, procedure, and measures are described in detail elsewhere [17]. However, for these analyses participants solely included primary caregivers that self-identified as Latino and their children.

Measures

Receipt of physician advice regarding child's weight, eating habits, physical activity, screen time, and use of a recreational facility was obtained from the following five questions: "At your last well-child visit, did your child's doctor talk to you about whether your child's weight is healthy or unhealthy?" (yes/no); "At your last well-child visit, did your child's doctor talk to you about your child's eating habits?" (yes/no); "At your last well-child visit, did your child's doctor talk to you about your child's physical activity/exercise habits?" (yes/no); "At your last well-child visit, did your child's doctor talk to you about your child's amount of screen time (including TV, computer, video games)?" (yes/no); and "At your last well-child visit, did your child's doctor talk to you about the use of your local physical recreation center for physical activity?" (yes/no). Sociodemographic variables included primary caregiver's country of origin (U.S., Mexico, and Other), age (18-29, 30-39, and 40+), educational attainment (middle school, high school, some college, college graduate, and post-graduate), monthly income (\$0-2,000, \$2,001-3500, \$3,501-5,000, and \$5,001+), gender, marital status (married vs. non-married), as well as child's gender, insurance status (uninsured, private, public, and other), child's BMI category (underweight, normal weight, overweight, and obese) and primary caregiver's acculturation level (low vs. high). Acculturation level was determined by a modified eight-item Short Hispanic Acculturation Scale for Hispanics [18], assessing language use and ethnic social relations.

Analysis

Chi-Square tests were conducted to examine the frequencies and bivariate associations between physician advice and acculturation level. Multivariate logistic regression analysis was used to calculate adjusted odd ratios (AOR, with 95% confidence intervals [CIs]) of the association between each sociodemographic variable and type of physician advice. Because income and educational attainment contribute to health disparities among Latinos [19], acculturation, income, and educational attainment were regarded as confounding variables.

All statistical analyses were completed using the Statistical Package for the Social Sciences (SPSS) Version 19.

RESULTS

Participants were largely Latina women (96%) with a mean age of 38.4 years ($SD = 6.10$) who were low acculturated (65%), married (64%), born in Mexico (64%), earned a high school diploma or less (66%), and lived in households with monthly incomes of \$2,000 or less (46%). However, there was an equal distribution of boys and girls. Nineteen percent of children were uninsured and 56% of their BMI scores were categorized within the normal range. Characteristics of Latino primary caregivers and their children are presented in Table 1. Significant differences were observed among Latino primary caregivers due to the levels of acculturation in terms of country of origin, age, educational attainment, monthly income, child's insurance status, and physician advice regarding weight and use of a recreational facility for physical activity. Also, a smaller percentage of primary caregivers reported receiving advice for using a recreational facility for physical activity (28%) or amount of screen time (38.4%), in comparison to advice regarding their child's weight (77.1%), eating habits (66.6%), or physical activity/exercise habits (60.6%). Table 2 presents results of multivariate regression analyses for each type of physician advice. While controlling for acculturation, educational attainment, and income, health insurance and age were the only variables associated with receipt of physician advice. Receipt of advice was not associated with caregiver's county of origin, gender, marital status, child's gender or child's BMI category. More specifically, children with private insurance were more likely to receive physician advice regarding their eating habits (AOR 4.58; 95% CI 1.21, 17.26), while caregivers between the ages of 30 to 39 were less likely to receive physician advice regarding their child's eating habits (AOR 0.47; 95% CI 0.23, 0.93).

DISCUSSION

In light of the epidemic proportions of obesity among Latino children [3], the need for primary physicians to take an active role in providing obesity prevention guidance is critical. To our knowledge, our study is one of the first studies to examine various types of physician advice among Latino children and their primary caregivers. While our findings support that health care providers offer advice to Latinos [20, 21], rates of advice regarding the amount of screen time and the use of a recreational center are not comparable to rates of advice regarding children's eating habits, weight, and physical activity. Also, findings support that insurance is associated with physician advice, but having private insurance does not appear to guarantee receipt of all types of advice among Latinos [22].

Given the increased attention regarding the sedentary lifestyles of U.S. children, it was unexpected that only 38% of participants received advice regarding the amount of their children's screen time and an even smaller proportion, 28%, received advice from physicians to use a recreational center for their child's physical activity. However, our findings support current trends. For instance, although statistically higher rates were observed among intervention parents who participated in a pilot study of obesity prevention counseling [12], only 34% received counseling regarding their child's screen time. Interestingly, Taveras et

al. [13] found that parents were least likely to receive counseling regarding the removal of their child's bedroom television and the reduction of their viewing time. In addition, parents with younger children (2-6 years of age) were less likely to receive counseling regarding any topic. Lastly, we found that caregivers between the ages of 30 to 39 were less likely to receive physician advice regarding their child's eating habits. This finding is particularly disturbing given that approximately half of the participants were between the ages of 30 to 39 but this finding substantiates that older participants are more likely to receive advice regarding diet and exercise [20, 22, 23]. Nguyen and colleagues [20] found that among a sample of obese Mexican American adults, those who did not receive advice regarding diet and exercise were more likely to be younger, speak Spanish at home, lack insurance, and possess lower levels of educational attainment. Conversely, Lopez-Quintero et al. [21] found that age was not associated with receipt of physician advice regarding physical activity and diet among adult Latinos with chronic disease. However, English-proficient adults were more likely to receive advice than their limited English-proficient counterparts. Given the association between acculturation and reduced access to preventive care [22], the need for language concordance and increased quality of care has never been greater to address the growing epidemic of pediatric obesity and health disparities among Latino populations [25]. Communication gaps between providers and patients may also contribute to disparities within their counseling content and duration, particularly among monolingual Spanish-speaking Latinos [8, 13, 16].

In addition to the acquisition of skills and knowledge to successfully diagnose and treat childhood obesity, health care providers must also possess the ability to engage in the primary prevention of obesity. They must play an active role in advocating for restricted sedentary behaviors, the promotion of physical activity, healthy eating, and safe places for children to exercise [2, 11]. When designing medical school curricula, educators must equip medical students with opportunities to develop cultural competence [24] and integrate salient Latino cultural values. Current research regarding provider communication with Latino primary caregivers suggests that they are disappointed in the limited amount of time that they spend with their health providers and desire interactions that demonstrate *personalismo*, such as respect, genuine concern, and familiarity with their child's needs [8, 16].

The current study was among the few to examine the association between physician advice regarding the use of a recreational center for physical activity among Latino children. Because the environment supports recreational opportunities for children and adolescents [17, 26], health care professionals are encouraged to create community-based partnerships and also advocate for changes within their local communities. In particular, the American Association of Pediatrics encourages health providers to identify barriers that may prevent children from using community locations and offer recommendations, particularly as children from low-income or predominately ethnic minority neighborhoods have less access to parks or other recreational activities [26]. As lower acculturation status is often associated with reduced access to preventive health care utilization [22], the development of programs that best meet the needs of Latinos is further warranted. Community partnerships that integrate community health workers, also known as *promotoras*, within health care settings

are further recommended. There is extensive research indicating that community health workers effectively improve engagement between communities and the U.S. health care systems and also address numerous health issues, including improving birth outcomes and maintaining child wellness [27]. *Promotoras* also help improve access and continuity of health insurance coverage, enhance provider-patient communication, monitor adherence to treatment, and link health and human services. In addition, as well-trained intermediaries between the community and local health care providers, they have the opportunity, knowledge, and skills to motivate their fellow community members and support positive health-related behaviors [27, 28, 29].

Despite the strengths of the current study, several limitations also apply. Data for the current study was obtained through self-reports and are susceptible to recall bias that may include underreporting or over-reporting of behaviors, such as physician advice. Data were also limited by simple advice, such as whether or not a particular discussion occurred, and not the extent of the specific recommendations provided by the physicians during a wellness visit. Language concordance between providers and caregivers was not assessed. It is difficult to determine the language in which advice was provided and its effect upon this interaction. Similarly, ethnic concordance between providers and caregivers was not assessed but this type of concordance warrants further investigation. Lastly, our results are solely preliminary and derived from cross sectional data that is based upon a small sample size of Latino primary caregivers; thus we cannot infer causality.

Future studies are needed to identify the mechanisms that increase and facilitate physician advice among Latino children and their primary caregivers. These efforts are particularly salient given the obesity epidemic among Latino children and the detrimental consequences associated with obesity among children and adults. Current findings suggest significant differences in acculturation among Latino primary caregivers. Given the association between acculturation and health disparities among Latinos, the current study provides support for the continued need to improve preventive efforts among this vulnerable population. In addition, continued efforts are needed to examine the mechanisms that promote advice and quality interactions between health providers and Latino primary caregivers, particularly as parents expect them to take an active role within the lives of their children. Regrettably, despite national health promotion and prevention objectives for health care, physicians are confronted by the realities of limited reimbursements, high patient caseloads, decreased patient contact, and limited support services. These factors jeopardize their ability to actively engage in obesity prevention. Partnerships with community health workers to improve health promotion among Latinos are needed.

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Table 1

Characteristics of Latino caregivers by acculturation level (n = 222)

Characteristics	Low Acculturation (n=144)		High Acculturation (n= 77)		Total (n=221)		P value
	n	%	n	%	n	%	
Caregiver country of origin							<0.001
U.S.	13	5.9	56	25.3	69	31.2	
Mexico	126	57.0	15	6.8	141	63.8	
Other	5	2.3	6	2.7	11	5.0	
Caregiver gender							.30
Male	5	2.3	5	2.3	10	4.5	
Female	139	62.9	72	32.6	211	95.5	
Child gender							.86
Male	71	32.1	37	16.7	108	48.9	
Female	73	33.0	40	18.1	113	51.1	
Child's BMI Category							.33
Normal	76	34.4	48	21.7	124	56.1	
Overweight	35	21.7	13	5.9	48	21.7	
Obese	33	56.1	16	7.2	49	22.2	
Caregiver age							.023
18-29	7	3.2	4	1.8	11	5.0	
30-39	87	39.4	32	14.5	119	53.8	
40+	50	22.6	41	18.6	91	41.2	
Caregiver educational attainment							<0.001
Middle school	77	34.8	2	.9	79	35.7	
High School	43	19.5	14	6.3	57	25.8	
Some college	15	6.8	39	17.6	54	24.4	
College graduate	6	2.7	19	8.6	25	11.3	
Post-graduate	3	1.4	3	1.4	6	2.7	
Caregiver monthly income							<0.001
\$0-2000	86	41.3	10	4.8	96	46.2	
\$2001-\$3500	37	17.8	20	9.6	57	27.4	
\$3501-\$5000	8	3.8	17	8.2	25	12.0	
\$5001+	5	2.4	25	12.0	30	14.4	
Caregiver marital status							.26
Married	88	39.8	53	24.0	141	63.8	
Non-Married	56	25.3	24	10.9	80	36.2	
Child's insurance status							<0.001
Uninsured	34	15.5	7	3.2	41	18.6	
Private	13	5.9	50	22.7	63	28.6	
Public	81	36.8	13	5.9	94	42.7	
Other	16	7.3	6	2.7	22	10.0	
Physician advice							

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Characteristics	Low Acculturation (n=144)		High Acculturation (n= 77)		Total (n=221)		<i>P value</i>
	n	%	n	%	n	%	
Eating habits	93	43.3	50	23.3	143	66.6	.71
Weight	113	52.8	52	24.3	165	77.1	.012
Amount of screen time	48	22.2	35	16.2	83	38.4	.11
Physical activity	86	39.8	45	20.8	131	60.6	.62
Recreational facility	46	21.5	14	6.5	60	28.0	.016

Based on X^2 tests between acculturation groups (low & high)

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Table 2

Adjusted Odds Ratio (95% CI) for characteristics associated with receipt of physician's advice among caregivers (n=222)

Characteristic	Child's Eating Habits	Child's Weight	Amount of Screen Time	Child's Physical Activity	Use of Recreational Center
Caregiver country of origin					
U.S.	0.60 (0.10-3.76)	0.31 (0.03-2.86)	0.63 (0.12-3.26)	0.38 (0.07-2.23)	0.31 (0.06-1.68)
Mexico	0.64 (0.10-4.05)	0.94 (0.10-8.87)	1.07 (0.21-5.43)	0.54(0.09-3.16)	0.54 (0.11-2.75)
Other	1.0	1.0	1.0	1.0	1.0
Caregiver gender					
Female	1.0	1.0	1.0	1.0	1.0
Male	2.08 (0.52-8.42)	2.09 (0.48-9.07)	7.26 (0.83-63.45)	2.74 (0.67-11.30)	3.76 (0.41-34.17)
Child gender					
Female	1.0	1.0	1.0	1.0	1.0
Male	0.89 (0.48-1.66)	1.80 (0.87-3.70)	0.76 (0.41-1.41)	0.76 (0.42-1.38)	0.90 (0.46-1.77)
Child BMI category					
Normal weight	0.89 (0.48-1.66)	0.76 (0.30-1.95)	0.53 (0.24-1.16)	0.59 (0.27-1.31)	0.45 (0.20-1.01)
Overweight	0.90 (0.34-2.37)	1.12 (0.36-3.52)	0.61 (0.24-1.54)	0.74 (0.30-1.88)	0.47 (0.17-1.25)
Obese	1.0	1.0	1.0	1.0	1.0
Caregiver age					
18-29	1.21 (0.26-5.55)	1.03 (0.20-5.32)	3.40 (0.81-14.31)	3.22 (0.60-17.23)	1.32 (0.31-5.72)
30-39	0.47 (0.23-0.93)*	0.62 (0.28-1.36)	0.60 (0.30-1.17)	0.56 (0.29-1.08)	0.64 (0.31-1.31)
40+	1.0	1.0	1.0	1.0	1.0
Caregiver marital status					
Married	1.15 (0.59-2.24)	1.03 (0.47-2.24)	0.87 (0.45-1.69)	1.05 (0.55-2.00)	0.84 (0.41-1.71)
Non-Married	1.0	1.0	1.0	1.0	1.0
Child's insurance status					
Uninsured	0.84 (0.26-2.72)	0.20 (0.36-1.15)	1.39 (0.34-5.61)	0.71 (0.22-2.32)	0.73 (0.20- 2.64)
Private	4.58 (1.24-17.26)*	0.67 (0.11-3.99)	4.35 (0.99-19.19)	2.90 (0.78-10.70)	1.31 (0.31-5.58)
Public	2.03 (0.71-5.79)	0.40 (0.08-2.04)	1.96 (0.55-6.99)	1.05 (0.37-2.98)	0.69 (0.22-2.18)
Other	1.0	1.0	1.0	1.0	1.0

Adjusted odds ratios (AORs) were derived from multiple logistic regressions controlling for caretaker acculturation level, educational attainment, and monthly income

* $p < 0.05$.