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RESEARCH

Original Research

Maternal Perceptions of Early Childhood Ideal Body Weight Differ among Mexican-Origin Mothers Residing in Mexico Compared to California

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ABSTRACT

Objective To assess maternal perceptions of children's current and ideal body sizes, and the meaning of and factors contributing to overweight in infancy and early childhood among Mexican-origin mothers living in Mexico and in California.

Design A quali-quantitative study combining focus groups and a self-administered questionnaire.

Subjects/setting A purposive sample of 84 low-income, Mexican-origin mothers of 4- to 6-year-old children recruited between March 2006 and January 2008 from rural and urban communities in Mexico and California.

Statistical analyses Bivariate, multivariate, and qualitative analyses of maternal perceptions of children's actual and ideal body size supplemented by qualitative analyses of meaning of and factors contributing to childhood overweight/obesity.

Results Ideal child body size was considerably lower among Mexican-origin mothers living in California (3.86±0.56) than it was among mothers living in Mexico (4.32±0.83), and this difference was significant (P=0.001) after adjusting for sociodemographic covariates. Among mothers of overweight children, 82% of mothers in California were dissatisfied with their child's weight compared with 29% of mothers in Mexico (P=0.003). Focus-group results suggest that these differences in the perception of children's ideal body size can be attributable to differences in body size norms among mothers and awareness of the negative effects of obesity that occur after migration to California.

Conclusions Maternal perceptions of early childhood overweight appear to differ among Mexican-origin women living in Mexico and California. Recognition of the negative health consequences of obesity and identification of barriers to achieving weight control are important first steps toward childhood obesity prevention. Interventions directed at Mexican-origin mothers should focus on culturally acceptable ways of transmitting weight-control information.

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Development of overweight begins in early childhood (1,2). Preschool- and elementary-aged children who are overweight are five times more likely to become overweight adolescents (3). Among 2- to 5-year-old children in the United States, the prevalence of overweight (body mass index [calculated as kg/m^2] ≥95th percentile for age) is 13.9% (4). Among Mexican-American children, this prevalence is 19.2% and an additional one-third are "at risk for overweight" (body mass index for age ≥85th and <95th percentile) (4). Prevalence of overweight among young children in Mexico is also high (5-7). The 1999 Mexican National Nutrition Survey indicated that 27.5% of children aged 2 to 5 years were classified as at risk of overweight or overweight based on US definitions (8). By 2006, the Mexican National Health and Nutrition Survey reported that this prevalence had increased to more than one third among 5- to 11-year-olds, and was slightly lower in 2- to 5-year-olds (9).

Parents play an important role in the quantity and quality of food consumed and activity patterns of their children by controlling the amount and types of food available, the context and schedule of eating, and the opportunities for physical activity (10-12). From this standpoint, parental perceptions of children's ideal body size can influence child-feeding practices and physical activity. Although the determinants of overweight/obesity in Mexican-origin children are not well-understood, researchers have postulated that cultural factors are important (5). Anecdotal evidence suggests that feeding practices and weight perceptions might contribute to obesity in Mexican-origin children in the United States (13) and parents who prefer a larger body size for their children might feed them more (14).

Two US studies have examined perceptions of weight

status by Latino parents of their preschool children. The first study reported that 35% of Latino parents of diverse national origins did not believe their overweight child should be labeled "overweight" (15), while only 65% of mothers in the other study (which included mothers of Mexican-origin and white and black non-Latinas) correctly identified that their children could be defined as overweight (16). In a small study conducted in Veracruz, Mexico, half of the parents of obese school-aged children did not identify their children as having a weight problem (17). Overweight in early childhood may not be viewed as problematic if parents believe that their child looks good or that children can outgrow their high body mass (18). Parents might not accurately perceive their child's weight status despite health providers' educational efforts (19). More research is needed to identify why some parents do not recognize excess weight in their preschoolers and to assess variations in weight perceptions by cultural or other social-environmental factors. Understanding these issues is critical to designing successful obesity-prevention interventions for Mexican-origin children.

To assess maternal perceptions of their children's weight and investigate factors associated with childhood overweight, we conducted focus groups with Mexican-origin mothers who had children 4 to 6 years old. We selected this age group because it is a particularly vulnerable period for development of fatty tissue (20); because children have not yet entered the formal schooling system, where external factors influence their behavior; and because there is a lower prevalence of distorted body images and eating disorders, which is important given our interest in examining perceived body weight (21).

Study participants included low-income mothers from rural and urban areas in Mexico and Mexican immigrant women who resided in rural and urban communities in California. We postulated that maternal perceptions of children's body size would be comparable in urban and rural sites within each country, but would vary between California and Mexico.

METHODS

A qualitative study was designed to assess maternal perceptions of their child's actual and ideal body size; what it means to be overweight during infancy and childhood; and factors contributing to childhood overweight among low-income women. Eight focus-group discussions were conducted with a purposive sample of 84 Mexican-origin mothers who were recruited from urban and rural sites between March 2006 and January 2008. In the San Francisco Bay area and Salinas Valley, mothers were recruited through the Special Supplemental Nutrition Program for Women, Infants, and Children and in Mexico (Jalisco and Guanajuato) through Oportunidades, a conditional cash transfer program that provides money and food supplements for low-income young children and pregnant and lactating women. Selected women resided in the study area, were Mexico-born, and had a child in the specified age group at the time of recruitment. Upon completing the focus group, participants in California received $50 in cash and participants in Mexico received a small gift, worth about US$5.

Focus-group discussions were conducted in Spanish; occurred in clinics, community centers, or schools, and lasted 2 to 2½ hours. Child care was provided on site. In California, discussions were facilitated by the first author and in Mexico by an experienced social worker. The facilitators, both trained in qualitative methods and experienced in focus-group methodology (22,23), followed a guide that explored four content areas: what makes a child grow healthily; mothers' perceptions about overweight in infants and young children; parental behaviors regarding the type and amount of food that children eat; and what changes occur when people immigrate to the United States (see Results section for exact wording of questions relevant to this analysis). Focus-group discussions were audiorecorded, transcribed, and followed by a debriefing. The study was approved by Institutional Review Boards at the University of California, Berkeley; University of California, San Francisco; and the Instituto Nacional de Salud Pública in Mexico.

Quantitative data were collected from a self-administered questionnaire that asked about the mother's and child's ages and maternal educational attainment. Subjective social status was assessed using the MacArthur Network on Socio-Economic Status and Health Scale of Subjective Social Status, which is a drawing of a ladder representing a hierarchy on which respondents are asked to place themselves socioeconomically or socially in relation to members of their self-defined community or in relation to people living in the country where they live (24).

A focus-group activity was conducted that used the modified Stunkard Body Rating Scale adapted for children, a visual scale of seven male and female silhouettes representing body images that range from very thin to obese (25,26). Body rating figures have been shown to be strongly correlated with body mass index percentiles in teens (27). Each mother was asked to identify the figure that best approximated her child's appearance (*actual* body size) and then to identify the figure that showed the *ideal* body size for the same child.

Statistical Analysis

We used STATA version 9.2 (2006, Stata Statistical Software, StataCorp LP, College Station, TX) to examine sample characteristics and examine maternal perceptions of their children's actual and ideal body sizes. Means and standard deviations were computed for each variable by study site (Mexico or California). We conducted tests of difference using multivariate linear regression that controlled for child age and sex, rural/urban locality, maternal education, and subjective social status. We then calculated a score (actual weight subtracted from ideal weight), and labeled the variable "maternal dissatisfaction" if the difference score was different from zero (ie, if the mothers indicated that they wanted their children to be either heavier or lighter than they actually were). Using tests of proportions, we compared the proportion of mothers in both groups (California vs Mexico) who were dissatisfied with their child's weight. Half of the sample was missing data on maternal age because of lack of self-report and so we excluded this variable from multivariate analyses. Additional analyses were stratified by urban/rural locality and did not yield substantial differences; these findings are not reported.

We analyzed focus-group transcripts to identify the