Obesity Among Latino Children Within a Migrant Farmworker Community

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Background: Childhood obesity has increased substantially among Latino children, placing them at risk for its related health consequences. Limited attention has been given to childhood obesity among Latino migrant farm-working communities.

Purpose: To examine, within a migrant farm-working community, (1) the prevalence of obesity among Latino children and parents and (2) parent perceptions of children’s weight status and intentions to take corrective action.

Methods: Structured interviews were completed with the parents of 495 children seen for well-child office visits in the pediatric department of a community health center during a 15-month period between 2010 and 2011. Medical chart reviews were completed for each child participant.

Results: Forty-seven percent of the children were overweight (20%) or obese (27%). In comparison to preschool-aged children, those in elementary and middle school were more likely to be obese. In elementary school, girls were more likely than boys to be overweight or obese. Child obesity was associated with parent obesity. Parental concern about their child’s weight was associated with child obesity but not with child overweight. Parental concern was associated with parent intention to address the child’s weight, particularly in older children. Analysis was completed in 2012.

Conclusions: Interventions are needed that address both childhood obesity and parent weight status among Latino migrant farmworkers. Prevention programs that address the weight status of Latino children who are overweight, but not necessarily obese, are also needed, as their parents tend to be no more concerned about a child who is overweight than one who is normal weight.

Introduction

In the past 3 decades, childhood obesity has increased markedly,1–4 with serious health consequences ranging from cardiovascular disease5 to endocrine system6 and mental health problems.7 Latino children are among those at greatest risk.1 The National Health and Nutrition Examination Survey (NHANES) reported that of children aged 2–5 years (preschool), 24.4% nationwide and 29.9% of Mexican-American children were overweight or obese in 2003–2006.8 During 2007–2008, NHANES reported a similar preschool overweight prevalence of 21.2% nationwide and 27.7% for Mexican-American children.9 A separate study10 with Mexican-American preschool children over the 2003–2008 time period found that 40.79% of boys and 36.73% of girls had BMIs exceeding the 85th percentile. This study replicated an important gender gap previously reported in Latino children, with boys having higher prevalence of obesity than girls.1

Obesity appears to be more prevalent in elementary school children than in preschoolers. Data from the 2007–2008 NHANES survey indicated that 35.5% of children aged 6–11 years had a BMI percentile ≥85; the prevalence for Mexican-American children was 41.7%.9 A study11 in North Florida elementary schools found increasing prevalence of overweight children across the elementary school years, with the percentage of children with a BMI percentile ≥85 increasing from 29.5% in kindergarten to 39.7% in Grade 5. In that sample, Latino boys had one of the highest prevalences of obesity/overweight (46%).

Parents can play key roles in early identification and intervention efforts to address childhood obesity by...
shaping eating behaviors and encouraging physical activity. However, parents often underestimate their children’s weight, fail to recognize their own child’s overweight status, or define overweight in regard to functional impairments such as limited physical ability. Parents may also disagree with an overweight diagnosis, particularly if a weight-related complication is not present. Culture can influence parental perceptions of weight. In the Latino culture, mothers have a preference for plumper children, associate thinness with poor health, and may fail to perceive their children as overweight.

Children of migrant Latino farmworkers are at risk for obesity; their parents’ occupation fosters a lifestyle that often places them at risk for suboptimal health, including obesity. Migrant children often lack adequate preventive care as a result of Medicaid eligibility being hampered by the family’s interstate mobility for work and difficulties with residency and citizenship status. However, large-scale studies focusing on children of migrant Latino farmworkers are scarce. Existing studies looking at this population have highlighted the need for additional research. One study addressing the prevalence of obesity with a small sample of Latino children from migrant farm-working families yielded a median BMI percentile of 97.5, providing initial evidence of obesity in this population.

The purpose of the current study was to examine the prevalence of overweight and obesity among Latino children of primarily migrant farmworkers. Children’s medical charts were reviewed, and structured interviews were conducted with 495 parents to measure parental concern about the child’s weight status and inquire about parent intention to take action to improve their child’s weight. These findings can better inform primary care–based interventions for overweight children, which have been effective for helping adults and adolescents reduce weight and improve diet and physical activity. Effective interventions that target prevention of obesity among young children are lacking. Findings from the present study can also foster the development of culturally appropriate interventions for children from Latino migrant farm-working families.

Methods

Data Collection and Measures

The study was approved by the Florida State University IRB. During a 15-month period between 2010 and 2011, Latino parents and their children (aged 3–16 years) at a community health center were invited to participate in an interview and a review of their child’s medical records by a bilingual research assistant prior to their well child appointments. The center’s protocol asks that parents self-report their child’s ethnicity during an intake process; when parents selected “Hispanic” from a list of choices (e.g., Caucasian, African-American, Asian), a research assistant was alerted and the family was invited to participate in the study. Following the provider’s exam, informed consent was obtained from the parent and a structured interview was completed, in their preferred language, regarding that day’s office visit; all questions were directed to the parent.

Questions were adapted from an interview previously developed to assess parental reactions to BMI screenings. Interview questions assessed parental concern about the child’s weight (e.g., Are you concerned or worried about your child’s weight?) and their intention to take action to improve their child’s weight (e.g., After today’s office visit, do you plan to change what your child eats or how much exercise your child gets?). Several yes/no questions were asked to assess parental perceptions of health consequences associated with childhood obesity (e.g., Do you think overweight children are more likely to have asthma/high blood pressure/high cholesterol/heart problems?) and their perceptions about a person’s influence over their own weight (e.g., Some people are overweight and there is very little that they can do about it, yes or no?). Several revisions to the original interview were made prior to finalizing the interview guide.

Demographic information collected included child’s grade, race, and eligibility for free/reduced-price school lunch, the parent’s age, race, gender, education and self-reported height and weight. A total of 437 (92.6%) interviews were completed with mothers; 21 (4.4%) with fathers; and 14 (3.0%) with other custodial guardians. Providers were informed that an interview would follow the office visit to measure parent perceptions of their children’s health. They were not given further details about the nature of the interview or provided with any follow-up instruction regarding the office visit.

Following the visit, the child’s electronic health record (EHR) was reviewed for birth date, gender, height, weight, and BMI. The EHR auto-calculated BMI utilizing height and weight information entered by clinical staff on the day of the office visit. The center’s protocol required staff to measure height to the nearest 0.25 inches and weight to the nearest 0.5 pounds; the center used a stadiometer scale (Seca 214) to obtain measurements. All active medical diagnoses made on, or prior to, the date of the office visit were recorded.

The child’s age- and gender-specific BMI percentile were calculated using the CDC’s child/teen online calculator. Children were placed into one of four weight categories: obese, BMI percentile ≥95; overweight, BMI percentile ≥85 and <95; healthy, BMI percentile ≥5 and <85; and underweight, BMI percentile <5. The CDC’s adult BMI calculator was used to calculate parent BMI, and the National Heart, Lung, and Blood Institute’s reference categories were used to determine the appropriate weight category (i.e., obese: BMI ≥30; overweight: BMI ≥25 and <30; healthy: BMI ≥18.5 and <25).

Sample

Participants were recruited during a 15-month period from the pediatric department of a community health center serving a predominantly Spanish-speaking, migrant, farm-working population located within a rural area of southwest Florida. A total of 495 parents agreed to participate. The sample included a small number (n = 23) of high school–age adolescents; these were dropped from the analysis, thus yielding a final sample of 472.
Data Analysis

Descriptive data were presented as means, SDs, frequencies, and percentages. Multiple regression was used to determine correlates of the child’s BMI percentile. Model assumptions were checked and validated (independently/identically distributed errors, independence between predictors). Logistic multiple regression was used to determine associations between the child’s weight classification (obese, overweight, obese); parental concern about their child’s weight (yes/no); and parental intent to take corrective action to improve their child’s weight (yes/no). For the logistic regression, the assumption of independent predictors was met. Data were analyzed using Stata, version 11, in 2012.

Results

All children were of Latino ethnicity, with the majority U.S.-born of Mexican descent (Table 1). The sample was predominately preschool or elementary school age and almost all of the school-age children qualified for free/reduced-price lunch, reflecting a low SES. The majority of parents were foreign-born mothers who had resided in the U.S. for an average of 11.8 years. Most families were farm-working (80.3%), with about half being migrants who relocate frequently for seasonal work. Most parents had less than a high school education, and almost all were overweight/obese.

Child Body Mass Index Percentile and Weight Classification

The average child BMI percentile was 72, and 47.1% of children were either obese or overweight (Table 1); only five children fell within the underweight category. Table 2 depicts the multiple-regression results predicting child BMI percentile and the logistic multiple regression predicting categoric placement into normal weight versus overweight/obese or obese versus healthy weight (the five underweight children were removed from this analysis). In all three analyses, parent BMI was a predictor of child BMI percentile or weight classification. When compared...
to the preschool group, elementary school–age children had a greater probability of being overweight/obese versus healthy weight. Further, elementary school girls had a greater probability than boys of being overweight/obese.

There was a gender-by-grade-level interaction that was most striking in the analysis of obese versus healthy weight children (Figure 1). Among preschool children, boys were more likely to be obese, although girls were more likely to be overweight. Among elementary school children, girls were more likely to be obese and overweight. In middle school, the prevalence of obesity and overweight was comparable between the two genders. Figure 1 also highlights the increase in obesity by grade level.

Parental Concern About Child Weight
Parents were asked whether they had any concern about the weight of each of their children. Figure 2 shows the percentage of parents expressing concern about their child’s weight by gender and by weight category. Logistic multiple regression was used to identify predictors of parental concern. Only the child’s obesity status (yes/no)
was a predictor of parental concern, although there was a
nonsignificant trend for parents born in the U.S. to be less
concerned (Table 2); there were no grade-level or gender
interactions. A majority of parents of obese children were
concerned about their child’s weight, regardless of gender
(Figure 2). In contrast, few parents of overweight chil-
dren were concerned. In fact, parent concern about
overweight children was no different than parent con-
ern about normal-weight children.

Parental Report of Intent to Take Corrective
Action
Parents were also asked about intent to do something to
improve their child’s weight. Figure 2 shows the percent-
age of parents indicating intent to take corrective action
to improve their child’s weight status, by gender and by
weight category. The logistic multiple regression model
found that child age and child obesity status were predic-
tors of parent intent to take corrective action; there were
no age or gender interactions (Table 2). Parents of obese
children were more likely to report intentions to take
corrective action, when asked of their intent to do so
following the office visit (Figure 2). In contrast, the per-
centage of parents of overweight children who planned to
take corrective action was much lower and nearly equiv-
alent to the percentage of parents of healthy-weight chil-
dren who planned to take corrective action.

Parents were also more likely to state that they in-
tended to take corrective action if the child was older and
if they acknowledged concern about the child’s weight.
Parents were also asked to report the type of corrective
action they intended to take, either exercise or diet
(change in eating behaviors). The majority of parents
reported intending to modify both their child’s exercise
(62.7% for boys and 63.6% for girls) and dietary behaviors
(66.1% for boys and 63.6% for girls). Parents also were
asked if they were willing to change their own diet and
exercise patterns in order to help their children, and 100%
of respondents indicated willingness to do so.

Parental Perceptions of the Impact of
Childhood Obesity
Parent interviews included questions measuring parental
perceptions of obesity and its health consequences. Par-
ents were asked open-ended questions about whether or
not they felt that overweight children would outgrow
their weight problems or become overweight adults. Par-
ents were also asked to indicate if they thought certain
medical conditions were associated with childhood
obesity (e.g., diabetes, high blood pressure). More than
half of parents (65%) believed that overweight children
would outgrow their weight problems, although a similar
percentage (64%) stated that overweight children will
become overweight adults. The majority of parents be-
lieved that being overweight places a child at risk for
several medical conditions: diabetes (87%); high blood
pressure (88%); high cholesterol (85%); and heart com-
plications (85%).

However, only half of parents (49%) identified asthma
as a potential risk associated with childhood obesity. Of
the participating obese/overweight children, 36.9% had
been diagnosed with asthma. Almost all parents indicated
that changing one’s exercise (90%) and eating (95%) hab-
its can lead to weight loss and expressed an interest in
intervention programs to improve their child’s weight
and overall health (97%). Few parents believed that there
is nothing that can be done to improve one’s weight status
(15%) or size (11%).

Discussion
Previous research has given little attention to obesity
among children from migrant farm-working families. Results from the current study point out that the preva-
ence of obesity is substantial among this population.
Almost half (47.1%) of the children in this study were
either obese or overweight. This number is higher than
that in other national studies9,33,34 but consistent with
reports available from rural communities.10,35

The higher prevalence of overweight/obesity may be
attributed, in part, to the family lifestyle that is fostered by
the occupation of migrant farmworkers. Child health is
affected, as well as adult health: Nearly 83% of parents in
this study had a BMI that fell into either the obese or
overweight categories. Other studies with migrant farm-
workers have found similar numbers of overweight and
obese adults.36 This highlights the importance of address-
ing weight with the entire family, as the health of both
the parents and children is at risk. In a primary care pediatric
setting, this may be accomplished by setting goals that imply positive behavior change for the entire family versus just for the child being treated.

Previous national studies\(^2,3\) have demonstrated that Latino boys tend to have a higher prevalence of overweight/obesity than girls. The current study did not replicate this pattern. Among preschoolers, boys were more likely to be obese than girls, but girls were more likely to be overweight. In elementary school, girls were more likely to be overweight and obese than boys. In middle school, boys and girls were essentially comparable in terms of overweight and obesity prevalence (54.5% for boys and 52.4% for girls). Because there are no prior large-sample, published studies of obesity among children of Latino migrant farmworkers, future research is needed to determine whether this high prevalence of obesity/overweight among girls is consistent across other migrant populations.

Findings show that children’s weight levels were associated with parents’ concern about their child’s weight. Parents of obese children were most concerned about their child’s weight; however, parents of overweight children infrequently reported being concerned. There was no difference in parental concern between parents of overweight and of normal-weight children, suggesting that parents of overweight children are unlikely to take corrective action or unlikely to take any action beyond what they would take for a normal-weight child. There was a trend for parents born in the U.S. to express less concern about their child’s weight. It may be possible that parents’ levels of acculturation influence their levels of concern. In order to better address the childhood obesity epidemic, better understanding is needed of the cultural factors that may underlie parental concerns about their child’s weight.

Findings from the present study indicated that a large percentage of parents expressed intentions to engage in some form of corrective action to improve their child’s weight; parents were more likely to endorse intent to engage in action when their child’s weight fell in the obese category. This again is an indication of the need for interventions that address the weight status of overweight children, as there seems to be both a lack of awareness and reduced likelihood of corrective action when a child falls within this weight category. A child’s age was a predictor of parent intent to take action, with intent increasing as the child becomes older. If parents are not likely to take action until after the preschool years, an opportunity for early intervention could be missed. Parents of preschool-age overweight/obese children should be encouraged to take early measures to improve their child’s weight.

All parents who participated in the current study reported willingness to change their own diet or exercise patterns in order to improve their child’s health. A majority of parents expressed interest in participating in programs designed to improve their child’s weight. However, questions about intent to change were asked immediately following the office visit and may have been influenced by information presented moments earlier; true intent for behavior change was not measured. This finding is nevertheless encouraging and highlights the importance of including the whole family in interventions that target childhood overweight and obesity.

Parents who provided responses in this study generally had some understanding of the relationship between obesity and chronic health conditions. However, although more than one third of the overweight or obese children in this sample had been diagnosed with asthma, less than half of parents understood the association between obesity and asthma. Further, many parents believed that children usually outgrow weight problems. It may be important to educate parents on proactive strategies one can take to improve a child’s weight. For instance, providers can explain the health benefits of following physical activity guidelines and can describe the different types of activities (e.g., aerobic, muscle-strengthening, bone-strengthening) and make specific recommendations for each (e.g., including gymnastics for muscle strengthening).

**Limitations**

This study is limited by data collection at a single site, as well as by the use of a convenience sample, although a different method of sampling may be difficult with a migrant population. Given the study design, there are cross-sectional limitations, such as the inability to infer causality. Children in this study were all attending a well child office visit; parents who schedule such appointments may be more concerned about their child’s health and weight than parents who do not schedule well child appointments.

This study found that a large percentage of parents were overweight/obese; however, such findings are limited, as parent BMI data were based on self-reported height and weight. All parents participating in this study indicated willingness to change their own diet and exercise patterns in order to help their children; future studies should also measure the extent to which parents actually change their own behaviors. This study is also limited by using single questions to measure parental concern about their child’s weight. The structured interview developed included several yes/no questions to assess parental awareness of health consequences related to obesity; future studies may consider using more in-depth methods of assessing parental awareness.
Conclusion

Overall, findings further document the problem of childhood obesity among Latino children. Healthcare providers in primary-care settings can play important roles in assessing and reporting a child’s weight status. Encounters with healthcare professionals present an opportunity to identify and address parental (mis)perceptions of their children’s weight status. No studies have evaluated how parents from minority groups perceive weight assessment completed by healthcare providers. Future studies should examine how the weight status of Latino children can be addressed during primary-care office visits.

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