Parents' Obesity-Related Behavior and Confidence to Support Behavioral Change in Their Obese Child: Data From the STAR Study

Lisa N. Arsenault, PhD; Kathleen Xu, MPH; Elsie M. Taveras, MD, MPH; Karen A. Hacker, MD, MPH

From the Cambridge Health Alliance, Institute for Community Health, Cambridge, Mass (Dr Arsenault, Ms Xu, and Dr Hacker); Harvard Medical School, Boston, Mass (Dr Arsenault and Dr Hacker); Division of General Pediatrics, Department of Pediatrics, Massachusetts General Hospital for Children, Boston, Mass (Dr Taveras); Obesity Prevention Program, Department of Population Medicine, Harvard Medical School and Harvard Pilgrim Health Care Institute, Boston, Mass (Dr Taveras); and Allegheny County Public Health Department, Pittsburgh, Pa (Dr Hacker)

The authors declare that they have no conflict of interest.

Address correspondence to Lisa N. Arsenault, PhD, Institute for Community Health, 163 Gore St, Cambridge, MA 02141 (e-mail: lnarsenault@challiance.org).

Received for publication November 14, 2013; accepted March 4, 2014.

Abstract

Objective: Successful childhood obesity interventions frequently focus on behavioral modification and involve parents or family members. Parental confidence in supporting behavior change may be an element of successful family-based prevention efforts. We aimed to determine whether parents' own obesity-related behaviors were related to their confidence in supporting their child's achievement of obesity-related behavioral goals.

Methods: Cross-sectional analyses of data collected at baseline of a randomized control trial testing a treatment intervention for obese children (n = 787) in primary care settings (n = 14). Five obesity-related behaviors (physical activity, screen time, sugar-sweetened beverage, sleep duration, fast food) were self-reported by parents for themselves and their child. Behaviors were dichotomized on the basis of achievement of behavioral goals. Five confidence questions asked how confident the parent was in helping their child achieve each goal. Logistic regression modeling high confidence was conducted with goal achievement and demographics as independent variables.

Results: Parents achieving physical activity or sleep duration goals were significantly more likely to be highly confident in supporting their child's achievement of those goals (physical activity, odds ratio 1.76; 95% confidence interval 1.19–2.60; sleep, odds ratio 1.74; 95% confidence interval 1.09–2.79) independent of sociodemographic variables and child's current behavior. Parental achievements of TV watching and fast food goals were also associated with confidence, but significance was attenuated after child's behavior was included in models.

Conclusions: Parents' own obesity-related behaviors are factors that may affect their confidence to support their child's behavior change. Providers seeking to prevent childhood obesity should address parent/family behaviors as part of their obesity prevention strategies.

Keywords: children; cross-sectional survey; obesity; parent–child relations

Academic Pediatrics 2014;14:456–462

What's New

Parental confidence in supporting children's obesity-related behavior change may be a key factor in childhood obesity prevention efforts. Obesity-related behaviors of parents may affect their confidence level, which highlights the importance of engaging family units in obesity-related behavior modification.

Childhood obesity has proven a persistent public health problem, with 16.9% of children age 2 to 19 continuing to meet the definition of obese (body mass index [BMI] ≥95th percentile).[1] The federal government has set aggressive goals to reduce the prevalence of childhood obesity by 10% (from its 2005–2008 level) by the year 2020.[2] Interventions focused on the primary prevention and the secondary treatment of childhood obesity have shown promise in effecting positive behavior change and improved BMI. However, prevention and treatment programs have been extremely varied in both content and results.[3–5] Successful interventions frequently include a focus on behavioral modification and the involvement of parents or family members, particularly among programs targeting younger children.

Family-based models of intervention have shown more consistent promise in reducing unhealthy childhood BMI over the long term.[6–9] The approach builds on long-established associations between the family environment and obesity-related behaviors during childhood[10–12] and recognizes the inherent influence and control parents and caregivers have over a child's obesity related behaviors.[13–15] Of particular interest are results that suggest that targeting parents exclusively can lead to sustainable behavior change in the child.[16–19] Results also

indicate that greater change in parental BMI predicts greater change in children's BMI during family-based treatment.[20,21]

If parents/family members are critical partners in child behavior change, it would follow that greater confidence in making obesity-related behavioral change within the home would make success more likely. A study by Gunnarsdottir et al demonstrated that higher parental confidence predicted less program dropout, earlier child weight loss, and greater child weight loss by the end of treatment period.[22] And a study by Campbell et al showed that even when parents of obese children were ready to promote healthy lifestyle behaviors, they actually still lacked the confidence to take action.[23] Social cognitive theory supports these effects by describing the concept of self-efficacy and its importance in predicting whether a person possesses the confidence to perform a behavior.[24] Self-efficacy or confidence in one's ability to actually make change is required to move from readiness to implementation.

Parental confidence may therefore be an element underlying the success of the family-based approach, yet we know little about what factors may relate to parental confidence itself. If parental confidence, along with any amenable factors related to it, could be considered early in the treatment process, enhanced treatment outcomes may be achieved. To date, it has been shown that lower household income, lower parental educational attainment, parental overweight/obesity, and a child's engagement in obesity-related behaviors were associated with lower parental confidence or perceived self-efficacy to support behavioral change in the family.[25,26] Our study aimed to extend these findings by examining how parents' own obesity-related behaviors—a potential factor amenable to change—may be influencing their confidence to support or change their child's behavior. We also explored how the child's current obesity-related behaviors contributed to this relationship.

Such knowledge will help develop our understanding of why family-based models of obesity prevention and treatment achieve success, but more practically, it will help the clinician better support and more effectively counsel parents in achieving positive obesity-related behavior change in their children. To achieve this aim, we utilized baseline survey data collected as part of a randomized controlled trial testing a secondary treatment intervention for obese children in primary care settings.

METHODS

STUDY DESIGN

This study was a cross-sectional secondary analysis of baseline parent survey data from the Study of Technology to Accelerate Research (STAR) project, the design and aims of which have been detailed previously.[27] Briefly, STAR is a cluster-randomized controlled trial of computerized point-of-care decision support for pediatric clinicians, with and without additional direct-to-parent outreach and support on children's BMI and obesity-related behaviors. Starting in 2011, children and their parent (1 parent enrolled per child) were recruited from a system of pediatric primary care practices (n = 14) in eastern Massachusetts. Trained research assistants who were blinded to their intervention group assignment administered the baseline survey to parents over the phone.

The study was registered with ClinicalTrials.gov (NCT01537510).

STUDY SAMPLE

STAR eligibility criteria included 1) child's age between 6 and 12 years, 2) child's BMI ≥95th percentile for age and sex, 3) established well-child care provided at the primary care site, and 4) enrolled parent could communicate in English. At baseline, the STAR population consisted of 817 parents or guardians whose child was enrolled in the study. Analysis was limited to 792 parents or guardians whose relationship to their child was mother, father, or stepparent and then further limited to those with complete data for the main outcome (parental confidence) and primary predictors of interest (parents' obesity-related behaviors). The final analytic sample size was 787.

MEASURES

The STAR baseline survey included 58 questions including sociodemographic characteristics, sleep duration, physical activity (PA), sedentary behavior, dietary intake, and use of text messaging. For this analysis, we used questions related to parental confidence, current obesity-related behaviors of both the parent and child (PA, TV watching, sugar-sweetened beverage [SSB] intake, sleep duration, fast food consumption) and demographics.

The primary outcome of interest was parents' confidence to help their child achieve each of 5 obesity-related behavioral targets, which was captured via 5 close-ended questions adapted from a prior study[25]: "How confident are you that you can do the following things: 1) help your child get 1 hour of physical activity per day; 2) limit your child's television viewing to less than 2 hours per day; 3) limit your child's intake of soda/juice/sweetened drinks to 0 per day; 4) help your child get 10 or more hours of sleep per night; and 5) limit your child's intake of fast food to less than once per week?" Each item was measured using a 4-point Likert scale ranging from "not confident" to "extremely confident."

Parents were also asked about 5 obesity-related behaviors. Questions were asked twice to capture the current behavior of the parent and the current behavior of the child.

PHYSICAL ACTIVITY

"In the past month, on average, how many hours per week did (you/child) spend engaged in 1) light or moderate recreational activities or sports; 2) vigorous recreational activities or sports?" Children averaging 1 or more hours per day and parents averaging 30 minutes or more per day of total PA were considered to be meeting the PA goal. The parental level was set to approximate the national recommended level of PA for adults.[28]