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Ways to Enhance Children's Activity and Nutrition (We Can!)

Hispanic Family Responses

Kathy S. James, DNSc, APRN, Cynthia D. Connelly, PhD, FAAN, Luz Gracia, MSN, CPNP, and Dale Glaser, PhD

Abstract: *Obesity in Hispanic children is epidemic. Recent recommendations are to focus on parent as role model as a means of prevention. Ways to Enhance Children's Activity and Nutrition (We Can!) is a public education outreach program from a collaboration of 4 institutes at National Institutes of Health. The purpose of this study was to examine changes in Hispanic mothers' behaviors, knowledge, and body mass index after participating in a 6-week We Can! program. Thirty-five Hispanic mothers participated in a 6-week program offered in Spanish at an elementary school setting. Height, weight, body mass index, and the We Can! survey were obtained preprogram and postprogram. Findings included significant changes in behaviors identified as risk behaviors for childhood obesity. Outcomes were similar to non-Spanish-speaking families with whom the program was first piloted. Lessons learned from this experience may benefit others who are trying to provide preventive care of Spanish-speaking families.*

Keywords: childhood obesity; prevention; family intervention; Hispanic

Childhood obesity is associated with racial/ethnic status, poverty, and familial obesity. Parental

modeling of obesogenic behavior including poor nutritional habits, sedentary lifestyle, increased television viewing, lack of adequate exercise, and maternal obesity have been identified as primary high-risk factors for preschool obesity onset.¹ Interventions targeting parental nutrition and physical activity may be key to lessening the obesity epidemic.²⁻⁴

Latino children are disproportionately affected by obesity, with the reported prevalence among 6- to 11-year-olds being 39.3% compared with 26.2%

Latino families' knowledge levels, cultural beliefs, and values related to health and obesity is critical.

Ways to Enhance Children's Activity and Nutrition (We Can!) is a nationally recognized program developed by the National Heart, Lung, and Blood Institute¹¹ to educate parents and caregivers on obesity prevention with an emphasis on increasing parenting capabilities to affect family health. Parents are encouraged in the home environment to (a) increase the availability and accessibility of healthy

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among non-Hispanic Whites.⁵ Alarming, over the past decade, more than 5% of Latino children have a body mass index (BMI) greater than the 99th percentile for age and gender.⁶ The importance of parental role modeling is understood; however, parents may need guidance in becoming the “agents” of change, and there are some social/cultural factors outside of parental control.⁷⁻⁹ Ayala and colleagues¹⁰ state that being aware of

foods; (b) limit the availability and accessibility of sweetened beverages, high-fat foods, and energy-dense foods with low nutrient value; (c) learn portion control at home and at restaurants; (d) support and enable family physical activity; and (e) support and enable reduced screen time (computer and TV). We Can! was originally piloted nationally across 14 sites with survey data for evaluation purposes collected from 154 adult

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participants (73% Caucasians) at 9 intensive sites.¹¹ Statistically significant outcomes on 12 indicators after We Can! included more favorable attitudes and behaviors toward limiting portion sizes, making healthy foods more available, influencing family food choices, and replacing TV time with exercise.¹¹ Program findings are promising; however, research is needed to support its use among diverse families. The purpose of this study was to examine changes in Latino mothers' behaviors and knowledge after participating in a 6-week We Can! program. Unlike the earlier studies, our population was 100% Latino and the program was offered in Spanish.

Theoretical/Conceptual Framework

The conceptual model for this study is based on Golan and Weizman's family-based and health-centered approach¹² to induce environmental change and changes in the parents' lifestyle, cognition, and parenting practices. Parents being the main change agents recognize that family and home environment are major factors affecting the child's habits, which is the We Can! focus.

Methods

A descriptive repeated-measures design was used for this study. All study procedures, including protocols for recruiting participants and obtaining informed consent, were reviewed and approved by the appropriate administrative and institutional review boards.

Sample

Mothers were recruited from an urban elementary school located in a large metropolitan Southern California city between September 2009 and June 2011. We Can! was introduced to mothers after a principal-parent meeting at the school by the principal investigator (PI), a bilingual, bicultural pediatric nurse practitioner (PNP) student, and the school nurse. The orientation included a program description, meeting expectations, and clarification of attendee questions. Inclusion criteria were (a) age ≥18years, (b) child attending the elementary school,

Table 1.
Six-Week Topical We Can! Content

1. Why overweight is an important health issue for many Americans today
2. The concept of energy balance (ENERGY IN = ENERGY OUT)
3. Exploring 2 issues having a big impact on this equation—portion size and time spent in daily physical activity
4. Providing strategies for reducing ENERGY IN (calories from food and drinks)
5. Demonstrating how participants can cut back on fat and added sugar—2 big contributors to ENERGY IN
6. Providing strategies for improving ENERGY OUT by helping participants increase physical activity and reduce screen time

and (c) an interest in learning about improving diet and activity levels in their family. Meeting expectations included (a) attendance at six 1.5-hour weekly meetings and (b) homework based on the program curriculum. Four 6-week groups with 8, 11, 5, and 11 participants, respectively, were held.

We Can! program. The standardized We Can! curriculum was followed (see Table 1). A complete discussion of the program is described elsewhere.⁸ Reading assignments of 2 to 4 pages from the participant workbook corresponded with weekly discussion topics. Mothers' selected one "eating well tip" and one "moving more tip" to work on during the week with her family and reported back on the success and barriers at the following meeting.

Data Collection

Data collected at the first (pre-intervention) and last (postintervention) meetings included anthropometric measures (weight, height, BMI), the We Can! survey, and 5 questions to specifically measure dietary (vegetables, fruits, sweetened drinks [juice], sweets), and activity behaviors. Demographic data were collected at baseline. The PI and PNP completed the anthropometric measures of the mothers, and the PNP read each of the questions from the survey out loud to participants to ensure understanding. For example, some participants

had not heard of BMI or daily value on labels (which is content taught in the program). The rest of the questions were reported to be understandable to our participants. Questionnaires took about 30 minutes to complete. Mothers received a \$20.00 stipend and pedometer at enrollment on completion of pre-intervention measures and a \$20.00 stipend on completion of the program and after data collection.

Measures

Body weight was measured using a digital scale (Tanita Model 554 Innerscan; TanitaCorp, Arlington Heights, IL). The mothers weighed in at each session without shoes and in light clothing. Weight was recorded to the nearest decimal fraction (eg, 141.1).

Height was measured using a calibrated wall-mounted stadiometer (Ayrton Stadiometer Model 5100; Ayrton Corporation, Prior Lake, MN). Height was recorded to the nearest 1/8 inch.

BMI is the ratio of weight in kilograms to the square of height in meters and was calculated according to the Centers for Disease Control and Prevention adult charts.

The We Can! survey consisted of 47 items comprising 8 subscales: (a) Food and Eating Beliefs and Behaviors; (b) Knowledge about Food and Weight; (c) Plans for Healthy Foods and Snacks; (d) Physical Activity Attitudes, Beliefs,

Table 2.

Latino Mother's Pre and Post We Can! Survey Subscales, Dietary Behavior, and Activity Behavior (N = 27)

Measure	Pretest, Mean (SD)	Posttest, Mean (SD)	F (df)	η^2	α^a
Food, eating beliefs, and behaviors	26.52 (3.88)	28.39 (2.32)	5.75 (1, 26) ^b	.181	.916
Knowledge about food and weight	25.63 (5.34)	30.70 (3.35)	21.37 (1, 26) ^b	.451	.726
Plans for healthy family foods and snacks	36.58 (4.34)	38.62 (4.52)	2.49 (1, 25)	.091	.857
Physical activity, attitudes, beliefs, and intentions	22.64 (2.43)	23.84 (1.61)	7.38 (1, 24) ^b	.235	.695
Physical activity knowledge	16.23 (3.22)	18.46 (3.23)	8.59 (1, 25) ^b	.256	.700
Physical activity behaviors and intentions	22.24 (3.15)	23.72 (2.39)	5.81 (1, 24) ^b	.195	.849
Screen time knowledge	21.58 (2.70)	23.23 (2.18)	9.56 (1, 25) ^b	.277	.849
Screen time attitudes and intentions	22.92 (2.77)	23.58 (1.90)	1.25 (1, 25)	.048	.791
Ordinal Data	Mean (SD)	Mean (SD)	z		
Intake of vegetables	1.10 (0.92)	1.72 (0.82)	-3.12 ^b		
Intake of fruit	1.59 (0.88)	2.09 (0.61)	-2.52 ^b		
Intake of sweetened beverages (juices)	0.677 (0.83)	0.40 (0.73)	-2.14 ^b		
Intake of sweets	0.66 (0.71)	0.47 (0.51)	-1.43		
Activity level	1.61 (0.60)	1.69 (0.48)	-1.00		

^aCronbach's α .^b $P \leq .05$.

and Intentions; (e) Physical Activity Knowledge; (f) Physical Activity Behaviors; (g) Screen Time Knowledge; and (h) Screen Time Attitudes and Intentions. Internal consistency reliabilities were not reported in the original study.¹¹ In this study, Cronbach's α scores ranged from .695 to .916, indicating adequate reliability (see Table 2).

Dietary (vegetables, fruits, sweetened drinks [juice], sweets) and activity behaviors were measured with 5 questions, for example, Did you eat vegetables yesterday (yes or no)?

Analysis

Thirty-five participants were enrolled in the study and provided baseline data, 8 were lost to attrition, and 27 provided

pre and post data. The repeated-measures option in SPSS18.0.2 was used for each of the 8 subscales and BMI. The level of significance was set at .05, η^2 effect size per Cohen's taxonomy, small = .01, medium = .059, and large = .138. Given that the vegetables, fruits, sweetened drinks, sweets, and activity were 5 items of a rank-ordered (ie, ordinal) level of measurement, the nonparametric repeated-measures analogue (ie, the Wilcoxon signed-ranks test) to the GLM option was used.

Results

Participants

Thirty-five Latinas between 18 and 56 years of age (mean [M] = 37, standard

deviation [SD] = 8.27) participated; 67.7% (n = 23) reported having less than a high school education, 60.6% (n = 21) had 3 or more adults living in the household, and 81.8% (n = 38) were overweight or obese.

Repeated-measures analysis indicates a statistically significant increase in beliefs and behaviors pretest (M = 26.52, SD = 4.78) to posttest (M = 28.33, SD = 2.32), $F(1, 26) = 5.75, P = .02, \eta^2 = .181$; knowledge about food and weight pretest (M = 25.63, SD = 5.30) to posttest (M = 30.70, SD = 3.34), $F(1, 26) = 21.37, P < .001, \eta^2 = .451$; physical activity attitudes, beliefs, and intentions pretest (M = 22.64, SD = 2.42) to posttest (M = 23.80, SD = 1.59), $F(1, 24) = 7.38, P = .01, \eta^2 = .235$; physical activity behaviors pretest (M = 22.24,

SD = 3.41) to posttest ($M = 23.72$, $SD = 2.36$), $F(1, 24) = 5.81$, $P = .024$, $\eta^2 = .195$; screen time knowledge and attitudes pretest ($M = 21.58$, $SD = 2.70$) to posttest ($M = 23.23$, $SD = 2.17$), $F(1, 25) = 9.56$, $P = .005$, $\eta^2 = .27$ (Table 2); and BMI mean score pretest ($M = 30.34$, $SD = 7.1$) to posttest ($M = 29.88$, $SD = 7.31$), $F(1, 17) = 5.71$, $P = .029$. For the rank-ordered items, the Wilcoxon signed-ranks test resulted in statistical significance for increased intake of vegetables and fruits and decreased intake of fruit juices. Although not statistically significant, the intake of sweets was higher at pretest than posttest, and level of activity was higher at posttest, suggesting positive trends in health promoting behaviors of the family.

Discussion

The current study was designed to continue to build the empirical base establishing the effectiveness of We Can! to promote the prevention or management of obesity, by examining changes in Latino mothers' behaviors and knowledge after participating in a 6-week We Can! program. Our results suggest We Can! functioned well overall when implemented with Spanish-speaking Latinas. Among our sample compared with the original We Can! results with English-speaking participants,¹¹ our results were similar. For all We Can! survey subscales, the higher mean was associated with the posttest, which is indicative of improvement in habits. We had statistically significant changes in 6 of 8 subscales showing improvements in the majority of program outcome objectives. Although not statistically significant, *screen time attitudes* improved as more parents said they limited screen time in their home after participating in the program, and *plans for healthy family foods* also improved. Previous studies that encouraged 5 fruits and vegetables found Hispanic parents rated consuming fruits and vegetables as less important for weight management,⁹ and the original We Can! study showed less positive responses from Hispanics in healthy eating attitudes (planning to decrease fat and sugar in their diet). In our study also we initially found these

attitudes, even though improvement was seen after program completion.

Limitations to Study

These findings must be interpreted in light of the fact that there are several limitations to this study: small sample size, non-randomized design, not all school nurses or staff would have the opportunity or time to assist with studies at their school settings, and lack of follow-up past the 6 weeks, limiting generalizability. Nonetheless, study findings are encouraging and provide additional data for health care and policy agencies considering the use of We Can! to improve health promoting behaviors.

New Contribution to the Literature

Given the high incidence of childhood obesity reported in disadvantaged families, various strategies are needed to reach these high-risk families. Prior research has reported higher incidence of obesity in low-income, uneducated mothers, which was seen in our population. Our study is unique in that all of our participants were Latino compared with 22% in the original We Can! evaluation; 67% had less than a high school education compared with 11% of the participants in the original study. Of note is our mothers' interest in learning about nutrition, their openness to gentle suggestions in how to bring about small behavioral changes with their children, their increased awareness, and recognition of the importance they play in their role modeling. This study underscores the need for further research examining the effect of We Can! with Latino families with a larger sample and a control group. It also adds support for use of the program with low-income families. Data are also needed to examine whether the program is effective in changing child behaviors in decreasing risk for childhood obesity.

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