

# Salud America!

## The Robert Wood Johnson Foundation Research Network to Prevent Obesity Among Latino Children

### RESEARCH BRIEF

December 2011

## Combating Obesity and Inactivity in Latina Girls

### Introduction

The summer season, when school is out, can pose problems for children's health. During this period, research has shown that children are at a higher risk for excessive weight gain<sup>1</sup> and increasing levels of body fat.<sup>2</sup> Latino, non-Latino Black and overweight children are particularly vulnerable to increases in weight during the summer.<sup>3</sup> These unhealthy changes may be partially due to inactivity. During the summer, some children spend many hours watching television, or on other sedentary forms of entertainment.<sup>4</sup> In a national study, Latino and non-Latino black youth reported being less active than non-Latino white children.<sup>5</sup> It is possible that minority children have fewer opportunities to engage in physical activities than their white peers.<sup>6</sup> Among Latino children, overweight Latina girls had the lowest levels of physical activity.<sup>7</sup> It is critical, then, to encourage this group to be physically active during the summer months.

### PRELIMINARY RESEARCH RESULTS

Our *Salud America!* pilot research project, "From Mothers to Daughters: A Physical Activity Dosage Intervention to Impact Adiposity," assesses the immediate and long-term impact the Behavior Opportunities Uniting in Nutrition, Counseling, and Exercise (BOUNCE) program has on indicators of adiposity, or obesity: body mass

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#### PEER REVIEW

Peer review for this research brief was conducted by *Salud America!* National Advisory Committee Member Randy Schwartz, M.S.P.H., senior vice president for cancer control at the American Cancer Society, New England Division.

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<sup>1</sup> Carrell AL, Clark RR, Peterson S, Eickoff J and Allen DB. "School-based fitness changes are lost during the summer vacation." *Archives of Pediatric and Adolescent Medicine*, 61:561-564, 2007.

<sup>2</sup> Downey DB and Boughton HR. "Childhood body mass index gain during the summer versus during the school year." *New Directions for Youth Development*, 114:33-43, 2007.

<sup>3</sup> Von Hippell PT, Powell B, Downey DB, et al. "The effects of school on overweight in childhood: Gain in body mass index during the school year and during summer vacation." *American Journal of Public Health*, 97: 696-702, 2007.

<sup>4</sup> Capizzano J and Stagner M. "When school's out, where are the kids?" 2002, <http://www.urban.org/urLcfm?ID=900519> (accessed March 31, 2010).

<sup>5</sup> Center for Disease Control and Prevention. Youth Risk Behavior Surveillance-United States, 2005. Surveillance Summaries, June 9. *MMWR*. 2006: 55:1-108.

<sup>6</sup> Carter MA and Dubois L. "Neighbourhoods and child adiposity: A critical appraisal of the literature." *Health Place*, 16(3): 616-628, 2010.

<sup>7</sup> Butte NF, Puyau MR, Adolph AL, et al. "Physical activity in nonoverweight and overweight Hispanic children and adolescents." *Medicine and Science Sport Medicine and Exercise*, 39:1257-66, 2007.



index (BMI), weight, waist circumference and body fat percentage. We also assessed the impact of the program on minutes of moderate-to-vigorous physical activity (MVPA) among overweight Latina girls.

Mother-daughter pairs enrolled in BOUNCE participated in a four-week healthy lifestyle summer program, followed by a 12-week, family-based aerobic program and four monthly peer-led sessions. As of this writing, we have collected data on a combined sample of 61 Latina girls and their mothers in two cohorts (summers of 2009 and 2010), giving us a preliminary glimpse of the immediate impact of the summer BOUNCE intervention. Girls' average age was 11 and mothers' average age was 36. Most girls' BMI classified them as obese (85%) while the rest were overweight (15%). Average maternal BMI was 30.89, which is considered obese. Preliminary findings include:

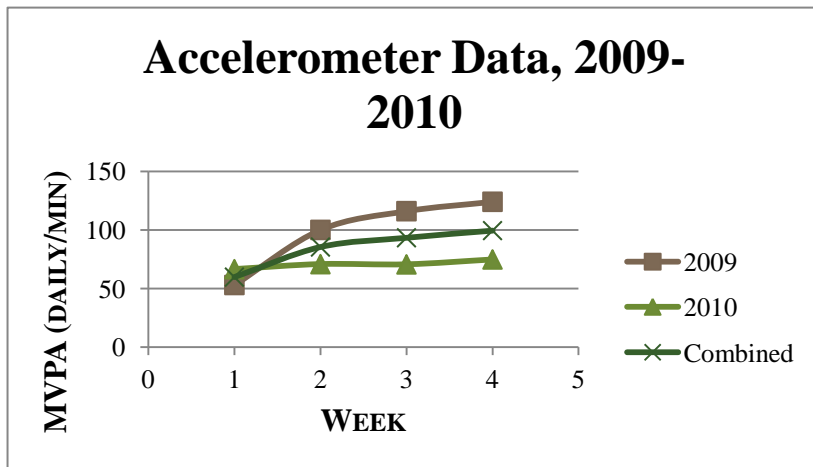
- A family-centered exercise program successfully reduced obesity and increased physical activity levels in Latina girls.** Among participating girls, we observed statistically significant reductions in weight, BMI, waist circumference and percentage of body fat. After the 12-week program, participants lost an average of 2.7 pounds (decreasing from 152.05 pounds to 150.73 pounds), which was associated with an average BMI decrease of 1.3 percent (declining from 29.20 to 28.82). Average waist circumference decreased by 3.6 percent (from 92.85 cm to 89.48 cm), and average body fat percentage declined by 3.7 percent (from 42.14 percent to 38.38 percent).

Table 1

**Preliminary Results**

Mean Measurements	Cohort 1 (2009)		Cohort 2 (2010)		Combined Results		
	Pre	Post	Pre	Post	Pre	Post	Significance (2-tailed)
<b>Height (cm)</b>	152.86	153.24	151.67	151.85	152.36	152.66	0.142
<b>Weight (lb)</b>	150.77	150.03	153.83	151.70	152.05	150.73	0.002
<b>BMI (kg/m<sup>2</sup>)</b>	28.80	28.49	29.77	29.28	29.20	28.82	0.001
<b>Waist Circumference (cm)</b>	91.81	89.76	94.30	89.10	92.85	89.48	0.036

- We also monitored girls' engagement in MVPA during each day and estimated weekly averages for the 2009 and 2010 BOUNCE programs. Results indicate that Latina girls steadily increased their daily minutes of MVPA per week, with an average of 84.5 minutes spent in MVPA.



### Conclusion and Policy Implications

Our preliminary findings suggest that Latina girls who participate in a family-centered exercise program during the summer are likely to reduce weight, body mass index, waist circumference and body fat percentage. Similarly, they are also likely to increase their MVPA, and continuing data analysis may reveal additional trends. Our work shows that summer programs like BOUNCE could have a significant impact on the epidemic of obesity among Latino children. Our findings could also serve as a vehicle for promoting school-based and other community summer program activities for Latina girls. Our research team is continuing to collaborate with local school boards and administrators, nurses, teachers and parents to promote summer exercise programs for Latina girls.