



# Reducing Obesogenic Behaviors Through A Culturally-Tailored Family-Based Program:

## Abriendo Caminos

Clearing the Path to Hispanic Health

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### Introduction

Hispanic children in the U.S. exhibit the highest rates of obesity compared to other racial/ethnic groups.<sup>1,2</sup> Effective interventions to reduce the burden of this growing epidemic are needed. Obesity prevention interventions can improve weight outcomes by targeting modifiable lifestyle factors such as dietary patterns and physical activity.<sup>3,4</sup> Furthermore, there is evidence that culturally-tailored interventions increase fruit and vegetable intake and decrease sugar-sweetened beverage (SSB) consumption among Hispanic children.<sup>4</sup>

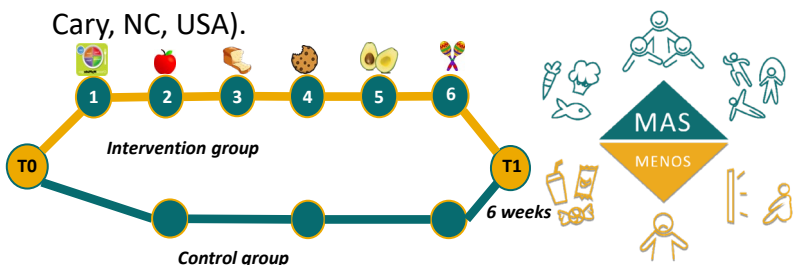
### Objective

To evaluate the effect of Abriendo Caminos (AC2) on Hispanic children's dietary behaviors.

### Methods

AC2 is a multi-state randomized-control trial that aims to prevent childhood obesity among Hispanic families by providing culturally-tailored nutrition, physical activity, and family wellness education.<sup>5</sup>

- Families of Mexican or Puerto Rican origin with a child between the ages of 6 – 18 years were recruited from Illinois, California, Iowa, and Texas.
- Parents' reported their child's dietary intake of SSB, fruit juice, fruits, French fries, vegetables, fast food, sweets, and salty snacks using items from the U.S. Department of Education's Early Childhood Longitudinal Study, Birth Cohort protocol.<sup>6</sup>
- Pre/post dietary changes were evaluated using Generalized Estimating Equation (GEE) models adjusted for site, child sex, and age, using SAS 9.4 (SAS Institute, Cary, NC, USA).



	Control (n=111)	Intervention (n=150)	P
<b>Mothers</b>			
Age, years (mean ± SD)	39.3 ± 8.5	39.0 ± 7.4	0.73
BMI, kg/m <sup>2</sup> (mean ± SD)	33.1 ± 7.0	31.4 ± 7.0	0.06
Foreign-born, % (n)	90.7% (98)	89.9% (134)	1.00
Educational Attainment, % (n)			
High School or more	40.0% (52)	60.0% (78)	0.35
Marital Status, % (n)			
Married or living with partner	85.6% (95)	81.1% (120)	0.40
Other	14.4% (16)	18.9% (28)	
Food Insecure, % (n)	87.6% (92)	80.3% (118)	0.17
Receiving SNAP Benefits	41.8% (46)	39.9% (59)	0.54
<b>Children</b>			
Age, years (mean ± SD)	10.1 ± 3.2	9.3 ± 2.5	<b>0.02</b>
Female, % (n)	40.0% (58)	60.0% (87)	0.45
BMI Percentile Category, % (n)			
Normal (5 <sup>th</sup> -85 <sup>th</sup> )	38.7% (41)	48.0% (72)	0.28
Overweight (85 <sup>th</sup> -95 <sup>th</sup> )	22.6% (24)	16.7% (25)	
Obese (≥95 <sup>th</sup> )	38.7% (41)	35.3% (53)	

Figure 1. Mean Changes in Daily Fruit Juice, Fruit, and Vegetable Intake

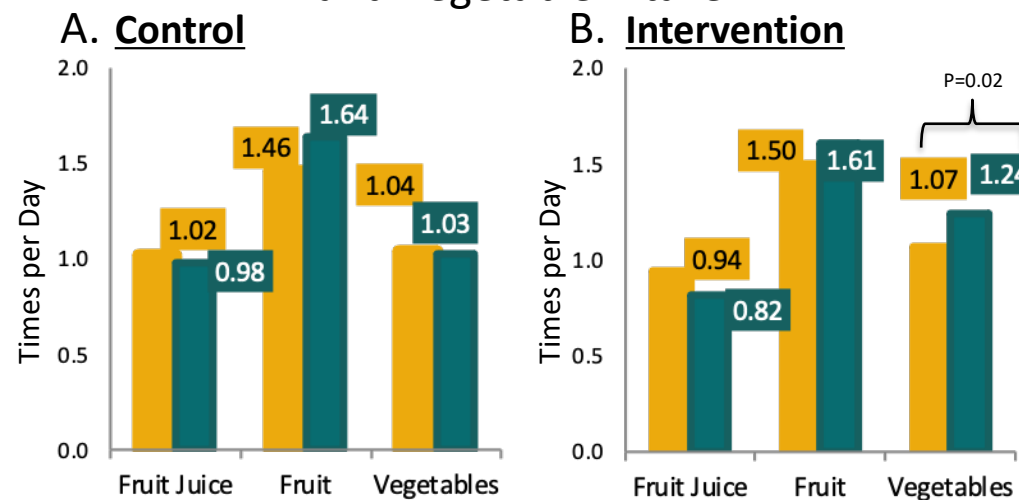


Figure 1. Separate GEE binary models with a logit link were used to assess differences in consumption at baseline and 6 weeks post-intervention. All models were adjusted for child age group, sex, and site. Statistical significance (P<0.05). Baseline (yellow) 6-weeks (teal)

### References

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### Results

Figure 2. Mean Changes in Daily Intake of Energy Dense Foods

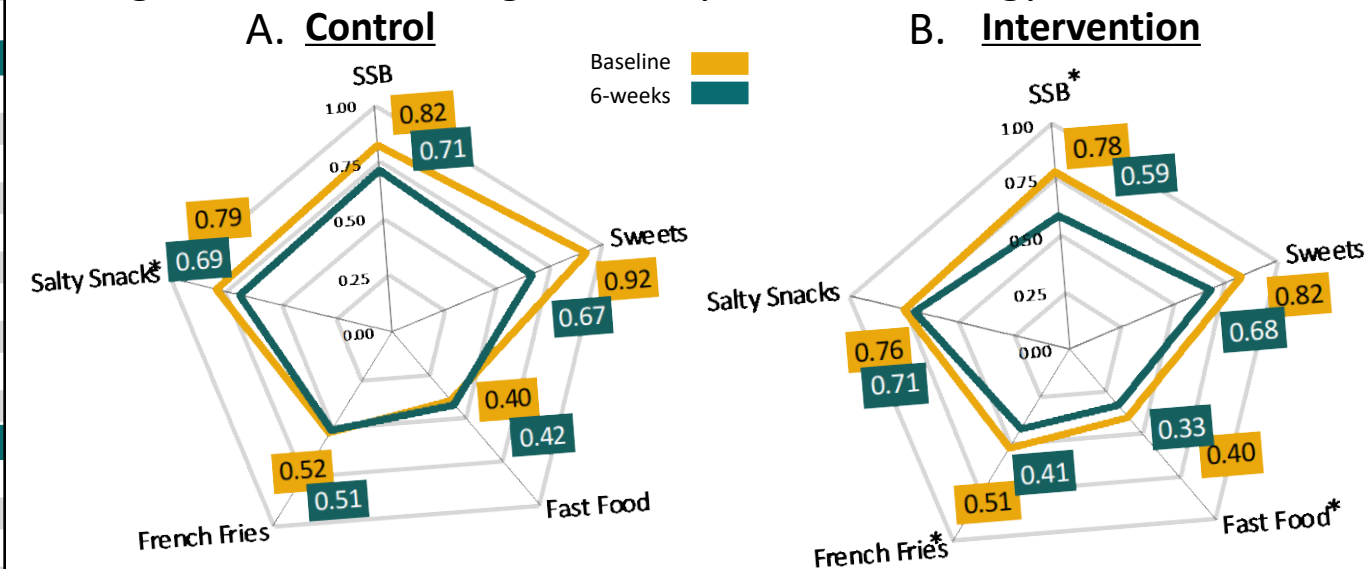


Figure 2. Separate GEE binary models with a logit link were used to assess differences in consumption at baseline and 6 weeks post-intervention. All models were adjusted for child age group, sex, and site. Statistical significance (P<0.05).

Table 2: Impact of the Abriendo Caminos Intervention on Child Diet

Outcomes	Group (ref = control)		Time (ref = baseline)		Control 6 weeks vs baseline		Intervention 6 weeks vs baseline	
	OR (95%CI)	P	OR (95%CI)	P	OR (95%CI)	P	OR (95%CI)	P
SSB	0.82 (0.45, 1.49)	0.50	<b>0.57 (0.41, 0.80)</b>	<b>0.001</b>	0.64 (0.39, 1.04)	0.07	<b>0.51 (0.33, 0.81)</b>	<b>0.004</b>
Fruit Juice	0.84 (0.47, 1.51)	0.56	0.97 (0.64, 1.46)	0.88	1.16 (0.61, 2.21)	0.65	0.80 (0.49, 1.34)	0.41
Fruit	0.96 (0.64, 1.42)	0.82	1.25 (0.87, 1.79)	0.23	1.34 (0.76, 2.36)	0.31	1.16 (0.75, 1.80)	0.51
French Fries	0.81 (0.50, 1.32)	0.40	0.79 (0.58, 1.08)	0.14	1.10 (0.70, 1.74)	0.68	<b>0.57 (0.37, 0.88)</b>	<b>0.01</b>
Vegetable	1.13 (0.70, 1.83)	0.62	1.25 (0.84, 1.86)	0.28	0.84 (0.46, 1.53)	0.56	<b>1.86 (1.10, 3.14)</b>	<b>0.02</b>
Sweets	0.80 (0.41, 1.57)	0.52	0.74 (0.46, 1.19)	0.21	0.62 (0.32, 1.22)	0.16	0.88 (0.45, 1.71)	0.71
Salty Snacks	0.92 (0.45, 1.85)	0.81	0.57 (0.31, 1.03)	0.06	<b>0.30 (0.12, 0.77)</b>	<b>0.01</b>	1.08 (0.53, 2.22)	0.83
Fast Food	0.83 (0.51, 1.35)	0.45	<b>0.70 (0.52, 0.95)</b>	<b>0.02</b>	0.86 (0.55, 1.37)	0.53	<b>0.57 (0.38, 0.86)</b>	<b>0.007</b>

Table 2. GEE analysis of child frequency of consumption after the workshop intervention. CI: confidence intervals, OR: odds ratio, GEE: generalized estimating equations. Bold indicates statistical significance at P<0.05. Models were adjusted for age group, sex, and site

### Conclusion

Culturally-tailored family-based interventions can help improve dietary behaviors among Hispanic children. Future research should address methods to help Hispanic children transition short-term changes into lifestyle habits.

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