



Socio-demographic and Psychosocial Factors Associated with Diet and Physical Activity among Low-income Obese Latinos: Baseline Results of the Vivamos Activos Fair Oaks Project

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Background

- Controlling obesity reduces morbidity and mortality of cardiovascular disease
- Low socioeconomic status Latinos disproportionately experience high obesity rates and environmental risk factors
 - Over-abundance of unhealthy foods
 - Limited physical activity opportunities
- Research of behavioral determinants is may inform obesity interventions

Research Design and Methods

Subjects

- 207 obese (BMI 35.6±5.3 kg/m²) adult Latino patients at a county health clinic
- Recruited for RCT for weight management

Study Design

- Cross-sectional analysis of baseline data
- 7 days pedometer recordings, Block Brief Food Questionnaire, 6-item Food Security Assessment, Depression Survey (CESD ver. Iowa 3X11)

Statistical Analysis

- Linear regression and student's t-test
- Stata version 11
- Steps per day were log transformed

Hypotheses

- More depressive symptoms and food insecurity and less income and education are positively associated with poor diet
- More depressive symptoms and less income and education are negatively associated with physical activity

Results

Correlations between Physical Activity and Predictive Factors

Estimated change in steps per day from 25 th to 75 th percentile: linear regression results*									
Variable	Male			Female			All		
	Change	95% CI	P-value	Change	95% CI	P-value	Change	95% CI	P-value
CESD score	-6.6	-21.9, 11.7	0.45	-8.1	-16.8, 1.6	0.10	-11.6	-20.7, -1.9	0.02
Education	-27.9	-39.4, -14.2	0.0	2.6	-2.4, 7.8	0.31	-4.1	-13, 5.7	0.40
Income	1.9	-16.2, 23.8	0.68	4.3	-7.0, 16.9	0.46	6.8	-5.3, 20.4	0.24

*Estimated change in steps per day from 25th percentile to 75th percentile presented as percent change

Correlations between Diet and Predictive Factors

Estimated change in dietary characteristics from 25 th to 75 th percentile: linear regression results*									
Variable	Male			Female			All		
	Change	95% CI	P-value	Change	95% CI	P-value	Change	95% CI	P-value
Percent calories from carbohydrates									
CESD score	0.6	-1.8, 3.1	0.62	1.3	-0.2, 2.9	0.09	1.4	-0.1, 3.0	0.07
Education	-2.3	-4.5, -0.2	0.04	0.0	-1.0, 1.1	0.95	-0.6	-2.3, 1.0	0.47
Food security	0.0	-1.1, 1.1	1.0	-0.3	-1.3, 0.7	0.54	-0.2	-1.0, 0.6	0.58
Income	0.3	-1.8, 2.3	0.80	-1.1	-2.8, 0.6	0.19	-0.9	-2.5, 0.8	0.30
Percent calories from protein									
CESD score	-0.2	-1.5, 1.1	0.74	-0.6	-1.1, -0.0	0.04	-0.8	-1.3, -0.2	<0.01
Education	1.7	0.6, 2.9	<0.01	0.3	-0.1, 0.6	0.15	0.9	0.3, 1.6	<0.01
Food security	-1.0	-2.2, 0.2	0.10	-0.6	-1.3, 0.0	0.06	-0.8	-1.3, -0.2	<0.01
Income	0.3	-1.3, 2.0	0.67	0.1	-0.5, 0.7	0.67	0.4	-0.4, 1.1	0.31
Daily fruit and vegetable servings									
CESD score	-1.1	-2.1, -0.1	0.04	-0.1	-0.8, 0.6	0.76	-3.1	-1.0, 0.4	0.39
Education	0.0	-1.1, 1.1	0.99	0.0	-0.3, 0.3	0.99	-0.2	-0.6, 0.5	0.93
Food security	-0.3	-1.5, 0.8	0.56	-0.3	-0.9, 0.2	0.22	-0.3	-0.8, 0.2	0.21
Income	0.9	-0.5, 2.3	0.19	-0.2	-0.9, 0.4	0.51	0.1	-0.6, 0.9	0.75

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Socio-demographic and Psychosocial Characteristics

	Male	Female Number (%)	All
Sex	48 (100)	159 (100)	207 (100)
< high school education	31 (64.6)	122 (76.7)	153 (73.9)
Born in Mexico	33 (68.8)	126 (79.2)	159 (76.8)
Low food security	13 (27.1)	67 (42.1)	80 (38.7)
Very low food security	6 (12.5)	20 (12.6)	26 (12.6)
	Mean (SD)		
Age	46.0 (11.5)	47.5 (11.1)	47.1 (11.1)
CESD score	7.5 (3.4)	9.4 (3.8)	9.0 (3.8)
Annual income (\$)	19,375 (13,303)	15,285 (9,191)	16,238 (10,406)
Food security score*	1.4 (1.9)	1.9 (1.9)	1.7 (1.9)
Steps per day	7,380 (3,587)	6,017 (2,912)	6,336 (3,128)
Calories per day	1,982 (594)	1,933 (683)	1,944 (662)
% calories from carbohydrates	49.2 (6.9)	49.4 (8.4)	49.4 (8.1)
% calories from protein	16.9 (3.4)	15.6 (3.0)	15.9 (3.1)
Daily fruit and vegetable servings	1.9 (1.0)	1.9 (1.0)	1.9 (1.0)

*Food security score interpretation: 0 high, 1 marginal, 2-4 low, 5-6 very low

Summary

Conclusions

- Females had less education, food security and income and more depressive symptoms
- CESD score negatively associated with steps per day, percent protein and, among males, fruit and vegetables
- Food security negatively associated with percent protein
- Education positively associated with percent protein
- Suggests obesity reduction strategies should address depression, food security and education

Next Steps

- Investigate potential confounders and nonlinear relationships
- Prepare data for outcome analysis