



# The Impact of a Culturally Appropriate Health and Nutrition Intervention on Low-Income Latinos in Central Ohio

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## Abstract

This study evaluates the effectiveness of a community based nutrition intervention for low-income Latinos in central Ohio. The Healthy Latino Families Program (HLFP) includes healthy cooking and nutrition classes, and aerobic workouts for 20 weeks. In order to measure dietary intake improvements, a 22-item Spanish version food behavior checklist was administered to 53 Latino families before and after participation. Bi-variate analyses indicated a significant improvement for most items. Consumption of fruit per day increased for adults (p<0.01) and both adults and children reported eating more varieties of fruits (p<0.01). Three times as many adults began using food labels to select foods (p<0.001) and the number of adults and children choosing low fat food increased (p<0.05). The number of adults and children consuming soft drinks was cut in half (p<0.05). Our findings show that the intervention improved food behavior in adults and children of this population. Future research should evaluate similar intervention programs for effectiveness, and incorporate more incentives to attend weekly classes. Funded by: the Ohio Commission on Minorities Health, the Department of Human Nutrition, and Centro Esperanza Latina.

## Introduction

Although the Latino community is currently the largest ethnic minority group and the fastest growing population in the United States, it faces a disproportionate number of nutrition related diseases and disorders (1). Obesity and overweight affect 38.9% of Latinos, with 24.7% obese (2). Latinos are twice as likely to suffer from diabetes when compared to non-Latinos; 7.4% of all Latinos are diabetic (2). Cardiovascular disease remains the number one cause of death for both Latino and non-Latino populations (2,3) but the cardiovascular disease profiles of Latinos are considerably worse than their non-Latino counterparts (4).

The goal of numerous studies and interventions has been to facilitate access of minorities who face linguistic, cultural, and socioeconomic barriers to preventative health programs. One method for achieving this end has been the use of culturally adapted community based education initiatives (5).

### Food Behavior Checklist

The Food Behavior Checklist (FBC) has been validated for use with low socioeconomic populations as an accurate measure of several nutritional indicators including: fruit, vegetable, dairy, and cholesterol consumption, diet quality and food security (6). This instrument was chosen because it is brief, accurate, easy to use, and inexpensive.

## References

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## Objective

Assess changes in dietary behaviors of Latinos in Columbus, Ohio after participation in the HLFP

## Methods

### Participants

The HLFP was administered in Columbus, Ohio by Centro Esperanza Latino (CEL) community based program, in conjunction with the OSU Department of Human Nutrition and OSU Extension. Families in this study were recruited by CEL. Data was collected from 53 household food preparers and their youngest child over the age of five at both the pre and post intervention assessment. The sample is a convenience sample of low-income Latino families in Columbus. Study protocol and instruments were reviewed and approved by the OSU Institutional Review Board.

### Intervention

The twenty week intervention consisted of nutrition education, healthy cooking, and salsa aerobics classes. Each was offered weekly in Spanish by members of the research team and community volunteers.

The nutrition class was taught in a classroom setting where study participants attended information sessions, watched videos, completed worksheets and logs, and received informational handouts on various topics related to foods and nutrition.

The corresponding cooking class for the week reinforced the concepts taught in the nutrition class through demonstration of a recipe that met the week's dietary recommendations. The recipes were based on Latin American cuisine.

The program also included exercise classes in the form of salsa aerobics, to incorporate physical activity as part of a healthy lifestyle.

### Statistical Analysis

Responses were coded zero for poor dietary habits, while healthy eating behaviors were coded one. A Food Behavior Score (FBS) was created from the sum of positive responses. Subsequently, a two-categorical classification was generated as follows:

Adults Healthy: 11-20 Children Healthy: 9-18  
Unhealthy: 0-10 Unhealthy: 0-9

To examine changes between pre and post intervention dietary intake behaviors,  $\chi^2$  test was conducted on the dichotomous FBS variable.  $\chi^2$  tests for discrete variables and t-tests for continuous variables analysis was conducted on individual questions to compare pre and post intervention practices.



## Results

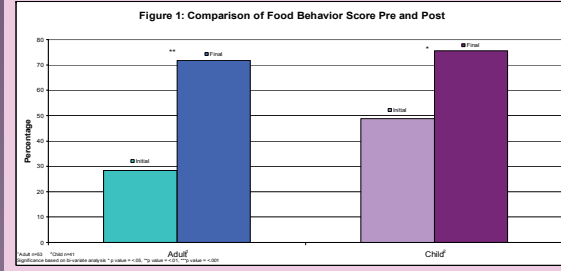


Figure 1: Both adults and children showed statistically significant changes in their FBS following the intervention.

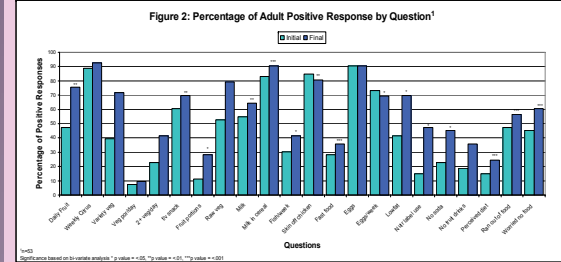


Figure 2: Statistically significant changes were found in adults: fruit and vegetable intake, milk and fish consumption, fat intake, use of nutrition labels, soda consumption, perceived quality of diet, and food security. No statistically significant changes were found in: raw vegetable consumption, general egg consumption, and fruit drink consumption.

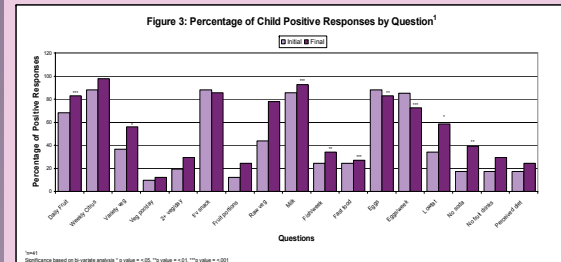


Figure 3: In children there were statistically significant changes in daily fruit and vegetable variety, milk and fish consumption, fat intake, and soda consumption. No statistically significant changes were found in: citrus intake, number of vegetable portions, fruit and vegetables as snacks, number of fruit portions, raw vegetable intake, fruit drink consumption, and perceived quality of diet.

## Discussion

A general improvement in food behaviors following the Healthy Latino Families Program was observed in both adults and children. Fat intake decreased, which coincides with results from the Women's Health Initiative, where Latinos reduced fat intake from milk, cheese, and mixed dishes (7).

Adults and children in HLFP showed the most change in fruit and vegetable consumption which was comparable to another 8-month study targeted to Latino women which showed improved levels of fiber intake after the intervention (8). Results from the Women's Health Trial: Feasibility Study in Minority Populations showed that after participation in the program, women increased consumption of fiber, beta carotene and ascorbic acid while decreasing fat intake which concurred with our study (9).

Future programs should employ an organized and coordinated strategy to address the needs of the Latino community to improve nutrition behavior outcomes. Critical limitations to these interventions include lack of transportation, time constraints, 7-day work week, and insufficient incentive to participate; all will need to be addressed in Latino nutrition interventions.

