



A Pediatrician's Strategy for Obesity Prevention and Intervention in Latino Population

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BACKGROUND

- The population of Santa Ana, California is 80% Latino.
- Santa Ana is one of the top 10 cities in California with the highest percentage of overweight/obese children (40%).
- Overweight/obese children often have co-morbidities that are undiagnosed by their primary healthcare providers. Obesity in childhood tracks heavily into adulthood (1).

AIMS

- To evaluate the effectiveness of the program with respect to changes and maintenance in select adiposity and cardiovascular measures.

METHODS

- A total of 99 children that participated in the PowerPlayMD-OC program in 2007 and 2008 were evaluated.
- The target population included:
 - *Latinos
 - *Ages 9-13 years old at enrollment
 - *Body Mass Index (BMI) at the 85th percentile or higher
 - *No previously diagnosed co-morbidity
- All of these clients were enrolled in the largest California County Managed Care Organization.
- Participants were referred primarily by their pediatric health care providers.
- The initial portion of the program lasted 8 weeks, followed by maintenance and follow up monthly for 1-year after program enrollment.
- Changes in body composition (2) and heart rate and blood pressure (3) were evaluated in the participants for which complete data was available at 6 and 12 months follow-up.
- PowerPlayMD-OC is a health, fitness, nutrition and behavioral program designed to help children, adolescents and their families to manage weight, overall well being and permanent lifestyle changes.
- The program includes the following components for referred youth and their families:

- Medical evaluation and supervision
- Nutritional counseling
- Healthy eating and lifestyle education
- Exercise
- Fitness
- Psychosocial counseling

RESULTS: SAMPLE CHARACTERISTICS

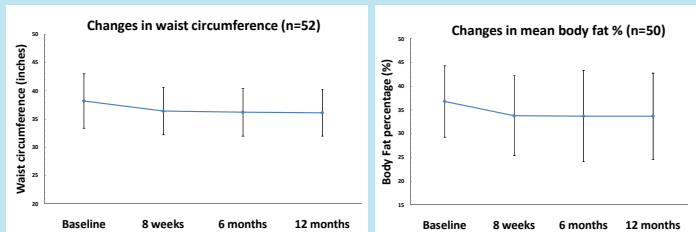
A total of 99 youth between ages 9 and 13 at enrollment participated in the program during 2007-2008. Complete data is only available in 52 of these youth. Analyses were only conducted in this sample.

	Girls (n=21)	Boys (n=31)
Age (y)	11 (9-13)	11 (9-13)
BMI classification	Overweight= 7 Obese= 14	Overweight=1 Obese=30
Waist Circ. (in)	38.1±4.4	38.3±4.0
Body fat %	38.6±5.0	35.5±8.4
Heart rate (bpm)	82±22	88±19
Systolic Blood Pressure (mmHg)	109±10	113±14
Diastolic Blood Pressure (mmHg)	64±7	69±7

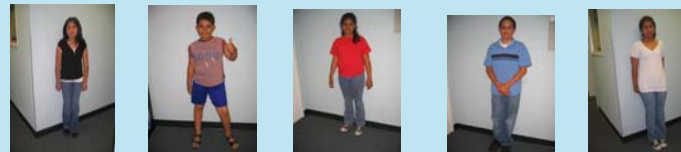


RESULTS: WAIST CIRCUMFERENCE AND BODY FAT PERCENTAGE

Repeated Measures ANOVA results indicated significant ($F=35.074, p<0.001$) decreases in waist circumference across the 8-week intervention that were sustained after 6 and 12 months post-intervention. Similarly changes in body fat percentage were also significant ($F=8.427, p<0.001$) after the intervention and remained constant after 12 months.

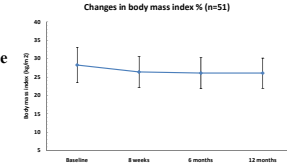


Graduates of PowerPlayMD-OC



RESULTS: BMI

Repeated Measures ANOVA results indicated that decreases in BMI across the 8-week intervention were significant ($F=10.484, p<0.001$) and these changes were maintained for 6 and 12 months.



RESULTS: RESTING HEART RATE AND BLOOD PRESSURE

•No significant changes were observed in resting heart rate over the course of the intervention (mean HR= 86±20 beats/min; $p=0.968$). None of the participants presented tachycardia (HR>100 beats/min). Significant changes were observed in overall systolic blood pressure ($F=4.667, p=0.006$) but no significant differences were present among values. Diastolic blood pressure values did not change over time ($p=0.669$). At baseline, out of the 52 youth, 11 youth presented systolic blood pressures $\geq 95^{\text{th}}$ gender specific percentile for age and height, and 4 youth presented systolic blood pressures $\geq 95^{\text{th}}$ gender specific percentile for age and height. A total of 14 presented hypertension. In this group ($n=14$), mean systolic blood pressure decreased over time ($F= 4.160, p=0.034$) from 125±11 to 115±8 mmHg.

CONCLUSIONS

- A multi-faceted approach to obesity prevention approach that incorporates the patient, the family, and the provider is successful in reducing BMI (2 units), waist circumference (2 inches), and body fat percentage (3%) among Latino overweight/obese youth. Decreases on these variables were sustained 1 year after the program was completed.
- Changes in blood pressure were evident only in those youth who presented hypertension (blood pressure > 95th percentile for age and height). This is concurrent with guidelines presented by Strong and colleagues (4) which indicate that exercise interventions are successful decreasing blood pressure only in those people presented high blood pressure at baseline.
- Youth obesity treatment programs should be designed to be culturally sensitive and long term.
- Health Care Plans must eliminate barriers to reimbursement and treat pediatric obesity as a chronic condition requiring long term early and comprehensive medically based treatment to prevent the development of obesity related comorbidities.

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