Sustainability of a Culturally Sensitive Community-Based Diabetes Prevention Program for Obese Latino Youth

Margaret Greenwood-Ericksen, Class of 2012, University of Arizona

ABSTRACT

PURPOSE: Obesity and type 2 diabetes have emerged as critical public health issues in Latino youth. Community-based programs offer a unique opportunity to reduce the obesity-related health disparities in this population. The purpose of this study was to examine the sustainability of metabolic and behavioral changes in response to a culturally grounded lifestyle education program for obese Latino youth.

METHODS: We reviewed the charts of 67 obese Latino youth who were enrolled in a community-based lifestyle intervention program. The program consisted of weekly education classes with long-term follow-up support provided by bilingual/bicultural health educators. The curriculum focused on behavioral modification, family and peer relationships, self-esteem, and self-efficacy. Outcomes included nutrition and physical activity changes as well as BMI, HDL-Cholesterol, LDL-Cholesterol, Total Cholesterol, Fasting Insulin and HOMA (Homeostatic Model Assessment*).

RESULTS: Immediately following the education program, 77.1% of youth reported decreasing their dietary sugar intake, 34% reported increased fruit consumption, 44.7% reported increased vegetable consumption, and 29.8% reduced their fat intake. Additionally, 84.8% reported participation in sports, 65.2% reported walking for exercise, and 39.1% running for exercise. Nine month follow-up revealed that, 53.8% of the youth maintained decreases in dietary sugar, 23.1% maintained increases in fruit intake, 32.7% maintained increases in vegetable intake, and 30.8% maintained decreases in their fat consumption. Moreover, 81.1% reported on-going participation in sports; 64.2% maintained walking for exercise, and 20.8% were engaged in running. These behavioral changes corresponded to a 3.75% decrease in BMI (30.4 ± 4.4 to 29.3 ± 4.2kg/m²; P < 0.01), a 23.8% decrease in fasting insulin (24.8 ± 18.0 to 18.9 ± 11.0µUI; P < 0.03), a 20.6% decrease in HOMA (5.4 ± 3.7, 4.2 ± 2.7; P < 0.06); a 5.4% decrease in total cholesterol (167.8 ± 47.3, 158.7 ± 6.5mg/dl; P <0.005), a 8.6% decrease in LDL (104.5 ± 39.5, 95.5 ± 39.6mg/dl; P < 0.004), and a 9.1% increase in HDL (37.4 ± 6.9, 40.8 ± 6.6mg/dl; P < 0.001).

CONCLUSIONS: These promising findings highlight the potential for culturally sensitive community-based programs to improve the health of obese Latino youth. Furthermore, the long-term efficacy suggests that interventions conducted outside of the academic and clinical arenas may be more sustainable in high-risk vulnerable populations.

INTRODUCTION

• Latino youth are disproportionately affected by obesity and they have a high incidence of obesity-related comorbidities, including insulin resistance and type 2 diabetes.
• As such, this group warrants special consideration by the healthcare community, particularly as it is the most rapidly growing segment of the pediatric population in the United States.
• Very few intervention programs for this population have been described in the literature and none have combined a culturally-appropriate lifestyle education curriculum with medical management.
• It has been argued that culturally competent interventions based on community involvement hold the most promise in their ability to instill behavior change.
• Therefore, we have developed a culturally sensitive, community-based lifestyle education program for high-risk obese youth.
• This report describes the immediate and sustained behavior changes reported by the participants. We further examined how specific behavior changes were related to changes in BMI.

METHODS

• Medical records were reviewed from 64 overweight (BMI >85%) Hispanic children referred to a comprehensive, culturally-appropriate, lifestyle education program with medical management.
• The program consisted of educational and motivational classes on increasing exercise and types of physical activity, day-to-day nutrition and nutrition education, examples of healthful and culturally appropriate meal planning, parent-child responsibilities, self-esteem, and family participation.
• Outcome measures evaluated the impact of the intervention on physical activity and nutrition behavior changes, and evaluated which behavior changes best predicted decreased BMI at one year.

RESULTS

• It has been argued that culturally competent interventions based on cultural sensitivity and self-efficacy are critical for promoting sustained behavior change.
• As such, this group warrants special consideration by the healthcare community, particularly as it is the most rapidly growing segment of the pediatric population in the United States. Further investigation is warranted to examine the impact of these changes on long-term diabetes risk.
• The applicability of these findings to other populations of at-risk youth is unknown.

CONCLUSION

• Our results suggest that a community-based lifestyle education program is a viable means of promoting sustained behavior change and decreasing metabolic risk among obese Latino youth.
• BMI decreased significantly more in youth who reported walking (Graphic: Walking and BMI change).
• Further investigation is warranted to examine the impact of these changes on long-term diabetes risk.
• The applicability of these findings to other populations of at-risk youth is unknown.