

## **Mexican-American adolescents and metabolic syndrome: Deciphering the role of acculturation**

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**Abstract:** Metabolic syndrome (defined by three or more of the following traits: elevated triglycerides, low HDL, abdominal overweight, elevated fasting plasma glucose, and elevated blood pressure) has been linked to an increased risk of type-2 diabetes and cardiovascular disease. Cook and colleagues (2003) demonstrated that Mexican American have the highest prevalence of metabolic syndrome among adolescents. Thus, understanding the factors associated with an elevated risk for metabolic syndrome in this population is paramount.

This study examines the role of acculturation on the risk of metabolic syndrome and its antecedents, physical activity and dietary intake, in Mexican-American adolescents. A pooled cross-section (N=1831) of adolescents (12-19 yrs.) was taken from the NHANES 1999-2002. Logistic and linear regression models were used to examine the relationships between acculturation and metabolic syndrome, physical activity, and dietary intake controlling for other known correlates.

The overall prevalence of metabolic syndrome was 4.8% or approximately 1.5 million U.S. adolescents. Mexican American ethnicity, overweight, gender, and inactivity, were associated with a higher prevalence of metabolic syndrome. Mexican-American adolescents were more likely to be overweight and inactive compared to Caucasians. Acculturation did not have a direct association with metabolic syndrome, but higher levels of acculturation were associated with increased physical activity and increased daily intake of calories, carbohydrates, saturated fat, and the number of times eating meals outside the home.

Mexican American males were the most likely to have metabolic syndrome. Acculturation seems to be playing a role in the risk profile of Mexican-American adolescents, which increases their daily dietary intake that may contribute to metabolic syndrome via overweight. Acculturation also increased the likelihood of physical activity, but this association may be insufficient to override the other risk factors. These results suggest that acculturation should be considered when designing and implementing interventions or policies aimed at Mexican-American adolescents to reduce overweight, increase physical activity, and promote healthy dietary options. This may help to reduce the treatment costs associated with overweight and type-2 diabetes.

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