

Early Onset Childhood Obesity and Risk of Metabolic Syndrome

[Announcer] This program is presented by the Centers for Disease Control and Prevention.

[Melissa Newton] Welcome to this edition of *PCD* Sound Bites. I'm your host, Melissa Newton. Childhood obesity is a growing global health concern. Signs of metabolic syndrome, which is often related to obesity, have risen among children and adolescents, putting them at higher risk of developing chronic diseases in childhood that can occur later in life. Today, I'm speaking by phone with one of the winners of *PCD*'s 2017 Student Research Paper Contest, Lorena Pacheco, a doctoral student at the University of California San Diego. Her winning research focuses on the relationship between early onset obesity as a risk factor for increased metabolic syndrome in Chilean children. We'll discuss the results of Lorena's study and what impact her research has on obesity prevention and public health. Thank you for joining me today, Lorena.

[Lorena Pacheco] Thank you for having me, Melissa. Happy to be here.

[Melissa Newton] In your study, a group of Chilean children were observed from infancy to adolescence. You used linear regression to examine this association. Why was this approach used to identify risk of cardiovascular disease and metabolic disorders later in life?

[Lorena Pacheco] Linear regression is a type of regression analysis, which is a statistical evaluation method that allowed us to describe the relationship between the dependent variable, metabolic syndrome risk score, and the independent variable, or variable of interest, early onset obesity. This methodology was employed since our outcome was measured on a continuous measuring scale. By using linear regression analysis, we were able to determine the independent association of early onset obesity and metabolic syndrome risk score in this adolescent sample, while controlling for other variables.

[Melissa Newton] What implications does this study have in the Chilean community?

[Lorena Pacheco] These are important findings for the Chilean community. A recent food and agricultural organization of the United Nations Report noted that Chile has one of the highest overweight and obesity rates in Latin America, including childhood obesity. Additionally, Chile has had a notable nutrition transition. The emerging economy and significant improvements in infant mortality and malnutrition gave rise to obesity and diet-related diseases, such as heart disease and type 2 diabetes. Results from this study are particularly relevant since we are adding to the literature on early life determinants, highlighting obesity in childhood and health outcomes later in life. This emphasizes the importance and need for early detection of childhood obesity and effective public health interventions for Chilean children.

[Melissa Newton] About 41 percent of children in the study diagnosed with early onset obesity were obese as a teen. How can pediatricians use this information to help children and parents prevent obesity?

[Lorena Pacheco] This is a great question, Melissa. Results from this study provide evidence for a clinically-meaningful approach. Pediatricians play a substantial role in the healthy development and well-being of children. They are at the forefront of the obesity epidemic and can help prevent it. This translates into continuous screening of the child, tracking weight and body mass index, having a well-established and transparent communication and rapport with parents, and counseling referrals as a possible prevention strategy.

[Melissa Newton] How can findings from your study improve future studies exploring the association between obesity and risk of metabolic syndrome?

[Lorena Pacheco] Future studies must explore this association in diverse populations and in different settings. We had a rather homogenous sample, yet addressing this relationship among populations with distinct racial/ethnic backgrounds should be considered. We encourage researchers who have similar longitudinal cohorts to examine this research question.

[Melissa Newton] What implications does this study have for public health?

[Lorena Pacheco] As mentioned previously, this study indicates the importance of early onset obesity and questions the long-standing idea of a chubby child as being healthy and that they will outgrow their overweight/obesity status. We saw that a child that is obese by age five has a higher metabolic syndrome risk score in adolescence, regardless of their obesity status in adolescence. This implies that public health efforts early in life should be addressed. Additionally, early life and culturally-appropriate interventions to combat childhood obesity should take precedence.

[Melissa Newton] Thank you, Lorena. You can read Lorena's study online at [cdc.gov/pccd](https://www.cdc.gov/pccd).

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