

# Insulin resistance in Chileans of European and indigenous descent: Evidence for an ethnicity x environment interaction

Celis-Morales, Carlos A.

Perez-Bravo, Francisco

Ibañez, Luis

Sanzana, Ruth

Hormazabal, Edison

Ulloa, Natalia

Calvo, Carlos

Bailey, Mark E.S.

Gill, Jason M.R.

Background: Effects of urbanisation on diabetes risk appear to be greater in indigenous populations worldwide than in populations of European origin, but the reasons are unclear. This cross-sectional study aimed to determine whether the effects of environment (Rural vs. Urban), adiposity, fitness and lifestyle variables on insulin resistance differed between individuals of indigenous Mapuche origin compared to those of European origin in Chile. Methodology/Principal Findings: 123 Rural Mapuche, 124 Urban Mapuche, 91 Rural European and 134 Urban European Chilean adults had blood taken for determination of HOMA-estimated insulin resistance (HOMA IR) and underwent assessment of physical activity/sedentary behaviour (using accelerometry), cardiorespiratory fitness, dietary intake and body composition. General linear models were used to determine interactions with ethnicity for key variables. There was a significant "ethnicity x environment" interaction for HOMA IR (Mean±SD; Rural Mapuche: