

A genetic study of Latin Americans sheds light on a troubled history

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A recent molecular analysis of ancestry across Latin America has revealed a marked differentiation between regions and demonstrated a “genetic continuity” between pre-and post Columbian populations. This study, published March 21 in the open-access journal *PLoS Genetics*, provides the first broad description of how the genome diversity of populations from Latin America has been shaped by the colonial history of the region.

The research involved the collaboration of teams at universities across Latin America, the US and Europe, led by Dr. Andres Ruiz-Linares from University College London.

The European colonization of the American continent, initiated in the late fifteenth century, brought with it not only social and political change, but also a dramatic shift from a Native American population to a largely mixed population. The genetic traces of this turbulent period in history are only now beginning to be explored with the molecular tools provided by the human genome project.

The researchers examined genetic markers across the human genome, in hundreds of individuals drawn from 13 mestizo populations found in seven Latin American countries. The picture obtained is that of a great variation in ancestry within and across regions, linked to and led by the colonization that occurred. It also appears that mostly Native and African women and European men contributed genes to the subsequent generations.

Interestingly, despite the fact that the European colonization occurred centuries ago, Latin Americans still preserve the genetic heritage of the local (in many cases now extinct) Native populations that mixed with the immigrants. This connection with the past has not been erased despite the current high mobility of individuals. Furthermore, it brings to life the “brotherhood” of each Latin American population to the Native populations that currently inhabit different countries.

In addition to providing a window into the past, the authors hope that these analyses will contribute to the design of studies aimed at identifying genes for diseases with different frequency in Native Americans and Europeans. Researchers have so far focused on populations from areas settled mainly by Native Americans and Europeans. The genomic diversity of populations across regions in the Americas with large African immigration is still mostly unexplored.

Citation: Wang S, Ray N, Rojas W, Parra MV, Bedoya G, et al. (2008) Geographic Patterns of Genome Admixture in Latin American Mestizos. PLoS Genet 4(3): e1000037. doi:10.1371/journal.pgen.1000037 (www.plosgenetics.org/doi/pgen.1000037)

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