Pharmacogenetics and ethnicity: relevance for clinical implementation, clinical trials, pharmacovigilance and drug regulation in Latin America

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The Ibero-American Network of Pharmacogenetics and Pharmacogenomics (RIBEF) was created in 2006 with the main aim of promoting personalized medicine and collaborative pharmacogenetics research in Spanish- and Portuguese-speaking countries in America and the Iberian Peninsula. The final goal of this initiative was the inclusion of Latin American populations that may benefit from the implementation of personalized medicine in drug therapy. Several initiatives have been promoted including the MESTIFAR project, which aimed to analyze the ethnicity, genotype and/or metabolic phenotype in Ibero-American populations. To date, 6060 healthy volunteers have been analyzed; among them, 2571 were admixed, 1824 were Caucasians, 1395 were Native Americans, 174 were Jews and 96 were Afro-descendants. Due to the large genetic variability within Latin Americans, ethnicity may be a relevant factor for the clinical implementation of personalized medicine. Moreover, the present status of clinical implementation and the future perspectives of pharmacogenetics, pharmacovigilance and clinical trials for drug regulation in Latin America compared with the EMA-Pharmacogenomics Working Party and the US FDA initiatives were analyzed.

Keywords: clinical trials • Latin American populations • metabolic genotypes • metabolic phenotypes • native populations • pharmacogenetics • pharmacovigilance

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