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Advancing Depression Genomics in Latin America: Phenotypic Insights from Latin American Genomics Consortium Major Depressive Disorder (LAGC-MDD) Working Group

Objectives: Despite advancements in understanding the etiology of Major Depressive Disorder (MDD), key challenges remain, including the underrepresentation of diverse ancestry in study cohorts and the notable heterogeneity among depression phenotypes. The LAGC-MDD Working Group is actively working to address these limitations. This presentation will discuss the group's efforts in depression phenotype assessment, data harmonization, and genomic analysis.
Methods: The LAGC MDD Working Group has aggregated datasets to conduct the first large-scale genome-wide association study (GWAS) meta-analysis of depression phenotypes in participants of admixed Latin American ancestry. As an initial approach, we conducted a qualitative analysis to evaluate the heterogeneity of MDD phenotypes.
Results: Data from 33 datasets across six countries (e.g., Brazil, Colombia) were aggregated for a large-scale meta-analysis of depression phenotypes (n=135,000 cases; 240,000 controls). Preliminary findings demonstrate substantial variability in phenotype assessment methods, ranging from single-item self-reports to structural clinical interviews. Medical records classified using ICD codes were the most frequently utilized assessment tool, followed by the CESD self-report depression scale.
Discussion: While large data sets are important for conducting well-powered analyses, they also introduce variability that warrants careful examination. Our planned analyses aim to quantify and model heterogeneity in depression phenotypes by integrating psychometric and genomic approaches, which will refine the accuracy of our findings. The LAGC MDD Working Group remains dedicated to enhancing data collection and capacity building within Latin American communities. Given that MDD is one of the most prevalent mental health disorders in Latin America, mobilizing large-scale, collaborative efforts is critical for deepening our understanding of MDD and addressing disparities in under-represented population