

# GENOTYPES DISTRIBUTION OF THE SNP RS1477196 OF *FTO* GEN ASSOCIATED WITH PRIMARY KNEE OSTEOARTHRITIS IN FEMALES: AN ANALYSIS USING THE 100GENOMES DATABASE

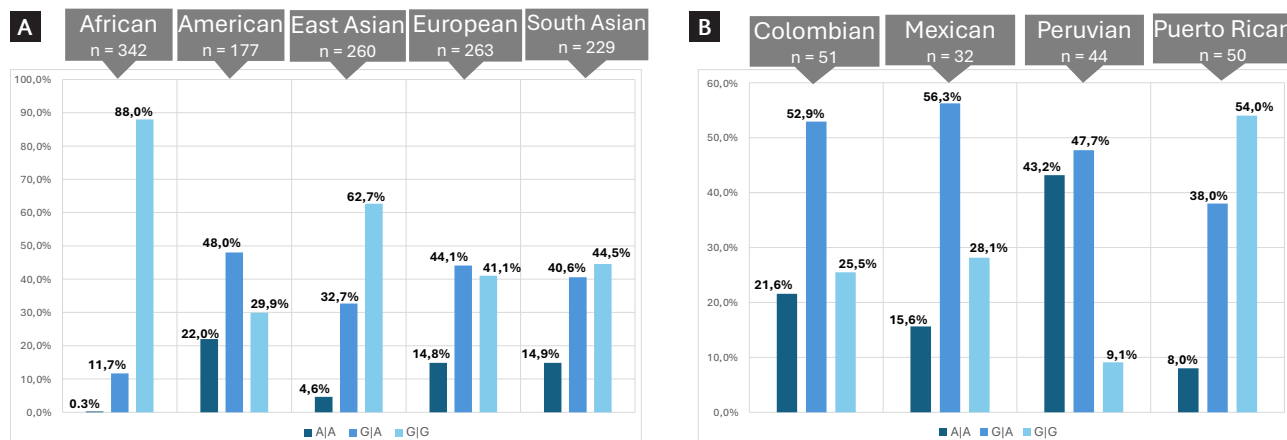
Dear Editor,

In the study by Arellano-Pérez-Vertti et al.<sup>1</sup>, when stratified by sex, the codominant genetic model 1 AA/GG and the dominant model AA/AG + GG were found to have a significant association with primary knee osteoarthritis in women, even after adjusting for other covariates. Therefore, haplotype AA would be associated with primary knee osteoarthritis in women.

If we download the information regarding the rs1477196 polymorphism from the 1000 genomes<sup>2</sup> database (www.internationalgenome.org), we can obtain information about 1271 women, grouped into five macro-populations (26 populations). When analyzing the distribution of genotypes, statistically significant differences were found between macro-populations

( $p = 0.0001$ ) (Fig. 1A). The American macro-population presents the highest percentage of the AA risk genotype (Fig. 1B), with significant differences between the populations that make it up ( $p = 0.0001$ ). In the Peruvian population, 43.3% present the AA genotype, being twice as many as Colombians and 5 times as many as in Puerto Ricans. This high variability in genotypic distribution may be due to ethnic factors, given the different migratory flows that have existed over the years<sup>3</sup>. The development of interpopulation studies in Latin America could provide information that allows the relationship between ethnicity, gender and primary knee osteoarthritis as research that has given indications of polymorphisms, an increased risk of obesity in women<sup>4</sup> or early development of Parkinson's according to ethnicity<sup>5</sup>. Thus, the research developed by Arellano-Pérez-Vertti et al.<sup>1</sup> is a valuable starting point for new studies.

Figure 1. **A:** distribution of rs1477196 genotypes in five macro-populations. **B:** distribution of the genotypes of rs1477196 in the American population.



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