Lower mean arterial pressure on Mexican population underestimates PE risks

Oviedo-Cruz H, Reyes-Mendoza MA, Cortes-Martínez MA, Vivanco-Garín I, Carrillo-Trejo I, Basurto-Díaz D
CEMAFE Centre & Laboratory, Mexico City, Mexico

Objective
To describe first trimester mean arterial pressure (MAP) distribution on a Mexican population sample, in relation with the pre-eclampsia (PE) risks model.

Methods
Consecutive unselected first trimester pregnancies had electronic non-invasive brachial artery blood pressure measurements recorded on both arms to obtain the combined MAP, the adjusted MoM were obtained from Astraia module calculations. One-sample t-test for log10MoM MAP and SD was used. The sample population MAP MoM was used for modelling patient-specific risks for PE.

Results
3533 pregnancies were included with a mean maternal age of 33.6 years and mean maternal weight of 62.5 kg; 83.4% were Hispanic Americans or Caucasians, and 15.1% mixed Latin-Americans; only 7.6% were multiple pregnancies. The adjusted log10MoM MAP = -0.031 with SD of 0.0416 resulted statistically different from the ideal 0.000 log10MoM (p<0.001 two-tailed). By introducing 0.931 MAP MoM factor, the modelled patient-specific risks for PE resulted 2.1 to 2.2 times lower.

Conclusion
MAP in Mexican population is significantly lower than expected, a correction factor of 0.931 for unaffected median MAP is recommended on the risks model to avoid underestimation of patient-specific risks for PE.