



Letter to the Editor

Cardiovascular disease risk prediction in low income settings: A call for context specific risk equations



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In a letter to the editor, Dr. Zhang referred to our recent work that assessed cardiovascular disease (CVD) risk stratification using the Pooled Cohort Equation (PCE), the Framingham non-laboratory and laboratory algorithms among sub-Saharan African (SSA) populations in Europe and sub-Saharan Africa [1]. We are grateful to Dr. Zhang for acknowledging the importance of our work. Conducting a similar analysis on a rural Chinese population, he reports differences in 10-year CVD risk prediction estimates between the Framingham risk equations and PCE, but similar prediction by the Framingham laboratory and non-laboratory algorithms [2] (reference for Dr. Zhang's study). More specifically, he found substantial agreement between Framingham non-laboratory and Framingham laboratory, but moderate and fair agreements between PCE and Framingham laboratory and non-laboratory respectively. In the RODAM study, we found fair agreements between the Framingham algorithms and the PCE which was in line with this study. On the other hand, there was less agreement between the Framingham laboratory and non-laboratory algorithms. Furthermore, we found differences in agreement between the CVD prediction algorithms between SSA migrants and their source populations in SSA.

The findings of current study by Dr. Zhang and our study on SSA populations clearly suggest contextual differences in CVD risk predictions and highlight the importance of context specific risk algorithms, recalibration and external validation of existing algorithms before their application in non-European populations and or limited resource healthcare settings. Despite the importance of risk stratification using risk prediction tools as an effective strategy for CVD risk prevention, incoherent estimations of an individual's CVD risk will have significant implications for clinical practice and the delivery of equitable care in risk based treatment.

Conflict of interest

None.

Reference

- [1] D. Boateng, C. Agyemang, E. Beune, K. Meeks, L. Smeeth, M.B. Schulze, J. Addo, A. de-Graft Aikins, C. Galbete, S. Bahendeka, I. Danquah, P. Agyei-Baffour, E. Owusu-Dabo, F.P. Mockenhaupt, J. Spranger, A.P. Kengne, D.E. Grobbee, K. Klipstein-Grobusch, Cardiovascular disease risk prediction in sub-Saharan African populations—comparative analysis of risk algorithms in the RODAM study, *Int. J. Cardiol.* 254 (2018) 310–315.

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