Author’s response to reviews

Title: An International Comparative Study of Blood Pressure in Populations of European vs. African Descent

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Author’s response to reviews: see over
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Dear Editors:

We appreciate the opportunity to revise our manuscript. Following is a point by point response to the referees’ comments and a revised manuscript is attached. Please do not hesitate to contact me with any questions at 708-327-9018 or rcooper@lumc.edu. Thank you for your time and consideration.

Thank you for your attention.

Sincerely,

Richard Cooper, MD

Response to reviewers:

Reviewer #1:

Items:

1.

We appreciate the useful and supportive comments from the reviewer. We likewise acknowledge that since this study reports on secondary data it cannot address new hypotheses, but, as indicated, was intend to suggest new directions for research on the epidemiology of hypertension.

2.

We acknowledge that the description of some of the national surveys in Europe is limited. Unfortunately in the instances cited the formal reports have not as yet been published in journals with wider access. Based on the information available to us, however, we have elaborated in more detail on the methods involved in some of the studies.

The data selection from ICSHIB was limited to the country in Africa and the Caribbean for which the largest and most recent surveys were available. Data collected in the other sites were more limited in quantity (eg, St. Lucia and Barbados) or did not appear to have the same degree of consistency (eg Cameroon). Given our continued research in Nigeria and Jamaica we have greater confidence in these estimates.
Since the intent of INTERSALT was primarily to estimate within-population relationships the sampling procedure applied was not at all representative and inspection of the data suggests that these samples provide very limited characterization of the national population. In addition, we do not at the moment have a working relationship with the INTERSALT investigators.

As pointed out by the reviewer, the Dinamap, which was used in England, has not performed well in standardized tests. The mean differences for systolic BP compared to mercury are modest, however, usually 2-3 mmHg higher, although diastolic BP can be 5-7 mmHg lower (1,2). (The reviewer suggested that the systolic/diastolic bias was in the other direction, which is incorrect.) We did apply sensitivity analyses which suggested that prevalence estimates would be little changed, however. This results presumably because all oscillometric devices rely essentially on the estimate of mean arterial pressure, from which systolic and diastolic are imputed using an algorithm.

8.

The typing error was corrected.

Reviewer # 2

General comments:

Statistical significance: Unfortunately we were faced with constraints in the way in which the data were collected. The European investigators were not at liberty to provide the original data to use, therefore the analyses were based on the average values for the selected age groups. Without a measure of population variance we cannot perform direct tests. With assumptions about the usual range of variance, and the sample sizes of these studies, the SEM associated with the blood pressure estimates will be very low (ie, in the range of 0.5 or less when both genders are pooled). The differences across continents-within groups would therefore be highly significant. We did not feel justified, however, in including these inferences in the text and would rather present the descriptive findings.
As noted above, we acknowledge the inconsistency of the Dinamap as a measuring device. However, we would disagree with the reviewer that the validity of this large, well conducted study is otherwise undermined by the use of this device.

Additional comments:

The proportion of men and women in each study has been added to the appendix table.

The additional errors in the text have been corrected. We appreciate having those pointed out to us.