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**Population appropriate blood pressure lowering for prevention of cardiovascular diseases**

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Blood pressure lowering significantly reduces vascular risk across various baseline blood-pressures and comorbidities (1). However, this will only be applicable to populations in whom the trials were conducted because the mechanisms of hypertension and hence responses might be dissimilar in different cardiovascular-diseases in diverse populations. The prevalence of hypertension and its association with cardiovascular-disease is not increased in South-Asians when compared to the Europeans. INTERHEART study had 40.5% of cases with myocardial infarction. The cases with hypertension were 40%, diabetes defined with a known history were 18.2% from other countries but figures were 29.6% for hypertension and 20% for diabetes from South-Asia. The glucose status of extra 9.6% with hypertension from South-Asia was not known as blood-tests were not carried out (2). Another UK study found that the increased risk of myocardial infarction in South-Asians with hypertension was due to higher diabetes prevalence (3). The combination of hyperglycemia and hypertension appeared particularly detrimental for South-Asians for stroke too (4). Moreover, the prevalence of decreased ankle-blood-pressure/ brachial-blood-pressure index <0.9 is lower in South-Asians compared to the Europeans (5).

### **Challenges**

1. There is a need to research mechanisms of increasing blood-pressures in subjects with or without insulin-resistance in different cardiovascular-diseases and differential changes in these blood-pressures in different vascular-beds (greater increase in ankle-blood pressures versus brachial-blood pressures) in different populations.
2. The challenge [of creating] appropriate representation of insulin-resistant South-Asian or hypertensive Afro-Caribbean models in mice before studying mechanisms.

The above two research programmes, will facilitate hypertension management to be population appropriate.

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**Conflict of interest:** None

## References

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