Author's response to reviews

Title: Multilevel analysis of systolic blood pressure and ACE gene I/D polymorphism in 438 Swedish families - a public health perspective

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Dear editor,

Thank you very much for your comments and for transferring us the opinions of the referees. Please, find below our answers to these comments.

Referee 1.

We agree with the referee in that SBP is not a clear cut phenotype but, rather, a physiologic manifestation of an array of regulatory mechanisms and anatomic circumstances. We also agree in that dichotomizing continuous variables like (brachial) blood pressure is a simplification. However, in our opinion, the critics of the referee do not only concern our work but question a large part of the research on blood pressure and hypertension arterial all over the world during the last decades. We believe this discussion is beyond the scope of our present investigation.

Our opinion is, however, that blood pressure level has a clear genetic background and arterial hypertension is a well established categorisation that has allowed scientific progress in the research field of cardiovascular risk. Therefore, we prefer to keep the concepts of SBP and hypertension that are extensively accepted in current normal medical sciences.

We also think that the study of a risk factor can be done alone or in combination with other (known) risk factors. It depends of the hypothesis of the study. In our investigation we apply a rather innovative design and prefer a simply analysis that focus on familial clustering of SBP along age by use of ACE inhibitors and the role that ACE I/D polymorphism plays in this context.

We are very satisfied that the other two referees share our approach.

Referee 2.

We appreciate the acceptance of the referee.

Referee 3.

We appreciate the acceptance of the referee.

Statistic analysis, p6. We have made clear the aspect commented by the referee, Table 1. Yes, the overall differences (Chi-square) were significant (p = 0.014). We have added this information in the text.

Figure 1. Yes, the observation of the referee is intuitively correct. However, our assertion is based on the exact calculation of the variance as explained in page in 7 (see also reference 11). Typos, P10 and Table 1: We have corrected these typographic errors.