Reviewer's report

Title: Associations between Home and Ambulatory Blood Pressure Measurements and Cardiovascular Risk

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Reviewer: Kei Asayama

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In the present study, authors demonstrated the statistics on triplicate home blood pressure measurements in 270 participants as Part 1, the distributions of home and ambulatory blood pressure values in 175 selected individuals as Part 2, and estimated cardiovascular risks based on so called “PROCAM” index in 154 (page 8, line 2) or 153 (page 8, line 17) further selected people as Part 3. Though definitely descriptive presentation, it is very interesting to see the essential difference between the numbers of home blood pressure measurement. I would, however, indicate several issues to be addressed.

1) The present manuscript is unorganized. Please follow the standard way in scientific papers on clinical research. Preparing a flow chart of study population throughout all parts helps readers to understand the study.

2) Regarding the issue #1, the details of the PROCAM index must be described in Methods section. Furthermore, I rather recommend that the Part 3 should be discarded entirely from the present manuscript because the PROCAM index is not a major international scale, because the present study included too few participants without definite outcome information as authors clearly stated in page 16, line 3, and because several complicated Figures in the Part 3 would induce confusions among readers.

3) Clinical characteristics as shown in Table 1 should also be revised. Unless focused on, no need to describe Weight and Height because BMI existed. Meanwhile, women and men can be separated with statistical tests.

4) In the Part 1, were there any significant differences between 2nd and 3rd measurement values of the home blood pressure?

5) I also have great interest on the determinants for the discrepancy between 1st and 2nd/3rd home measurements. Multiple regression analysis in which blood pressure reduction is treated as a dependent variable, or logistic regression analysis in which categorization of participants according to the degree of blood pressure changes, e.g., faller or non-faller (a better term can be denoted), is treated as dependent variable, would provide a new finding. As you know, the international hypertension guidelines propose several methods how to assess home blood pressure; use the 1st measurement (previous Japanese Society of Hypertension), average 2 to 3 readings both in the morning and at night (the American Heart Association Scientific Statement on the Use and Reimbursement for Home Blood Pressure Monitoring), or at least 2 morning and 2 evening (the
European Society Guidelines for Home Blood Pressure Monitoring). The ESH also recommends that the measurements recorded on the first day should be discarded. Can authors provide practical evidence for these matters?

**Level of interest:** An article whose findings are important to those with closely related research interests

**Quality of written English:** Needs some language corrections before being published

**Statistical review:** Yes, and I have assessed the statistics in my report.

**Declaration of competing interests:**

I declare that I have no competing interests.