Reviewer's report

**Title:** Assessment of central haemodynamics from a brachial cuff - a community based feasibility study

**Version:** 2  **Date:** 15 April 2012

**Reviewer:** Kimon Stamatelopoulos

**Reviewer's report:**

This study provides important incremental information on the possibility of a more wide application of ARCSolver algorithms in the research and clinical practice of hypertension. However several issues should be addressed.

**Major Compulsory Revisions**

1. Why assess a subset of BP<140mmHg? the rationale of choosing to analyze subgroups should be explained in more detail.
2. In this study central BP and AI but not PWV data are presented. Thus only results from studies evaluating these parameters but not PWV should be used for reference and comparison. For example ref. 13 provides reference and normal values for PWV and should not be used in this setting (introduction).
3. How many oscillometric BP recordings per subject were performed? If indeed, a single recording was performed, this consists a major limitation and should be acknowledged as such in the manuscript since even in real world scenaria, office BP is measured at least 2 times in each visit.
4. Although previously published, reproducibility measures (eg CV) for this population should be presented in this kind of validation study?
5. The number of erroneous/missing values seems quite high (1793/1903). Please specify how many were erroneous out of this number because a high number of erroneous measurements would consist a possible limitation to wide application of the device. Please compare with previous studies.
6. "..robust.." is too strong statement based solely on the results of this study and should be omitted.
7. Age and gender associations with AI found in hypertensive patients is a novel finding and should therefore be more extensively discussed in the manuscript.

**Minor Essential Revisions**

1. It should become clear in the abstract that this study assessed a one-time BP measurements (not ambulatory BP monitoring).
2. "Differences in actual values... differences". This phrase attempts an interpretation on results which are not shown in the abstract and should therefore either be omitted or briefly present relevant results. As it is, it does not make sense and should be clarified.
3. Please define "correctly sized BP cuff"
4. Symbols in figure legends do not correspond to those in figures. Please correct.
5. There were no differences in cPP by age*gender or by gender. Please correct.
6. Syntax-phrasing can be further improved.

Level of interest: An article of importance in its field

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