

August 29, 2014

Dear Editor,

Please find enclosed the edited manuscript in Word format (file name: 12754-review.doc).

Title: Epidemiology of Elevated Blood Pressure in Youth and its Utility for Predicting Adulthood Outcomes:
A Review

Author: Rebecca K Kelly, Costan G Magnussen

Name of Journal: *World Journal of Hypertension*

ESPS Manuscript NO: 12754

The manuscript has been improved according to the suggestions of reviewers:

1 Format has been updated

2 Revision has been made according to the suggestions of the reviewer(s)

Reviewer 1 suggests that a explanation of the secondary causes of hypertension to add to our description of the epidemiology of elevated blood pressure in youth.

We agree with the reviewer that this is an important aspect of elevated BP in youth and one that is certainly worth addressing in a review of this type. As such, we have included discussion on this to the section headed "CLASSIFICATION OF YOUTH BLOOD PRESSURE LEVELS". The following aspects of secondary hypertension in youth have been outlined; a brief definition of secondary hypertension, the etiology of secondary hypertension in youth and the prevalence of secondary hypertension in youth. The new text appears on page 5 of the revised manuscript.

Reviewer 1 proposes a clearer definition of the term "youth" and an explanation of the differences in elevated BP trends in early childhood, later childhood and adolescence.

The interpretation of youth was defined in the "INTRODUCTION" section of the original manuscript as referring to the collective of children and adolescence (page 4). This discussion refers to youth as the period between early childhood (5 years) and adulthood (18 years). Infancy has been excluded as the literature indicates that tracking is most consistent at 5 years of age or older.^[3] We have added additional text to the revised manuscript to better discern to the reader of the ages range we are referring to, e.g. "from age 5-years to 18-years" has been added to page 4. The relative trends in elevated BP have been described in this review using two papers investigating the NHANES cohort.^[28,31] Unfortunately, the analysis in both papers adjusts for baseline age to better determine the secular trend and have not stratified these cohorts based on their ages. Thus, it is not possible to provide an adequate response to the latter part of the reviewers comment.

Reviewer 1 and Reviewer 2 both recommend adding a section detailing the relationship between youth hypertension and youth obesity in the pathogenesis of early vascular aging.

This point is well received. In the revised manuscript and prior to the conclusion, we have added a section entitled "MECHANISMS OF OBESITY AND ELEVATED BLOOD PRESSURE IN YOUTH". This section outlines the following; the hypothesized mechanisms youth obesity influence youth BP and the association between these factors and subclinical outcomes that has been shown in the literature.

3 References and typesetting were corrected

- i. Font, font size and line spacing have been standardized according to the WJH guidelines.
- ii. DOI and PMID citations have been added to all references.
- iii. Table 1 references revised

Thank you again for publishing our manuscript in the *World Journal of Hypertension*.

Sincerely yours,



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