Author's response to reviews

Title: Prevalence of hyperuricemia and relation of serum uric acid with cardiovascular risk factors in a developing country

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Title : Prevalence of hyperuricemia and relation of serum uric acid with cardiovascular risk factors in a developing country.

Responses to Prof. W.S Waring

1. The confusion regarding the definition of hyperuricemia has been corrected. It is now stated in the result section that according to generally used cut-off criteria the prevalence of hyperuricemia is 35% in men and 8.7 % in women but in our analysis we use the upper quartile.

2. The diagnostic criteria for diabetes have been included in the method section. As mentioned by the reviewer, our evaluation of the prevalence of diabetes is an underestimation. However, the difference with the reality is not so high. Indeed, in a population survey performed in 1994 using fasting blood glucose, the prevalence of diabetes was only 1% higher in men and women of the same population. These points have been added in the method section.

3. The population of the Seychelles is indeed at high risk of cardiovascular complications. Vital statistics -which are based on death certificates established by a doctor for all fatalities in the country- indicate that cardiovascular accounts for 37% of all deaths in 2003. These data have been added in the paper.

4. The potential value of uric acid as a marker of cardiovascular risk has been added in the discussion with new references proposed by the reviewer.

5. The fact that our study did not include subjects older than 65 years has been added in the limitations of the study.

I thank Dr Waring for his interesting comments

Title : Prevalence of hyperuricemia and relation of serum uric acid with cardiovascular risk factors in a developing country.

Responses to Prof. Jan A Staessen
1. The confusion regarding the definition of hyperuricemia has been corrected. We have now indicated the prevalence of hyperuricemia according to generally accepted criteria and mentioned that in our analysis we used the upper quartile of the distribution.

2. P 9: the term incidence has been replaced by prevalence.

3. Consideration of a logarithmic transformation in parametric statistical procedures:
   In our opinion, the important point in these models is to examine the distribution of errors (i.e. the differences between the observed and estimated values of uric acid) which has to be gaussian in order to calculate confidence intervals and perform test against zero for regression coefficients. This requirement was met in our regression models. In addition, we used a robust regression method to handle appropriately the outliers.

4. The reviewer proposed to consider sensitivity analysis by excluding subjects in treatment for hypertension (most are on diuretics in the Seychelles). However, the variable "treatment of hypertension" (yes or no) has been included as a cofactor in all multivariate regression models and the regression coefficients are adjusted for it. Therefore the coefficients should change only moderately when excluding subjects treated for hypertension. We re-run all regression models after exclusion of these subjects and only minor changes were observed in the values of the regression coefficients. These results have now been included in the result section.

5. The new references have been added. We have discussed the Johnson hypothesis about tubular injury. The idea of the alpha-adducin mutations is excellent. However, we have tried to focus the discussion on the relationship between serum uric acid and triglycerides. For this reason, this aspect of the genetic has not been included in the discussion.

We thank Dr J A Staessen for his constructive comments.