Reviewer’s report

Title: Potassium urinary excretion and dietary intake: a cross-sectional analysis in 7-11 year-old children

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Reviewer: Ute Alexy

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Potassium urinary excretion and dietary intake: a cross-sectional analysis in 7-11 year-old children

The authors describe a cross-sectional study among 164 children on urinary potassium excretion and dietary intake. Methods are adequate and clearly described, but data analysis is poor.

Major concerns:
# Although the introduction focused on the association between sodium, potassium and blood pressure, unfortunately no data on blood pressure have been collected.
# The potential of the collected data has not been utilized in this paper. In the result section, several data on physical activity, parental educational study etc. are presented but not further evaluated. Questions, which could have been analyzed are for example: Is a high potassium excretion a marker of a healthy lifestyle with high levels of physical activity, low sedentary times, high sleep duration and healthy eating pattern? Is the potassium excretion associated with educational (socio-economic) status of parents (see line 316 ff) or body weight status?

Instead, the authors only present simple descriptive tables with p-values on gender differences. Those differences were neither the main hypothesis nor discussed adequately.

# Overall, in the whole study, lots of data are collected and presented, but not
further discussed.

# The statistical analysis of the available data is no sufficient, e.g. analysis of gender differences requires adjustment for total energy intake.

Minor concerns:
# The introduction focused on blood pressure and hypertension, but dietary intakes are not mentioned sufficiently, although indicated in the title
# The introduction can be shortened, repetitions should be eliminated (lines 103 and 144)
# Validation of 24-h-recalls is mentioned in the discussion and the question arise, whether estimated dietary potassium intakes and the urinary potassium excretion are in accordance.
# It is a really good idea to recalculate the Goldberg Cut-offs for a pediatric population, but it would be helpful to give the references of the used values (e.g. within subject variation, variation in BMR etc.) Please discuss the results of the recalculation for example in comparison with Sichert-Hellert et al. 1998 http://www.ncbi.nlm.nih.gov/pubmed/9800315).

# Results: The authors presented in the tables a lot of results with are never mentioned again (e.g. sleep duration) in the discussion.
# Please indicate in the tables, that the molecular ratio of K/Na is given.
# Please discuss the sodium excretion not only with respect to the AI but also with respect to Upper intake levels.
# Conclusion: It is not new, that children should eat more fruits and vegetables.

Recommendation: Accept with major revisions