Reviewer’s report

Title: The physiological determinants of low-level urine cadmium: an assessment in a cross-sectional study among schoolchildren

Version: 0 Date: 13 Feb 2017

Reviewer: Gerd Sallsten

Reviewer's report:

This is a very interesting and well-written paper. The paper is of interest regarding associations between cadmium and biomarkers of renal effect but also for neurodevelopmental outcomes. This paper shows a strong relationship between cadmium and zink in urine.

I only have minor comments, see below.

Abstract: Line 12: add first the mean age 5.7 years, and thereafter the number of boys or percentage. The mean is for the whole group. As written it can be misunderstood.

Line 19. Is the reference correct?? Maybe ref 17 instead.

Analytical methods. How were the urine samples stored? Were the samples collected in metal free containers? Was the analytical method free from interference from molybdenum oxide? If not the cadmium levels could be too high. How was zinc and lead in urine measured?

Page 5 Line 60. The detection and quantification limits are given only for cadmium. Please add figures also for lead and zinc.

Page 6 Line 27: U-CC16 in 49 samples, should it be 50? In Table 2 you have for CC16 182 subjects (249 - 50 - 17 = 182).

Page 7 Line 17: U-ALB or a LMW protein in urine… Since there is a diurnal excretion of cadmium in urine (Akerstrom 2014) with higher excretion rate before 12 than in the afternoon one could include also collection time (am or pm) as a independent variable in the models.

Page 8 Line 39: Table 3A

Page 9 Line 41: Table 3A

Page 13 line 36: the reference 14 should be (14).

Page 15 Line 41: the median,girls should be 0.22 not 0.27 according to Table 1?

Table 1. Is it the median and interquartile range that are shown in the table?
Level of interest
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An article of importance in its field

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