Reviewer's report

Title: Anthropometric measurements in childhood and prediction of cardiovascular risk factors in adulthood: Kaunas Cardiovascular Risk Cohort Study

Version: 1 Date: 30 December 2014

Reviewer: Edwina Yeung

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Petkeviciene et al. investigated whether childhood anthropometry (i.e., BMI, skinfolds) is associated with risks of metabolic syndrome and its components in adulthood. The authors conducted analyses in a unique cohort from Lithuania who had originally measured children at 12-13 years of age and then again in 2012, after 35 years. The author acknowledged their limitations clearly.

Major Compulsory Revisions
1. Clarity needed regarding statement lines 238-241 for whether childhood BMI and gain in BMI was put in the same model. It seems the authors argue for them not being in the same model which was a useful explanation but then in lines 242-243 it states BMI gain was thrown in but nothing changed which is confusing. The modelling of both factors seems to also have been done (line 247 “independently of childhood BMI”).

2. Did the study collect data on whether the participants took lipid lowering medications and if so, should that be in the diagnostic criteria?

3. Did the study ask for more detailed information on smoking (e.g. doses)? It seemed the authors characterized alcohol consumption with much detail but then smoking was reduced to daily versus not which was most of the cohort (>60%). There may be residual confounding.

4. The authors spend a lot of time on describing gender differences for the first few tables but then conclude in the discussion (line 276) that there were no substantial gender-difference in associations. From the actual models it’s not clear if they tested for gender interactions.

Minor Essential revisions
1. The English was not poor but there are minor grammatical errors like below throughout the paper that the authors might want to more thoroughly review. line 82 should be BMI was “associated” (past tense); line 86 is missing “an” in between “in” and “independent”. Line 332 – “On the contrary” rather than “In”...

2. Line 255 – use of word “mediated” seem inaccurate since what are listed are not mediators but confounders.

Discretionary Revisions
1. Was there information on the types of deaths for those lost to follow-up? (e.g.
cardiovascular deaths?)

**Level of interest:** An article whose findings are important to those with closely related research interests

**Quality of written English:** Needs some language corrections before being published

**Statistical review:** No, the manuscript does not need to be seen by a statistician.

**Declaration of competing interests:**

I declare that I have no competing interests.