Reviewer's report

Title: Assessing caries status according to the CAST instrument and WHO criterion in epidemiological studies

Version: 2 Date: 18 August 2014

Reviewer: Klaus Neuhaus

Reviewer's report:

An important study!
The manuscript needs punctual clarification and some brush up of the grammar.

Major compulsory revisions
P. 2, L. 37/38: Please provide ranges of Kappa (inter and intra examiner)
P. 6ff: The calibration training is nicely described. But it is not clear how exactly the re-assessment with CAST and WHO criteria took place. On page 8 you describe that 64/62 kids were re-examined, but you need to describe when this was done.
P. 8, L. 166: You emphasize the hierarchical order of the CAST scores. Why then not use weighted kappa for ordinal data?
P. 8, L. 168: not p<0.05?
P. 12, 241ff vs. 284ff: I think you could shorten the discussion a bit. These passages are somewhat repetitive and could be pooled.

Minor essential revisions
P. 2, L. 23: detection and treatment of dental caries
P. 2, L. 23: constitutes
P. 2, L. 26: reporting of results
P. 2, L. 35: Four-hundred nineteen
P. 2, L. 36: correlation coefficients of
P. 2; L. 40-41: caries prevalences were, … , they were 12.7%...
P. 3, L. 53: CAST is not a keyword, and it is represented in the title already – please remove. Please also remove “Epidemiology”, because you already gave “Caries epidemiology” as keyword.
P. 4, L. 64-66: A new caries assessment instrument termed Caries Assessment Spectrum and Treatment (CAST) was promulgated in 2011 [2]. It was designed for use in international epidemiological surveys and permits...
P. 4, L. 68-70: Is there a caries detection instrument that does not follow this order (apart from maybe the Nyvad criteria)?
These findings were considered sufficient...

Was this the case for the permanent teeth in this study (Table 4, r much smaller than for primary teeth)? If so, you could discuss this finding here.

counts, not count

Make 2 sentences and start the 2nd one with “Another disadvantage is…”

You may want to start the discussion by stating the main finding of this study.

Level of interest: An article of outstanding merit and interest in its field

Quality of written English: Acceptable

Statistical review: Yes, and I have assessed the statistics in my report.

Declaration of competing interests:

I declare that I have no competing interests