Reviewer’s report

Title: A comparison of photographic, replication and direct clinical examination methods for detecting developmental defects of enamel

Version: 1 Date: 22 November 2010

Reviewer: Armando Soto-Rojas

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A comparison of photographic, replication and direct clinical examination methods for detecting developmental defects of enamel

The article needs extensive review. The results and discussion sections are hard to follow.

The article in general is confusing to read. The authors use the term “replicas” for impression, casts and models. I had to read it several times to understand what the authors are trying to explain.

The background section should be shortened in length, several paragraphs should be moved to the discussion section. Such as the last two paragraphs in which mention to fluorosis indexes and their statistical descriptions is stated and is not relevant to the study.

Methods section:

As the article is hard to read, authors should provide a brief description of the modified DDE index they used. Perhaps photographs may be useful to help the reader.

Who and how were the examiners calibrated? Were they all the same examiners? in all of the examinations described in the study, (visual, photographs, impressions and casts)? The authors are not clear. Who trained the examiners and what was considered as the gold standard examiner or methodology?

Was a flash used in the photographic method?, the term double flash doesn’t tell me enough information. For the visual examinations even though the authors used natural light, conditions might change during the day and this may affect the study results.

The authors stated 2 calibrated photographers, were these the same calibrated examiners? What they were calibrated on? Were photographs scored by the same calibrated examiners from the visual assessments?

Don’t understand what is Affinis…… a trade mark of impression material? The authors don’t provide a description of what impressions were scored from and how the examiners were calibrated. 2 values should be generated if casts and
impressions were scored and this information is not clear. What adjustments were made as color remains the same?

The authors state: All types of DDEs were included in comparison of direct examination and photographic methods. Which I am not sure what they mean.

The authors explain their results section and these need to be clarified or written in a clearly manner as it is hard to follow.

The photographic method detected all cases with DDE that were detected clinically, except one. Twenty cases were only detected by the photographic method.

These two sentences are contradicting

The photographic method detected 1.4 times more children with DDE, 2.1 times more teeth with DDE, and 3.1 times more DDE lesions than the direct examination method.

So was the Photographic method over detecting?? My concern is what the authors are considering as the most valid method. Perhaps if authors state in a summarized way in which situations or epidemiological studies each method should be used.

In general I would suggest authors and editors to standardize terms in this article and to revise the results and discussion sections as data is provided in a way hard to understand to follow.

Instead of the word detecting I would use assessing. Probably instead of the word replicas I would plainly use models and impressions.

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

Quality of written English: Not suitable for publication unless extensively edited

Statistical review: Yes, but I do not feel adequately qualified to assess the statistics.

Declaration of competing interests:

I have no competing interests