Reviewer's report

Title: Randomized Study to Disseminate Caries-Control Services in Dentist Offices

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Reviewer: Anthony Blinkhorn

Reviewer's report:

This is an interesting article which certainly highlights the great difficulties in undertaking research in primary care.

1. Abstract

Conclusion. Low dentist participation - this cannot be a conclusion as it is not based on the objectives of the study. This is opinion and as such should be in the discussion.

The intervention did not reduce children's dental fear - it recorded that the parents reported it may have reduced their children's dental fear.

2. Background

This is well written and informative. However, I do take issue with the last paragraph on the study design:-

• Part 1 is not a study on its own, it is standard procedure in any randomised study and hardly merits mentioning in this paragraph.

• Comments on dentists' consent being an indicator of adopting technology was not an aim and is conjecture more suited to the discussion.

• The response rates are results and should not be in the introduction.

• The first sentence "our purpose ...... at risk of caries" is sufficient to describe the study.

3. Methods

Part 1 Dental Recruitment and Education

I have noted in the introduction this section is standard procedure and should not be called Part I.

The Figure 1 is unnecessary as the authors explain the randomisation and preventive intervention very clearly in the text.

Part II - not necessary to delineate this as a separate part of the study.

Page 9 - 2nd paragraph 'Children were followed for 2 years though ...' (should be "through").

4. Results

Table 2 seems to indicate that there may be a disagreement between the dentists and the researchers on what constitutes caries risk. The researchers define ‘at risk’ for caries as =1 restoration or carious lesion, yet Table 2 shows only a small proportion were rated high caries risk by the control group dentists (9%), and even in the intervention group only 30% had a high caries risk. If dentists do not perceive or record a caries risk, then preventive inputs may well not be offered.
Clearly the control and interventive dentists were assessing caries risk with different thresholds. Nearly half the children had no rating at all.

P15, 3rd paragraph - I am not sure it is appropriate to remove practices from the regression models in a RCT.

P16 Paragraph beginning "Parents in the intervention ..."
The paragraph should be deleted. There was no significant difference, therefore any variation could be due to chance and it is most unwise to try and suggest otherwise.

This study has a problem in that it is underpowered because of the reluctance of practice owners to participate and this has made it difficult to offer definitive results.

Research of this type is difficult and the authors have demonstrated a methodology which is sufficient, they should not be tempted to try and suggest there are differences when it is clearly impossible to give such an answer.

5. Discussion
I am concerned that the dentists did not use the WDS procedure code for fluoride varnish especially as they were offered a 'free' product. This makes any suggestions on the use of the varnish difficult to comment on, and as such, I am not sure one can then discuss how dentists fitted the Kuhn's model.

It would be more helpful to know why the practices did:-

• not use fluoride varnish.
• did they prefer another system?
• or why the right code was not used?

Indeed, the views of the dentists is one key aspect which should be in the paper. Given this was a demonstration study it is very important to hear from the key stakeholders as to what influenced their decisions not to offer a preventive product and whether varnish or some other fluoride system was preferred.

P17. We examined dentist and office characteristics associated with participation in the study. There are several 'kites' flown here but the research did not either ask or answer these questions and I feel a degree of prudence is required.

I think the authors should have referenced "The capitation study 2. Does capitation encourage more prevention?" Lennon et al. BDJ 1990; 168: 213-215.

6. Conclusion
The low dentist participation was not investigated. There could be a myriad of reasons for this but one cannot include a comment in the conclusion as it was not a study objective. Conclusions are based on the aim/objectives of the study.

The main problem with the study was the small sample size and why dentists did not fill in the coding sheets appropriately.

Overall comment
An excellent pilot study which should focus on the problems of running such studies in primary care. The main issues are:-

1. 34% participation rate is too low to be representative of anything, as the authors admit in the last
paragraph of the discussion. Thus, no generalisable conclusions can be drawn or any useful advice given.

2. No comparisons were made between the consenting and the non-consenting groups, but the authors admit that they were different in at least one important parameter.

3. No alpha level or power calculations are given so the ability of the study to demonstrate anything worthwhile is debatable. In fact, the authors also admit that the work was under powered. The only conclusion that is possible is that such studies must be larger.

4. The discussion and conclusions are largely conjecture as the authors appreciated the weaknesses in their study.

**What next?:** Unable to decide on acceptance or rejection until the authors have responded to the major compulsory revisions

**Level of interest:** An article of importance in its field

**Quality of written English:** Acceptable

**Statistical review:** No

**Declaration of competing interests:**

I declare that I have no competing interests