Reviewer's report

Title: An explanatory randomised controlled trial of a nurse-led, consultation-based intervention to support patients with adherence to medication taking for type 2 diabetes

Version: 1 Date: 27 December 2011

Reviewer: Guy Rutten

Reviewer's report:

This article regards a pilot/explanatory study of a nurse-led intervention to facilitate type 2 diabetes patients’ medication adherence. The underlying hypothesis is that lack of motivation and ‘simple’ forgetting both result in non-optimal adherence. This hypothesis is challenged during a nurse-led consultation by elicitation of patient’s personal beliefs.

Major compulsory revisions.

1. Only the glucose lowering medication was taken into account. This is a considerable curtailing of the outcome. Both in the Title and the Discussion section the authors should insert ‘glucose lowering’.

2. Participants will have taken one, two or three oral glucose lowering medications. Some will have taken two oral medications and insulin. Were people on insulin excluded? This is an important issue! Please mention.

3. How as the primary outcome measured in the standard care group? As far as I understand also the patients from the standard care received the TrackCap devices. In fact they should for methodological reasons. However, this is not described in the Study Procedures section.

4. In the results section the authors do not mention whether the nurses succeeded in providing one patient the intervention and may be the consecutive patient the standard care.

5. In the Discussion section the authors state the positive response rate of 34% is ‘comparatively high’. What is this statement based upon? I think they are too optimistic about the external validity of their results.

6. The Discussion could be more critical. It should address the response rate (people with comorbidities excluded!), the discrepancy between outcome measures, contamination (why not randomisation by practice?), the very short follow-up, the restriction to glucose lowering medication. The discrepancy between the MARS outcomes and the outcomes as measured by the TrackCap is striking and points to the validity of both measures.

Minor essential revisions

1. The intervention consisted of two components. In the design section it remains unclear (even from the patient flow diagram) whether the authors mean that
‘motivation’ and ‘action planning’ are the two components, or that another trial regarding the impact of electronic medication measurement was the first part of the intervention. The description of the intervention on page 6 clarifies this issue. Please rewrite the first part of the design section on page 5.

2. A literature reference about the medication measurement ‘which is reported elsewhere’ is lacking on page 5.

Discretionary Revisions

1. The article is well written and describes the short-term efficacy of the intervention. It also wants ‘to inform sample size and other parameters…..’ This part of the sentence will not be clear to the readership. Please define more clearly.

2. Is the device described anywhere or is it validated? Yes, but I read it in the Discussion section. Please describe in the Methods section.

3. The measures are fully described in the trial protocol. However, for the purpose of this article I would prefer a short description of the Medication Adherence Report Scale.

4. In general, the intervention is described well. I would suggest to exchange the second and third paragraphs, i.e. start with the description of the training, the protocols etcetera. Indeed, contamination is a major issue.

5. Abstract: primary outcome available for 194 or 195 patients? The intervention regarded a single session. However, please add: of 30 minutes

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

**Quality of written English:** Acceptable

**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.