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

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Reviewer: Hilary Hearnshaw

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

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1. The study is well justified, well conducted and well reported. This study would have required a great deal of effort in organising, recruiting and gathering data. It should be published.

2. The results are clearly presented, though it could be made clearer exactly what Figure 2 is telling the reader.

3. The discussion addresses the main findings, the limitations and the relevance of the findings to clinical care.

I have a couple of queries, though, which lead to discretionary revisions.

4. Is this an explanatory RCT (Background paragraph 5 and Discussion paragraph 6) or an exploratory one? If explanatory, what exactly has been explained? In the Discussion paragraph 6 it is stated the aim was to estimate the effect of the intervention (presumably its effectiveness), but in the Abstract/Background and Background paragraph 5 it is the efficacy which is mentioned. Which is it?

5. In Methods, Trial design, it is mentioned that the study on electronic medication measurement is reported elsewhere, but no citation is given. I do not really understand how that study and this study complement each other, and feel more description of that should be given. The protocol was published in 2008 (reference 10) but not the full study. It is not clear how much was presented at the ADA in 2009. When was the study conducted? We are told the pilot was in 2001 (Analysis methods paragraph 1). It leaves me wondering just how and when it all fits together and whether I am being told the full story. I would not wish other readers similarly to feel any suspicions of the reporting which might make them devalue the findings. The result is important.
Statistical review: A review by a statistician would be wise, to confirm the writers’ claims.

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

**Quality of written English:** Acceptable

**Declaration of competing interests:**

I have no financial interest in the publication of this paper.

I was a member of the Trial Steering Committee for a previous study led by the lead author. This ended in 2007.