Reviewer’s report

Title: A review of randomized controlled trials evaluating the effectiveness of handheld computers for data collection.

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Reviewer: P Knaup

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The article provides a systematic review of literature on controlled randomized trials, which compare the use of handheld computers to paper-based methods in patient populations. The authors conclude, that handheldds are an effective alternative to data collection with paper and pencil.

The paper is well-organized, well-written and follows an scientific standard for systematic literature reviews. However, I suggest the following points for reworking:

§ The term research subjects is confusing for me. It should be explained at its first appearance.
§ In the Introduction the sentence “Studies focusing on the utility….; however, …. used by research subjects” should be moved to the end of the chapter. Immediately before the purpose of the study is explained.
§ When the purpose of the study is introduced, an explanation is missing, why it is relevant to focus on research subjects. Why do we really need a review considering this. In how far are the results expected to be different from other reviews. What is the particular research question of the article? Which benefit is expected by concentrating on research subjects?
§ Methods: Please provide information on the exact query. How are the mentioned terms combined (with ‘and’ or ‘or’). Otherwise it is not possible to evaluate the query.
§ The section “The search was performed….The details of the latter study… was included…resubmission” is rather confusing. It may be important for the history of the article but for the reader is only important which period has finally been chosen for review and if all articles of this period have been considered. Additionally, it is argued in the section with the inclusion criteria, although they have not yet been introduced.
§ Explain the exclusion criteria in the methods-chapter. Why are studies excluded where health care professionals or children were study subjects or were data were gather by researchers. This is again important to highlight the relevance of the review.
§ “Two reviewers independently….articles according to” My suggestion for continuing this sentence would be ‘the inclusion criteria’. I cannot identify a process and nomenclature in Figure 1.
§ Results: Instead of “Three of the studies used a parallel RCT design----” I would start the results with describing the variety of applications and the disorders they dealt with.
§ Why is the duration of follow up so important?
§ There is a clear correspondence of the discussion and the result, which is laudable. Unfortunately, a critical discussion of the approach of the approach the authors used is missing.
o Why do they think, that the recall of their query was good enough?
o Is it really sufficient to generalize conclusions from 9 reviewed papers? How expressive are these results really.
§ In my print-out the text in figure 1 does not fit in the squares.

To summarize, there are two main, crucial weaknesses: The relevance of the research question and the expressiveness of the results. If the authors manage to proof these two points with substantial arguments the paper is worth considering for publication.