Around meta-analysis (8): how about all-inclusive software?

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The process of conducting systematic review and meta-analysis is usually long and complicated. From the start to the end, I probably use around 10 separate pieces of software, handling different types of data and files. Not surprisingly, I often think that it would be great to have all the tools in one place, and nicely integrated. 'Smart-phone-like' software for meta-analysis!

This wishful thinking led me to testing out two pieces of software that looked very promising: **RevMan5** ([Review Manager 5](#)) and **ER4** ([EppiReviewer 4](#)). For the details how they work, you will need to see documentation on their respective webpages. Here, I will briefly summarise my conclusions from trying to use these programs for the type of meta-analysis we usually do (non-medical, animal-based, evolutionary/ecological and on highly heterogeneous, confounded and hard to find data).

RevMan5

Pros:

- It is free,
- It covers most of the pipeline (starting from a set of references),
- It builds the whole manuscript in prescribed format for Cochrane Reviews, including tables and figures.

Cons:

- It is complicated and has non-intuitive interface,
- It is designed specifically for medical studies, and thus is not very flexible, contains lots of irrelevant stuff for non-medical research,
- It cannot some basic statistical analyses (e.g. meta-regression), so the final data would have to be exported and the results imported back to the manuscript.

ER4

Pros:

- It covers whole pipeline (from database searches),
- It is quite flexible (designed not only for medical research),
- It stores referencs + pdfs + extracted data + results,
- It allows coding/keywording/labels, annotating pdfs,
- It creates tables, diagrams, performs basic meta-analysis.

Cons:

- It is commercial (free one month trial), gets quite costly for collaborative work,

- It has limited database-searching functionality,
- Finding duplicate references is possible, but still less effective than semi-manual method,
- It is slow at scrolling through references and pdf full text (unfortunately, this was the killer for me, as I can not spend my time waiting for the next page to appear…)

Conclusions: I will not use any of the tested programs for my real work (although ER4 was close to being useful, with many nice features). The main reason is that I usually can do things quicker and better using a set of specialised software (e.g. running searches with multiple databases and search methods in web browsers, processing references in reference managers, and performing statistical analysis in R). Having it all in one place comes at a cost of doing things slower or less thoroughly. Although, I think the software reviewed above will work well for very specialised, small and relatively simple reviews (which we usually do not do).

Details

Written by Malgorzata (Losia) Lagisz
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