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| Reviewer: 1 | | |
| 1.1 | I understand the value of automating these tasks, but the final outputs = displays are no different from what we have been used to seeing for years. In other words, there is no advance in terms of data visualization. | It is true that the displays have been around for a long time, and that there is no particular novelty in the data visualization. Our tool fills a practical gap in the toolkit available to systematic reviewers, and the editor has indicated that it is therefore of interest for the special issue. |
| 1.2 | The manuscript is not all that easy to follow. I must admit that I am not used to reading a manuscript describing a software package. However, at the same time, I suspect that this special issue in RSM is not intended to be a collection of users’ guides for new packages but rather a collection of scientific papers exploring and proposing new methods for data visualization. | We have made a range of general edits in an effort to improve the clarity and flow of the manuscript. In particular, we have:   * removed text detailing the inner workings of the package from the “5.1.2: Data import” and “5.1.4: Further customization” sections. * altered the text in the “5.1.3: Functions” section to make it easier to follow. * added text to describe the web application (“5.2: Shiny web app”) in more detail. |
| 1.3 | On page 3, the reference #5 should be for QUADAS-2, and a reference #31 should come here for ROBIS. | We have corrected these referencing errors. |
| Reviewer: 2 | | |
| 2.1 | I would suggest to explain what is robvis in a bracket after the word, so the readers would know from the title where does the acronym come from | We have added an explanation of the acronym to the title: “Risk-Of-Bias Visualization (robvis): an R package and Shiny web app for visualizing risk-of-bias assessments” |
| 2.2 | Risk of bias expression is interchangeably used with dashes and without dashes (risk-of-bias vs risk of bias); it would be good to use one versus another consistently. | In line with traditional English grammar, we use dashes when the phrase is used as a compound adjective (e.g. “risk-of-bias assessment”) and no dashes when the phrase is used as a noun (e.g. “assessing risk of bias in systematic reviews”). We have confirmed that this approach is consistent across the manuscript. |
| 2.3 | Randomized trials vs randomized controlled trials – suggest using one term uniformly; perhaps the second one and acronym RCT. | We have replaced all occurrences of “randomized controlled trial” with “randomized trial” |
| 2.4 | Word “Fortunately” appears a bit colloquial. Suggest to revise the sentence with this word, without using it. | We have revised this sentence to read: “It is now straightforward to produce such a tool, thanks to the availability of powerful software including R, RStudio and Shiny (an R package for building interactive web apps)” |
| 2.5 | Acronyms RoB 2, ROBINS-I and ROBIS should be explained at the first mention -become unmanageable – should it be: becomes unmanageable? | We have added an explanation of each acronym after its first occurrence in the manuscript. We have replaced “become” with “becomes”. |
| 2.6 | In a section starting with Fortunately, there is a typo in the bracket in the third row. | We assume that this comment refers to the unusual capitalization of “(Risk Of Bias VISualization)”. This was intentional, to help illustrate where the “robvis” acronym comes from. |
| 2.7 | “Originally created for use…” – any reference about who created it? | The phrasing of this sentence made it appear that the tool was originally developed by another group and that we adapted it for wider use. We have changed the language in this sentence to make our point clearer: “While primarily designed for use with the major risk-of-bias assessment tools used in health research (ROB2, ROBINS-I & QUADAS-2), the tool allows users to visualize the results from any domain-based risk-of-bias assessment or quality appraisal tool.” |
| 2.8 | “major risk-of-bias assessment tools used in health research” – please clarify, which tools exactly? | We have added the tools in parentheses after this statement, which now reads: “major risk-of-bias assessment tools used in health research (ROB2, ROBINS-I & QUADAS-2)” |
| 2.9 | “contribute to the development version” – please clarify | Hosting the package on GitHub allows users to contribute new code to the package. We have clarified the language to make this clearer: “. . . or access and contribute to the open-source code that powers the package via GitHub” |
| 2.10 | “to be provided in a specific format” – please clarify in which type of file this table can be prepared, to be imported. | We have changed the wording of this sentence to emphasis that it is referring to how the data are presented (i.e. the number and content of columns), rather than the file format. The new sentence reads: “robvis expects the risk-of-bias data file to be arranged in a specific way (see Table 1 for an example).” We believe that describing how to load data into R is beyond the scope of this article, and that those who are not comfortable with this step will be more likely to refer to the Shiny web app section, which now has extended guidance on the acceptable file formats (see response to 2.15). |
| 2.11 | The authors wrote that weights should be written in the final column of the table. It is unclear what exactly they mean by “study precision”. | We have adjusted the text both in the manuscript and on the online tool to make our point clearer: “The final column contains some measure of the result’s precision (e.g. the weight assigned to that result in a meta-analysis, or the sample size of the analysis that produced the result).” |
| 2.12 | Regarding “weight assigned in a meta-analysis”, this is also unclear – some studies included in a systematic review will not contribute to any meta-analyses, while some studies will contribute to multiple meta-analyses. On the website that is mentioned in the section 5.2. (www.riskofbias.info) it is mentioned “The final column contains the "Weight" variable, often study sample size or precision” – this is not in line with the text in the manuscript that says “e.g. study precision or the weight assigned in a meta-analysis). The authors should clarify this both in the manuscript, and preferably in the online tool. | For the main tools, the risk-of-bias assessments should be performed at the result rather than the study level. Thus, a single study may contribute several results to different meta-analyses, but a single result (with an associated risk of bias judgement) should only contribute to one meta-analysis and so should only have one weight. As shown in the response to 2.11, we have rewritten this sentence to make our point clearer. There remains the option of specifying all weights to be 1 for users who are using the tool for assessments that do not relate to specific results, and we now comment on this possibility. |
| 2.13 | I have never worked with R. It is unclear where exactly these commands should be written? When you write “To install and load the package”, is this something one would write in the R when the software is opened? | We have made it clearer that these commands are designed for use in R. This sentence now reads: “To install and load the package in R, enter the following into the console:” |
| 2.14 | Is there any possibility of including a step-by-step approach with R for people who have never used it? | A step-by-step approach with R is beyond the scope of this article, as the documentation that accompanies the package is quite long. However, we have clarified the text around the links to external resources presented at the end of the Introduction to make clear that this level of guidance is available elsewhere: “Extended guidance for the tool, including a step-by-step walkthrough for those new to the R programming environment, is also available via the “Doing Meta-Analysis in R” online guide.” |
| 2.15 | I had trouble using this tool. I went to try and use the web app, as I have never used this tool before. I downloaded example of CVS file that was available on the website, and then I wanted to use it to create a “Traffic light plot”. I uploaded the file, and then chose “RoB 2” in the drop-down menu. As soon as I did that, an error message received that said “An error has occurred. Check your logs or contact the app author for clarification.” I had no such problem when I downloaded an example for ROBIS, and when I chose the ROBIS in the drop-down menu for “Traffic light plot”, but I was unable to download the plot because of “server error”.  When I tried to create a “Weighted summary plot”, I repeated the two steps as before. There was no error message. Then I clicked on “Download plot”, and this failed repeatedly, warning me that there was a problem with the server (whereas I had no problem at all downloading other things from internet, or the template Excel files), so I doubt that the problem was with my internet connection). | This feedback is most welcome and corresponds with similar comments received from other users via email. In response, a number of changes have been made to the web-app to make it more user friendly:   * In order to overcome issues with the formatting of CSV files between systems (as experienced by this reviewer), users can now save their data as either an Excel spreadsheet (recommended) or a CSV for upload to the app. In line with our new recommended approach, the example data files provided on the app’s home page have been converted from CSV files to Excel spreadsheets. * We believe the “Server error” mentioned by the reviewer comes from not selecting a file type (e.g. PNG, JPEG) when downloading the plot. We have addressed this by always defaulting to the PNG format when downloading the plots, which the user can change if they wish. * In an effort to improve how errors are handled by the app, users are now shown a copy of their data on-screen so that they can confirm the upload worked correctly. Additionally, the uploaded data are passed through a number of quality control checks, and the app prevents users from producing the plots until any issues identified have been resolved. The number of columns in the data is compared to the number of columns expected for the risk-of-bias assessment tool they have specified (e.g. for the ROB2, 8 columns are expected: 1 study name, 5 domain, 1 overall and 1 weight). The judgements provided are also checked against the judgements used in the tool specified (e.g. for ROB2, acceptable judgements are: Low, High, Some concerns), and invalid judgements are flagged for correction. * As an alternative to uploading their data from an external file, the app now allows users to enter their risk of bias judgements manually. However, we would expect that due to the changes mentioned above, users will resort to this option very infrequently.   We have updated the text in the “Shiny web app” section of the manuscript to account for these changes. |
| 2.16 | Sentence starting with “For example, a template….” – reference 31 should be better placed after the word “reviews” than at the end of the sentence. | We have moved this reference to come after “reviews,”. |
| 2.17 | “Additionally, the tool” – would be better revised into “Additionally, the robvis tool…” | We have amended the start of this sentence to “Additionally, the robvis tool…” |
| 2.18 | Please specify in the caption of the Table 1 in which file format such table needs to be prepared | The new title of this table reads: "Example dataset for the ROB 2 tool contained within `robvis`. Data can be imported to the tool from with an Excel spreadsheet or a CSV file." |
| 2.19 | In Table 2, Please specify in the table caption for which software these functions will work. For R? | The first sentence of the title of this table now reads: "Description of the arguments available in the two main functions of the `robvis` R package.” |
| 2.20 | Names of risk of bias domains are not consistent between Figure 1 and Figure 2. These should be consistent with names indicated in the published description of the RoB 2 tool. | We thank the reviewer for their keen eye in spotting this error. This has been corrected both in the R package and the resulting figures. |
| 2.21 | For Figures 1 and 2, it would be good to clarify in the figure captions that the figures represent figures for RoB 2 tool. | We have updated the title of both figures to make it clear that they represent figures for the ROB2 tool. |