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<https://doi.org/10.1016/j.jclinepi.2018.04.007>

Letter to the editor in response to “No difference in knowledge obtained from infographic or plain language summary of a Cochrane systematic review: three randomized controlled trials” by Buljan et al. (2017)



Buljan et al. [1] conducted three randomized controlled trials to examine the effect of different summary formats (i.e., scientific abstract, plain language summary (PLS),

and infographic) of a Cochrane systematic review on knowledge acquired, reading experience, and perceived user-friendliness of three groups (i.e., students, consumers, and doctors). As researchers in knowledge translation (KT), we were interested in this innovative and useful study. However, we have identified some issues that are worth considering.

First, this study found that the infographic was equally effective for knowledge acquisition than other knowledge summary formats and that participants preferred this format. However, the authors conclude that PLS should be privileged over infographic. To justify this conclusion, they use the argument of cost effectiveness without providing data in its support. Also, this recommendation disregards the fact that because infographic is more appealing, it is more likely to be read by a nonscientific public. We can hypothesize that positive reading experience and perceived user-friendliness would encourage more effective KT. We argue that the authors should have accentuated this point. Thus, we believe that a more nuanced title would have been more appropriate.

Second, we have some concerns with the methodology. First, we cannot judge the quality of the infographic used in the study because it is not easily accessible. The authors do not mention if the infographic was built on existing knowledge regarding best practices [2,3] aligned with communication theories, instructional design strategies, or information design principles [4–6]. Because there are no established conventions on how to develop an infographic to communicate a complex message, it becomes essential to specify if the infographic was co-created with potential users, pretested, and validated by specialists. Moreover, the authors do not mention if specific sections of the infographic may have limited the overall participants’ understanding.

Third, the three knowledge summary formats must contain the same information to rigorously interpret the results. More specifically, the infographic used by Buljan et al. [1] comprises more text, details, and numbers than the PLS format. In addition, the infographic presents charts containing data not presented in the PLS. We wonder if this discrepancy created cognitive overload, consequently affecting participants’ knowledge acquisition. We also question the impact of the participants’ learning style and visual literacy, potential confounding variables, on the findings. Other methodological elements that might have affected the results are worth exploring. For example, the participants’ level of knowledge on the systematic review content before the intervention was not measured; and the authors did not measure the retention of knowledge in the longer term.

Finally, we argue the need to rethink the false delineation between text- and visual-based formats because they are not mutually exclusive. Instead, we must try to understand what is the optimal combination between text and visuals and what types of visuals and storytelling techniques (in combination with plain language or not) facilitate the

DOI of original article: <https://doi.org/10.1016/j.jclinepi.2017.12.003>.

Conflicts of interest: The authors report that they have no conflicts of interest to disclose.

understanding of various messages for multiple audiences. The KT field emphasizes the importance of developing knowledge formats based on the target audience's preferences [7,8].

We suggest reproducing this study in multiple contexts, being transparent about strengths and limitations of knowledge formats used, and using a complementary qualitative approach to better understand participants' experience and preferences.

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<https://doi.org/10.1016/j.jclinepi.2018.02.020>

Response to letter to the editor by Mc Sween-Cadieux et al. (2017)



We thank Mc Sween-Cadieux et al. [1] for their interest in our research into infographics for Cochrane systematic reviews. Their comments and observations are very interesting, and we are glad to have an opportunity to address their concerns.

Mc Sween-Cadieux et al. make a good point when observing that we have not provided data on cost effectiveness of plain language summary (PLS) compared with infographics. We could not formally calculate the cost of producing the two formats, but we reasonably estimated (as stated in the Discussion section of the article) that the production of an infographic would be more expensive than writing or editing a PLS because infographic production would require a good written template first (PLS) before the work on the visual design. Also, PLS is often written by authors whereas infographics will always require specialist input.

The infographic we used was a part of an initiative of the Cochrane Pregnancy and Childbirth Group, which has recently launched an infographic series [2]. The development of the infographics was undertaken as part of a United Kingdom National Institute for Health Research-funded project and was based on existing evidence, as described by one of the authors in her blog [3].

Although we found a statistically significant difference in reading experience, meaning that the participants preferred the infographic format compared with PLS, this difference was very small (only a few points on a scale from 10 to 50 points) which poses the question of “clinical”, i.e., practical relevance. This was discussed in the article and was the reason for the title and interpretation of the findings.

In our study, we used not only three different populations but also two different approaches. The trial involving students tested the formats in a controlled situation, where the time for reading the formats and for answering the questionnaire was limited. In the trials involving doctors and consumers, we tested understanding of the formats in a real-world setting, with no time limits for any part of the survey. The questions about the

DOI of original article: <https://doi.org/10.1016/j.jclinepi.2018.02.020>.

Conflict of interest: E.W. has worked as a paid consultant for Cochrane, preparing plain language summaries and running workshops. She also provides training on writing for universities, pharmaceutical companies, and academic societies. A.M. is a member of Cochrane Scientific Committee. All authors except D.H. are involved in the work of Cochrane in their countries. The other authors declare that they do not have any other competing interests.