Author's response to reviews

Title: Levels of Evidence: A Comparison between Top Medical Journals and General Pediatric Journals

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Author's response to reviews: see over
Thank you for the insightful comments. We have revised our original manuscript, and have addressed comments made by the reviewers.

Please find comments by the reviewers below, with responses in bold.

Reviewer: 1  
1. Introduction: It would be helpful to include a brief description of what constitutes the LOE and CONSORT assessments and the purpose of each tool. A table might be useful.

   Added: “using the Oxford LOE guidelines, whereby the highest LOE includes randomized control trials (RCTs) and the lowest LOE includes studies that detail expert opinion/case reports”
   Added: “CONSORT criteria relate to study design and reporting of more criteria relate to better and higher quality RCTs [1-3].”

2. Methods: I’m a little unclear on the screening and inclusion/exclusion process. My interpretation was that you searched the tables of contents of the 6 journals, published between April 2011 and March 2012, for relevant pediatric articles to include. Is this correct? Could you please provide some additional detail to clarify?

   Added “Study abstracts were assessed for initial eligibility (i.e. included if pediatric-focused). Once extracted, two....”

3. Discussion: Could you please explain why you used a subset of CONSORT items? The reference cited is for reporting abstracts - did you extract data from the full trials, or only from the abstract? Please clarify. Also, in the next sentence you mention risk of bias; however, this is a separate construct from reporting, and was not measured in this study. While complete and transparent reporting of a trial can help in assessing risk of bias, and may occur in concert with low risk of bias, the two are not equivalent.

   Added “While reviewers did look at all aspects of the full article, the decision was made to use a subset of CONSORT criteria that examined what the CONSORT group and these researcher’s thought were the most important measures.”
   Added “...although lower attributable bias cannot be guaranteed with its use,”

4. Discussion: The Discussion is nearly all focused on the results from RCTs. Since other designs were included in the study, some interpretation of those findings would also be valuable.

   Added “It is unclear why the HICJ differed in their LOE. One retrospective hypothesis was that researchers would preferentially submit higher LOE articles to journals with higher impact factors (i.e. NEJM and The Lancet), however, The Lancet seemed to have a trend towards highest LOE even
compared to *NEJM*. It is still unclear why this difference is seen. It is possible that the difference relates to editorial differences between these and other journals. What is clear is that lower LOE exists in GPJ. The researchers in this study believe this is due to this aforementioned submission bias whereby authors are incentivized to submit and publish in HICJ."

5. Discussion: In general, the Discussion would benefit from more interpretation, rather than just reiterating the results. In describing the details extracted from each of the studies, there is more room to address why they were important to evaluate, and what each of the findings means in the larger picture. The conclusions are valid and important, therefore an explanation of the factors leading to them would strengthen the paper.

Added “It is unclear why the HICJ differed in their LOE. One retrospective hypothesis was that researchers would preferentially submit higher LOE articles to journals with higher impact factors (i.e. *NEJM* and *The Lancet*), however, *The Lancet* seemed to have a trend towards highest LOE even compared to *NEJM*. It is still unclear why this difference is seen. It is possible that the difference relates to editorial differences between these and other journals. What is clear is that lower LOE exists in GPJ. The researchers in this study believe this is due to this aforementioned submission bias whereby authors are incentivized to submit and publish in HICJ.”

Minor Essential Revisions

6. Please add HICJ and GPJ to list of abbreviations.

Added, ”GPJ (general pediatric journals), HICJ (high impact clinical journals)”

7. Data Extraction and Synthesis: You mention extracting data on the "number of subjects/trials (latter used in meta-analyses)"; however, you don’t mention including meta-analyses, only case series, case-control, cohorts, or RCTs.

Added, “/metanalysis…”

8. Data Extraction and Synthesis: At the first mention of the CONSORT guidelines, please reference which version you are using. Also, in the last sentence of this section, I’d suggest rewording to ensure that it is clear that CONSORT is used to guide reporting of RCTs, not to assess them (as it reads now, it sounds like it is being used for quality assessment).

Added reference

Added, “...risk of bias”

9. Discussion: Please check to see if the citation for reference 10 correct. I think it should be the DeMauro paper published in Pediatrics in 2011.
Thank you, changed.

10. Table 1: Please spell out "Heme/Onc".

*Changed*

11. Table 3: Calling the general pediatric journals "low impact" is a bit misleading. They were selected on being the highest impact peds journals, so perhaps labeling the categories as General and Pediatric journals would be more helpful.

*Changed*

12. Table 3: Please specify what the mean LOE is describing (i.e., 2.01 on a scale of what?).

*Added, “Mean LOE – closer to 1 indicates RCT level and closer to 5 indicates expert opinion level”*

13. Figure 3 seems to be included twice.

*We don’t see this from our view of the submission online.*

Reviewer: 2

1. Introduction: Surely other studies have performed similar analyses (in pediatrics as well as medical and surgical subspecialties). Please provide references to similar studies, as this may help readers understand the importance of such work.

*Added references*

2. Line 54: Please include the actual number of articles included.

*Changed*

3. Line 63 – 64: “Following CONSORT criteria, and promoting studies of high LOE compels authors and readers to make more evidence-based decisions.” Is this the conclusion that can be drawn from this abstract?

*Changed, “...may allow authors and readers to turn to journals and articles of greater clinical impact.”*

4. Line 116: would be helpful to have a table of the top journals you selected from; which journal were excluded because of their ‘basic science’ content. Should be enumerated.
Added, “Namely, journals excluded because of basic science output include *Nature* and *Science*.”

5. Line 123: Why would you exclude those with lower cite counts? Isn’t the cite count related to the impact factor?

This decision was made because journals with lower cite counts had falsely elevated impact factors. For example, “CA-A CANCER JOURNAL FOR CLINICIANS” is a journal that has an impact factor of >100 but it is because there are only 25 citable items (in 2013). And, the total cite count is 16000.

6. Line 126: Please explain why subspecialty journals were not included in your analysis.

Added, “... and subspecialty journals were excluded to ensure generalizability.”

7. Line 146: Please provide citation for CONSORT guidelines.

Added

8. Line 147: If both reviewers reviewed all papers, please provide the process by which discrepancies in LOE were settled. Furthermore, it would be ideal to provide interrater reliability of the LOE determination.

In the manuscript, it is mentioned, “Once the analysis was completed, any disagreements that occurred between reviewers were discussed until a consensus was reached.”

Added, “Interobserver reliability was very good (kappa scores (κ) > 0.8).”

9. Line 154: Please provide more explanation of the Oxford guidelines. Additionally please provide the original citation for the Oxford guidelines, not a paper that used them.

The reference used is from the original guidelines.

Added, “In brief, higher level of evidence is closer to level I evidence (i.e. RCT is level I) and lower level of evidence is closer to level V evidence (i.e. expert opinion is level V).”

10. Line 168: Your hypothesis was one sided, why were two tailed t-tests used for all comparisons?

This is an error and has been amended. The comparisons were one-tailed.
11. Line 170: A difference of 0.5 in LOE seems an arbitrary number. Please describe how you arrived at this number.

Amended with, “This is, indeed, an arbitrary cut-off. Because of the abstract nature of level of evidence being a numerical categorical variable, the conversion to an integer value for the purpose of comparisons of means has been done to aid in analysis and interpretation. There is support in the published literature for this type of interpretation and a mean difference of 0.5 being a useful cut-off.”

12. Line 187: Please elaborate as to what ‘pediatric surgery’ includes. Does this include all pediatric surgical subspecialties?

Added, “(all types)”

13. Lines 190-193: What statistical test was used to make these comparisons? An ANOVA would seem appropriate however this was not mentioned in the methods.

ANOVA with Bonferroni post-hoc analysis was used. This was an oversight in the methods and has been added to the manuscript.

14. Line 193: This comment applies to findings throughout the results section. Please provide all comparisons and p-values. If there are too many for the body of the text, an appendix would be appropriate.

Comparisons added to body of manuscript

15. Line 204: What statistical test was used to make this comparison? Again, an ANOVA would seem appropriate however this was not mentioned in the methods.

Comparisons added to body of manuscript

16. Line 210: same comment as line 204.

Comparisons added to body of manuscript

17. Line 175 – 226: Please provide exact p-values.

Comparisons added to body of manuscript

18. Line 216: There should be a description of your interrater reliability assessment in the methods section.
Added

19. Line 231 – 232: While it may be tempting to say that ‘it is clear that the majority of information used for evidence-based practice comes from GPJ’ your paper does not necessarily support this claim. Please rephrase.

Added, “in terms of shear numbers”

20. Line 233: You’ve arrived at the conclusion that ‘it is crucial to encourage the submission and publication of good quality LOE and RCTs to GPJ.’ Could it not be just as crucial for physicians to read general journals as well? I don’t think you can make this claim.

Added, "Moreover, while the minority of pediatric articles are published in HICJ, they are of good quality and should be read, referenced, and incorporated into practice."


Changed

22. Line 240: You may want to address the barriers to CONSORT’s wide spread use.

These guidelines are currently in widespread use for many reputable journals. We worry that including this may give credence to ignoring their use.

23. Lines 249 – 260: You have outlined the major findings of your paper in this paragraph, however you have failed to relate these findings to prior studies. The sole factor discussed is the impact of ‘age’ on LOE. Please discuss the other findings of your paper as they relate to the literature at large.

Unfortunately, there is no such literature available. This is why we find this work so important. The main comparison is with the DeMauro 2011 paper, and this comparison was made.

24. Line 262- 265: These statements are contrary to the last sentence of your introductory paragraph. Please consider revising your introductory paragraph.

We do not see the contrary nature. Maybe we are missing something or reference was made to different lines?

Minor Essential Revisions

1. Line 119: don’t start a sentence with an acronym

Changed
2. Line 219: Capitalize ‘grading’

**Changed**

3. Line 238: Please remove the word ‘tremendous’

**Changed**

We welcome any further comments/suggestions and thank you for your time.

The authors