Author's response to reviews

Title: A bibliometric search of citation classics in anesthesiology

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Version: 2 Date: 2 October 2011

Author's response to reviews: see over
September 29, 2011

Phillipa Harris, PhD
Executive Editor
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BioMed Central
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Dr. Harris,

We would like to thank you for reviewing our manuscript, “A bibliometric search of citation classics in anesthesiology” (MS: 9773836285706678), for your journal, BMC Anesthesiology. We apologize for the delay in returning the manuscript to you.

We appreciate the reviewers’ comments; they were helpful and well-received. We feel you will find the revised manuscript greatly improved. In addition to ensuring proper formatting, we have addressed the reviewers’ comments below and in the manuscript itself.

To identify the changes made, we have added line numbers to the “track changes” manuscript and notes these lines with the response to the reviewers. This document also includes formatting changes tracked. Per your request, we have included a second document with all the changes “accepted;” this document does not have line numbers.

My coauthors and I have no financial interest or other conflicts of interests in the subject matter of this manuscript.

Please feel free to contact me for any questions related to this manuscript. Once again, we apologize in not getting this back to you sooner. On behalf of my co-authors, I would like to thank you for your time and consideration.

Sincerely,

Andrew L. Rosenberg, MD
Associate Professor
University of Michigan, Department of Anesthesiology
Reviewer: Dylan Bould

1. The methods are generally thorough, appropriately aiming to identify papers in both the subspecialty literature and the higher impact more general journals. Subheadings could be used to more clearly identify the three search strategies used and the separate paragraph on the databases used. It is not clear to me why the authors excluded non-English language journals from the JCR 2008, could the authors confirm that they did not exclude non-English language journals from the other search strategies?

   - Thank you for your suggestions. Subheadings were added to the methods to clarify the three search methods. We included only English-articles for all three search methods, not just the journal search; this was clarified in the methods as well. (lines 110, 116, 125)

2. It seems somewhat subjective that “articles that were no longer clinically relevant were removed” and it would perhaps have been more useful for the reader to be able to determine how useful the “citation classics” are by themselves.

   - We appreciate the recommendation. The goal of our paper was to provide an updated citation classics of the anesthetic literature with an emphasis on displaying the breadth and expanse of the field, rather than the depth accomplished in a particular niche. During our pilot study, we realized certain areas of discussion dominated and overshadowed, and we want to prevent this from occurring; thus, we removed articles as described.

3. If you are seeking to identify practice changing research, perhaps original articles should be analyzed separately from guidelines and review papers?

   - We appreciate the recommendation to analyze original separate from guidelines and review papers. Unfortunately, while the current version of ISI Web of Knowledge does categorize document type (ie. article, review, letter); the version available when we performed our study did not provide document type in our downloaded citation. Additionally, we felt that some of the guidelines were important and needed to be included. Other authors have also included guidelines and reviews in their citations classics. (Bone’s “Definition for sepsis and organ failure and guidelines for the use of innovative therapies in sepsis” (Crit Care Med) in in Baltussen’s 2004 critical care citation classics, Intensive Care Medicine).

4. One of the main weaknesses of the study is that of lead time bias, hinted at by even the term “citation classic” and which is also mentioned in the manuscript. The authors write “arguably, influential articles that are most-recently published will be cited less often than older papers due to their shorter exposure to the medical community” but I don't think that point is arguable at all.

   - The sentence in question was changed. (lines 176-178)
- *It originally read:* “Arguably, influential articles that are most-recently published will be cited less often than older papers due to their shorter exposure to the medical community.”

- *It now reads:* “Articles that are more-recently published will have a shorter exposure to the medical community; arguably, their times cited may be less often than older papers that have a longer presence in the literature.”

5. *In table 3, the authors note the papers that have been most cited from each year 2001-2008 and this is helpful to counter this bias, although as the authors suggest that it takes 20 years to be able to fully judge a paper by it's citations, perhaps they should go back further with this table?*

   - The suggestion to highlight citations by year prior to 2001 was appreciated and table 3 was changed to reflect 20 years of journal articles rather than 8.

6. *It might also be interesting to conduct a further analysis to account for lead time bias, by dividing the number of citations of each paper by the number of years since publication to see if this identifies relevant "citation rising stars" to compare with your "citation classics". Even if this is not done for you whole data set it would seem appropriate to do this for the last 20 years and it would be most interesting to compare the findings with your current analysis.*

   A separate bias relates to the changes in citation patterns through digitalization of journals, increasing on-line access and an ever increasing number of both journals and publications. I suspect that this bias results in a non-linear change in citation patterns over time and would be considerably more difficult to account for.

   - These are very good suggestions. We agree that it would be interesting to conduct an analysis by lead time bias, incorporating the years of publications to identify rising stars. This is our next project/step in bibliometric studies and hope it to be the focus of a future manuscript. We also plan to look at the impact of the digital age on journal citations and the impact on citations.

7. *Another issue that could be further emphasized in the discussion of limitations is the question of why papers get cited. You may also find the following paper a useful reference to cite: Bornmann L, Daniel HD. What do citation counts measure? A review of studies on citing behavior. Journal of Documentation 2008; 64: 45-80*

   - We reviewed this manuscript and included the authors’ description of non-scientific factors in our discussion of author citation patterns. (lines 277-279)

8. I think that although the citation of Boldt et al, 1999 is entirely appropriate in the
introduction, where you write "while the United Kingdom and United States of America contribute to over half the anesthesia literature" I think you should cite the more up to date paper: Bould MD, Boet S, Riem N, Kasanda C, Sossou A, Bruppacher HR. National representation in the anaesthesia literature: a bibliometric analysis of highly cited anaesthesia journals. Anaesthesia. 2010 Aug;65(8):799-804.

- Thank you for your suggestion. The manuscript suggested by the reviewer was included at the end of the discussion of citations by country (lines 316-320). This provides a nice historical aspect to changes to citation patterns.

9. You write that "certainly the articles presented have made an impact on the practice of anesthesiology as all articles have been cited at least 100 times." While I don't dispute that the articles in tables 3 and 4 have made a significant impact on practice I am not sure of the logic of your argument - I am unaware of any data that shows that the number of citations a paper has correlates to its ability to change actual practice. In fact, this may be an appropriate suggestion for further research, perhaps with a qualitative methodology. Related to this point, there is no way of knowing whether the papers listed in tables 3 and 4 are the most influential papers in the field in terms of changing practice - how do you know that there are not other publications that have been cited less often by other researchers but at the same time have had a bigger impact in clinical practice? The suggestion that this list of papers should be used to shape guidelines and policy is an extremely bold statement and I do not think you have data to support this. I also do not think that this list is a particularly good "reference point to guide clinical practice". Certainly, in my own subspecialty of pediatric anesthesiology, few of the 20 papers listed are those that I would describe as essential reading for my residents and fellows. Nevertheless, your data has much academic, bibliometric and historical interest but you should probably make more guarded conclusions.

- Thank you for your suggestions; your critique is very true and well-received. Investigating this formally is intriguing.

- The sentence that originally read, “Certainly the articles presented have made an impact on the practice of anesthesiologist as all articles have been cited at least 100 times,” was modified to read, “Certainly the articles presented likely have made an impact on the literature of anesthesiology as all articles have been cited at least 100 times.” (lines 268-272)

- In the conclusion, the sentence that originally read, “We provide a review of landmark papers in anesthesiology that have possibly shaped the practice of anesthetists,” was truncated to read, “We provide a review of landmark papers in anesthesiology.” (lines 341-342)

- The following sentences that originally read, “Residents and junior
attendings could use this article as a reference point to guide clinical practice. Senior attendings and administrators could use this article to see where they have advanced and influenced practice as well as to highlight areas that have a lack of research to focus future goals. Finally, policy makers and administrators could identify highly successful experts in the field to help shape both national and international guidelines and processes. To all clinicians, classic articles within the various anesthesiology specialties are especially relevant to guide patient care, future research and as sources of inspiration to the academic pursuit of the field” were rewritten to read, “Residents and junior attendings could use this article as a reference to articles with historical interest. Senior attendings and administrators could use this article to see the citation counts of their works compared to colleagues for academic interest. To all clinicians, classic articles within the various anesthesiology specialties are especially relevant to affect patient care, future research and as sources of inspiration to the academic pursuit of the field.” (lines 343-347)

Reviewer Giovanni Landoni
1. table 2 – spelling error Cardiaothoracic

   - Thank you for catching this error; it has been corrected.

2. table 3 – I would add the number of citations

   - The number of citations were added to table 3. Thank you for the suggestions, it adds significantly to the table.

3. I would suggest to put on web the full table with all the articles > 100 times cited and allow the authors of missing manuscripts to add their masterpiece in the months following the publication of the paper

   - We would be more than happy to work with the publisher on this, if it is of interest.

4. the journal list is not complete there is at list 1 journal with IF and with articles in English (Minerva Anestesiologica) that was not included. I guess no article was cited more than 100 times, and the authors can simply add the journal in table 1

   - **Minerva Anesthesiologica** was added to table 1 and the methods were updated to reflect this change. (line 112)
5. *table 2 is not clear*

- A legend was added to table 2 to further clarify.