Reporting of academic degrees in high-impact medical journals [version 2; peer review: 2 approved, 1 approved with reservations]

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Abstract
Academic degrees following author names are often included in medical research papers. However, it remains unclear how many journals choose to include academic degrees and whether this is more common in certain types of journals. We examined the 100 highest impact medical journals and found that only 24 medical journals reported academic degrees. Moreover, this was substantially more common in journals based in North America compared with Europe. Further research is required to explore the implications of listing academic degrees on the readers’ attitude towards research quality.

Keywords
Academic, degree, impact factor, journals, publication, high-impact

This article is included in the Research on Research, Policy & Culture gateway.

Open Peer Review
Invited Reviewers

1. Saif Aldeen AlRyalat, The University of Jordan, Amman, Jordan
2. Ana Marusic, University of Split, Split, Croatia
3. Christopher C. Winchester, Oxford PharmaGenesis Ltd, Oxford, UK

Any reports and responses or comments on the article can be found at the end of the article.
Introduction
During submission of research papers to medical journals, authors are often asked to include academic degrees and/or affiliations. However, journals differ in how they present this information to readers. While some journals include academic degrees following author names, others choose not to list this information on the title page. To our knowledge, no evidence is available on how many journals choose to include academic degrees and whether this is more common in certain types of journals. Among the most influential medical journals, we examined journal factors associated with the inclusion of academic degrees on the title page.

Methods
We identified the 100 highest impact medical journals based on impact factor reported in the Journal Citation Reports published in 2018. Characteristics of each journal in regard to specialty, impact factor, primary journal focus, continent, and open access policy were obtained. Journals were categorized as “general” or “specific” based on subject area designation in Scopus, i.e., whether content was primarily related to one specialty (e.g., cardiology) or multiple specialties. Data were collected on the presence of academic degrees following author names in the title page by assessment of multiple original research articles from each journal. The presence of academic degrees was defined as the inclusion of academic degree abbreviations following author names (e.g., MD, PhD, RN, MPH etc.). Multiple articles published throughout July 2018 and August 2019 were assessed for each journal. No discrepancy of reporting academic degrees throughout the time period was identified. If there was any discrepancy between the print and the online version, the print version was used. Open access was identified based on open access designation in Scopus. Scopus registers open access as follows: “In Scopus, journals are registered as being OA journals only if they are registered as Gold OA or Subsidized OA at one or both of the following sources: Directory of Open Access Journals (DOAJ) and the Directory of Open Access Scholarly Resources (ROAD)”.

Descriptive statistics were used to characterize the journals. Categorical data were compared with the Fisher’s Exact Test and continuous data were compared with the Wilcoxon Rank-Sum Test. The association between journal characteristics and the reporting of academic degrees were estimated using multivariable logistic regression.

Statistical analyses were performed in SAS (version 9.4). A two-tailed p < 0.05 was considered significant.

Results
Of the 100 highest impact medical journals, 24 journals reported academic degrees on the title page (Table 1). We found that 52% of journals were published in Europe and 48% were published in North America. Only 8% of European journals reported academic degrees while 42% of North American journals reported academic degrees. The median impact factor of journals reporting and not reporting academic degrees was 12 (IQR 10 – 19) and 15 (IQR 11 – 20), respectfully.

Multivariable analysis showed that North America and a clinical journal focus was associated with increased odds of reporting academic degrees (Table 1). No association was found for the other journal characteristics.

Discussion
Among the 100 highest impact medical journals, only 24 journals reported academic degrees following author names on the title page. Reporting of academic degrees was substantially more common in journals based in North America compared with Europe.

Listing author academic degrees is an editorial policy decision but there is little guidance from the International Committee of Medical Journals Editors (ICMJE) or the American Medical Association (AMA) Manual of Style. Specifically, the ICMJE states “Each author’s highest academic degrees should be listed, although some journals do not publish these.” and the AMA Manual of Style writes “Journals should establish their own policies on the inclusion of authors’ degrees.”. Neither provides a rationale for providing academic degrees and it remains

1. https://blog.scopus.com/posts/scopus-to-launch-open-access-indicator-for-journals-on-july-29 Accessed December 5th 2019
unclear why some journals do and others do not. The marked difference between journals published in North America compared with Europe cannot be explained by the current study but may be a reflection of cultural differences in attitude towards degrees and titles. To our knowledge, no studies exist on the impact of reporting academic degrees in medical journals, why further research is needed to explore the implications of listing academic degrees on the readers’ attitude towards research quality.

Limitations of the current study include that we only evaluated high-impact medical journals. Furthermore, we only assessed some journal characteristics. We evaluated only recent issues of these journals and are therefore unable to comment on trends in the use of author academic degrees.

In conclusion, we found that academic degrees are reported in about one fourth of medical journals and that this practice is more common in North America.

### Table 1. The presence of academic degree(s) according to journal factors in the top 100 high-impact medical journals.

<table>
<thead>
<tr>
<th></th>
<th>Presence of academic degree</th>
<th>Multivariable model</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Yes (n = 24)</td>
<td>No (n = 76)</td>
</tr>
<tr>
<td>Primary journal focus</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clinical</td>
<td>17 (71%)</td>
<td>26 (34%)</td>
</tr>
<tr>
<td>Basic science and/or experimental</td>
<td>0 (0%)</td>
<td>21 (28%)</td>
</tr>
<tr>
<td>Combined</td>
<td>7 (29%)</td>
<td>28 (37%)</td>
</tr>
<tr>
<td>Specialty</td>
<td></td>
<td></td>
</tr>
<tr>
<td>General</td>
<td>4 (17%)</td>
<td>9 (12%)</td>
</tr>
<tr>
<td>Specific</td>
<td>20 (83%)</td>
<td>67 (88%)</td>
</tr>
<tr>
<td>Open access</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>1 (4%)</td>
<td>6 (8%)</td>
</tr>
<tr>
<td>No</td>
<td>23 (96%)</td>
<td>70 (92%)</td>
</tr>
<tr>
<td>Continent</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Europe</td>
<td>4 (17%)</td>
<td>48 (63%)</td>
</tr>
<tr>
<td>North America</td>
<td>20 (83%)</td>
<td>28 (37%)</td>
</tr>
<tr>
<td>Journal impact</td>
<td>Impact factorb</td>
<td>12 (10 – 19)</td>
</tr>
</tbody>
</table>

**Table notes:**

- aNot able to be estimated as no journal in this category reported academic degrees
- bMedian with quartiles

### Data availability

#### Underlying data

Harvard Dataverse: Replication Data for: Reporting of academic degrees in high-impact medical journals, [https://doi.org/10.7910/DVN/KTWS6C](https://doi.org/10.7910/DVN/KTWS6C)

This project contains the following underlying data:

- CSV file with the titles of the medical journals investigated

Data are available under the terms of the Creative Commons Zero “No rights reserved” data waiver (CC0 1.0 Public domain dedication).

The Journal Citation Report from Clarivate Analytics can only be accessed through an individual or institutional account.

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Stankovic, Nikola, 2019, “Replication Data for: Reporting of academic degrees in high-impact medical journals”, [https://doi.org/10.7910/DVN/KTWS6C](https://doi.org/10.7910/DVN/KTWS6C), Harvard Dataverse, V1
Open Peer Review

Current Peer Review Status: ✓ ? ✓

Version 2

Reviewer Report 11 February 2020

https://doi.org/10.5256/f1000research.23852.r58696

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Christopher C. Winchester
Oxford PharmaGenesis Ltd, Oxford, UK

Thank you for the opportunity to review the work of Stankovic and colleagues on the prevalence of reporting of academic degrees on the title pages of 100 leading medical journals selected based on journal impact factor. The resulting brief communication is short, clear and to the point.

My main question is why the authors undertook the study, and what they make of the findings? Do they believe that authors should receive public credit for the hard work involved in their studies? Do they believe that readers should take into account authors' academic degrees when interpret research findings? Or do they find collecting and submitting information on academic degrees burdensome and pointless (particularly if it was never actually published with the article)? Or think that research should be judged on its merits and not on the qualifications of its authors? The latter point is particularly pertinent given the increasing discussion of including patients as authors on articles in medical journals.1,2,3 Readers of this brief communication will be interested to hear the authors' take on their findings.

I have some minor comments below:

○ What was the impact factor of the top 100 journals? It would be helpful to know if the impact factor cut-off was 1 or 10. Or, to look at it a different way, how many medical journals are listed in total, and what % of those journals was included? This could be mentioned in the Methods or when discussing generalizability. While considering generalizability, the fact that the selected journals included both general and specialist journals, from both the US and Europe, and published under both open access and subscription models, is a clear strength of the study.

○ Journals were characterized as ‘general’ or ‘specific’ – the authors should consider the alternative term ‘specialist’.

○ The information the authors collected on fellowship designations and job titles is of interest. As the authors have collected it, perhaps it could include these in the main article on a descriptive basis, as a single short sentence in the Methods and Results.
The following sentence needs splitting in two:

“To our knowledge, no studies exist on the impact of reporting academic degrees in medical journals, why further research is needed to explore the implications of listing academic degrees on the readers' attitude towards research quality.”

For example:

“To our knowledge, no studies exist on the impact of reporting academic degrees in medical journals. Further research is needed to explore the implications of listing academic degrees on readers' perceptions of research quality.”

Another idea for further research would be to study trends in the prevalence of reporting of academic degrees in medical journals. Furthermore, it would be interesting to look at how the degrees of authors (in journals that report them) are changing over time. Perhaps you could include these ideas among your avenues for further research, and cite the references suggested by Marusic, which suggest that the number of authors with a Bachelor's degree as their highest degree is increasing.

Thanks again for the chance to review this interesting and worthwhile manuscript.

References

Is the work clearly and accurately presented and does it cite the current literature?
Yes

Is the study design appropriate and is the work technically sound?
Yes

Are sufficient details of methods and analysis provided to allow replication by others?
Yes

If applicable, is the statistical analysis and its interpretation appropriate?
Yes

Are all the source data underlying the results available to ensure full reproducibility?
Partly

Are the conclusions drawn adequately supported by the results?
Yes
**Competing Interests:** I am an employee of Oxford PharmaGenesis Ltd, a Director of Oxford PharmaGenesis Ltd, Oxford PharmaGenesis AG, Oxford PharmaGenesis Inc., Oxford PharmaGenesis Pty Ltd and Oxford PharmaGenesis Holdings Ltd, and a shareholder in Oxford PharmaGenesis Holdings Ltd. I am also a Director of Oxford Health Policy Forum CIC. He is immediate past Chair of the International Society for Medical Publication Professionals, a member of the European Medical Writers Association and a co-Founder of Open Pharma.

**Reviewer Expertise:** Research reporting

I confirm that I have read this submission and believe that I have an appropriate level of expertise to confirm that it is of an acceptable scientific standard.

Author Response 18 Feb 2020

Lars Andersen, Aarhus University and Aarhus University Hospital, Aarhus, Denmark

Thank you for raising some important questions along with adding insights into patient and public involvement in research through your suggested articles. Overall, our manuscript adds insights to the reporting of academic degrees in high-impact medical journals. However, it does not add insights to additional reasons for including academic degrees or authors' perception of the submission process. We understand why the reviewer and readers may be interested in our take on the findings of the study. Despite this, we believe that it is necessary to keep this manuscript strictly descriptive, since any opinion on the raised questions may be considered to be of speculative nature. However, we believe that it stresses the need for additional research to address these questions scientifically.

In the results section, we previously included that the median impact factor was 12 in journals reporting academic degrees and 15 in journal not reporting academic degrees. Upon review of your comments, we decided to include following sentence: “These journals constituted 4% of the total number of medical journals identified in Journal Citation Reports.”

We agree that the term ‘specialist’ could be used when characterizing journals. However, we chose to characterize journals as ‘specific’ as they relate to a certain subject area. We believe that the term ‘specialist’ may cause equivocality to some readers, since journals who report on more general subject areas also provide specialist knowledge and research. Thus, we chose to keep the term ‘specific’.

We included a few concise statements regarding fellowship designations and job titles in the Methods and Results sections as follows:
Methods: “Similarly, we collected data on fellowship designations and job titles following author names.”
Results: “Moreover, six journals reported fellowship designations and one journal reported job titles (online only), all of which included academic degrees.”

We agree that further research is needed to address trends in the prevalence of reporting academic degrees and the characteristics of the academic degrees. Thus, we included
following in the Discussion section: “Further research is needed to explore 1) trends in reporting academic degrees, 2) the implications of listing academic degrees on the readers’ attitude towards research quality, and 3) trends in academic degree characteristics considering that specific journals have seen an increase in authors with bachelor’s and multiple academic degrees.”

**Competing Interests:** No competing interests were disclosed.
Yes

Are sufficient details of methods and analysis provided to allow replication by others?
Yes

If applicable, is the statistical analysis and its interpretation appropriate?
Yes

Are all the source data underlying the results available to ensure full reproducibility?
Yes

Are the conclusions drawn adequately supported by the results?
Yes

**Competing Interests:** No competing interests were disclosed.

**Reviewer Expertise:** Journal and peer review research

I confirm that I have read this submission and believe that I have an appropriate level of expertise to confirm that it is of an acceptable scientific standard, however I have significant reservations, as outlined above.

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**Author Response 17 Dec 2019**

**Lars Andersen,** Aarhus University and Aarhus University Hospital, Aarhus, Denmark

Overall, the suggested articles deals with trends in authorship and academic degree characteristics in specific medical journals. Specifically, studies 1-3 found an increase in authors per article and changes in the distribution of academic degrees among authors within their respective journals. Study 4 examined trends in publication from allopathic and osteopathic physicians, respectively. None of the studies directly dealt with the question we studied.

Thus - after review of the suggested articles – we have decided not to incorporate the articles, since they are not directly relevant to the topic.

**Competing Interests:** No competing interests were disclosed.
Saif Aldeen AlRyalat
Department of Ophthalmology, University of Jordan Hospital, The University of Jordan, Amman, Jordan

I would like to applaud the authors' efforts in thoroughly reviewing their article. Again, this study raised a good insight into the importance of considering reporting academic degrees of authors as part of their affiliation in medical journals. I also agree that future studies are needed to assess the impact of reporting academic degrees of authors on the reader's behavior toward the article quality as well as on authors' satisfaction regarding the content of their affiliations.

Is the work clearly and accurately presented and does it cite the current literature?
Yes

Is the study design appropriate and is the work technically sound?
Yes

Are sufficient details of methods and analysis provided to allow replication by others?
Yes

If applicable, is the statistical analysis and its interpretation appropriate?
Yes

Are all the source data underlying the results available to ensure full reproducibility?
Yes

Are the conclusions drawn adequately supported by the results?
Yes

Competing Interests: No competing interests were disclosed.

Reviewer Expertise: Medicine, bibliometrics, ophthalmology.

I confirm that I have read this submission and believe that I have an appropriate level of expertise to confirm that it is of an acceptable scientific standard.
Ana Marusic
Department of Research in Biomedicine and Health, School of Medicine, University of Split, Split, Croatia

This article addresses an interesting and intriguing question in publishing - why author's academic degrees are published in journals. Editorial guidelines mention this, but do not provide actual guidance.

This research showed that journals from North America and from clinical disciplines are more likely to publish the degrees, which is an interesting finding, at least in high-impact journals.

The manuscript is written clearly, as a brief report, and follows a logical order, with appropriate statistical analysis.

I have two major issues:
1. There is no literature overview on this problem (or a statement that there is no evidence on this issue in literature).

2. The description of the selection of articles in the set of 100 journals is vague. It is not clear what was the method for sampling "approximately ten articles ..." in the two study years. This needs to be clarified.

Is the work clearly and accurately presented and does it cite the current literature?
Partly

Is the study design appropriate and is the work technically sound?
Partly

Are sufficient details of methods and analysis provided to allow replication by others?
Partly

If applicable, is the statistical analysis and its interpretation appropriate?
Yes

Are all the source data underlying the results available to ensure full reproducibility?
Yes

Are the conclusions drawn adequately supported by the results?
Yes

Competing Interests: No competing interests were disclosed.

Reviewer Expertise: Journal and peer review research

I confirm that I have read this submission and believe that I have an appropriate level of expertise to state that I do not consider it to be of an acceptable scientific standard, for reasons outlined above.
Author Response 06 Dec 2019

Lars Andersen, Aarhus University and Aarhus University Hospital, Aarhus, Denmark

Comment 1:
- "There is no literature overview on this problem (or a statement that there is no evidence on this issue in literature)."

Response 1:
- Thank you for raising an important point in the manuscript. To our knowledge – following literature review – there are no studies evaluating the impact of reporting academic degrees following author names in medical journals. We agree that a statement addressing that no evidence on this issue is available, will add valuable content to the manuscript. It should be noted, however, that the current study does not evaluate why journals report academic degrees or whether it has an impact on the readers. In this study, we evaluated whether high-impact medical journals reported academic degrees and whether certain journal factors were associated with reporting academic degrees. Further research is needed to evaluate the impact of reporting academic degrees on readers' perception of research.
- The following was rephrased in the Introduction section: "To our knowledge, no evidence is available on how many journals choose to include academic degrees and whether this is more common in certain types of journals."
- We chose not to include a statement addressing that no evidence is available on the impact of reporting academic degrees following author names in medical journals in the Introduction section, since it may be out of scope with our aim of the current study. However, an appropriate statement has been provided in the Discussion section: "To our knowledge, no studies exist on the impact of reporting academic degrees in medical journals, why further research is needed to explore the implications of listing academic degrees on the readers’ attitude towards research quality."

Comment 2:
- "The description of the selection of articles in the set of 100 journals is vague. It is not clear what was the method for sampling "approximately ten articles ..." in the two study years. This needs to be clarified."

Response 2:
- We agree that this definition needs to be clarified. We evaluated numerous original research articles in multiple journal issues to assess any discrepancy in reporting of academic degrees over the time period from July 2018 to August 2019. This would account to approximately 10 research articles. No discrepancy in reporting academic degrees during this time period within each journal was identified.
- Following was rephrased to clarify this issue in the Methods section: "Multiple articles published throughout July 2018 and August 2019 were assessed for each journal. No discrepancy of reporting academic degrees throughout the time period was identified."

Competing Interests: No competing interests were disclosed.
Stankovic et al assessed the factors associated with mentioning academic degrees on the journal's title page. The current study is interesting and sheds a light on an important topic, although the authors chose a restricted sample to analyze (i.e. high impact medical journals). I believe that the current report can be improved by clarifying some points within its methods section, as follows.

In the methods section, the authors did not define “academic degrees”. In the data associated with this study, they included columns on “Academic degrees”, “job titles”, and “fellowship designations”. In medicine, reporting of fellowships might be more important than the academic degree, especially if the researcher is a clinician working in a non-academic institution. The authors should clearly define what they mean by “academic degree” that they used in their analysis.

In the methods section, the authors categorized journals according to specialty as general or specific. The authors should detail the basis of this classification. Moreover, the authors categorized open access status into yes, no, or partly, where “partly” is not a common word used to describe the open access status (examples of common, well-defined words include green open access, hybrid access and so on). By going back to the data, I observed several non-open access journals categorized as “partly”, so I would suggest adopting strict criteria for categorization, such as the one suggested by Scopus: “Open Access Journals are indicated as Open Access if the journal is listed in the Directory of Open Access Journals (DOAJ) and/or the Directory of Open Access Scholarly Resources (ROAD)”.

In the discussion section, the authors should include studies that discussed the impact of an academic degree in publishing, which would complement the points raised by the authors in the present report.

**Is the work clearly and accurately presented and does it cite the current literature?**
Partly

**Is the study design appropriate and is the work technically sound?**
Yes

**Are sufficient details of methods and analysis provided to allow replication by others?**
Partly
If applicable, is the statistical analysis and its interpretation appropriate?
Yes

Are all the source data underlying the results available to ensure full reproducibility?
Yes

Are the conclusions drawn adequately supported by the results?
Yes

**Competing Interests:** No competing interests were disclosed.

**Reviewer Expertise:** Medicine, bibliometrics, ophthalmology.

I confirm that I have read this submission and believe that I have an appropriate level of expertise to confirm that it is of an acceptable scientific standard, however I have significant reservations, as outlined above.

Author Response 06 Dec 2019

**Lars Andersen**, Aarhus University and Aarhus University Hospital, Aarhus, Denmark

**Comment 1:**
- “In the methods section, the authors did not define “academic degrees”. In the data associated with this study, they included columns on “Academic degrees”, “job titles”, and “fellowship designations”. In medicine, reporting of fellowships might be more important than the academic degree, especially if the researcher is a clinician working in a non-academic institution. The authors should clearly define what they mean by “academic degree” that they used in their analysis.”

**Response 1:**
- Thank you for this comment, which we agree will add clarification on the definition of “academic degrees”. Since “fellowship designations” were reported in six medical journals only - which all included academic degrees – we decided not to include a separate analysis for “fellowship designations”. Job titles were present in one medical journal, and this was available online only, why we chose to exclude this category from the final analysis.
- Thus, we included following clarification on the definition of academic degrees in the methods section of the manuscript: “The presence of academic degrees was defined as the inclusion of academic degree abbreviations following author names (e.g. MD, PhD, RN, MPH etc.).”

**Comment 2:**
- “In the methods section, the authors categorized journals according to specialty as general or specific. The authors should detail the basis of this classification.

**Response 2:**
- Agree. The medical journals were categorized as “general”, “specific” or “surgical”
based on the specialty heterogeneity reported in the journal. Journals with high heterogeneity of reported specialties were categorized as “general”. In the statistical analysis, “surgical” was grouped with “specific”, since only two journals were categorized as “surgical”.
- However, to avoid equivocality, we have redefined the basis of our specialty classification for the journals. The journals are now classified according to subject area designation in Scopus. Consequently, the results have been adjusted according to this classification.
- Thus, we included following phrase in the methods section: “Journals were categorized as “general” or “specific” based on subject area designation in Scopus, i.e. whether content was primarily related to one specialty (e.g. cardiology) or multiple specialties.”

Comment 3
- “Moreover, the authors categorized open access status into yes, no, or partly, where “partly” is not a common word used to describe the open access status (examples of common, well-defined words include green open access, hybrid access and so on). By going back to the data, I observed several non-open access journals categorized as “partly”, so I would suggest adopting strict criteria for categorization, such as the one suggested by Scopus: “Open Access Journals are indicated as Open Access if the journal is listed in the Directory of Open Access Journals (DOAJ) and/or the Directory of Open Access Scholarly Resources (ROAD).””

Response 3:
- Thank you for this insightful suggestion. We agree with the need to adopt strict criteria for categorization (such as Scopus). We have adopted Scopus’ definition of open access. The journals within the dataset have been reassessed according to Scopus’ definition of open access, and the current dataset, results and manuscript reflect the changes accordingly.
- Consequently, we have included following phrase in the methods section: “Open access was identified based on open access designation in Scopus. Scopus registers open access as follows: “In Scopus, journals are registered as being OA journals only if they are registered as Gold OA or Subsidized OA at one or both of the following sources: Directory of Open Access Journals (DOAJ) and the Directory of Open Access Scholarly Resources (ROAD)”.”

Comment 4:
- “In the discussion section, the authors should include studies that discussed the impact of an academic degree in publishing, which would complement the points raised by the authors in the present report.”

Response 4:
- Thank you for this comment. We agree that it would be valuable to include studies discussing the impact of an academic degree in publishing. However, to our knowledge, no studies have evaluated the impact of reporting academic degrees in journals, why it was not possible to include this in the discussion section.
A statement has been provided in the Discussion section to address the lack of studies examining the impact of reporting academic degrees in publishing: “To our knowledge, no studies exist on the impact of reporting academic degrees in medical journals, why further research is needed to explore the implications of listing academic degrees on the readers' attitude towards research quality.”

**Competing Interests:** No competing interests were disclosed.

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