

PEER REVIEW HISTORY

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ARTICLE DETAILS

TITLE (PROVISIONAL)	Bibliometric analysis of scientific publications in transplantation journals from Mainland China, Japan, South Korea and Taiwan between 2006 and 2015
AUTHORS	Pu, Qiang-Hong; Lyu, Qiu-Ju; Su, Huai-Yu

VERSION 1 - REVIEW

REVIEWER	Francisco López-Muñoz Camilo José Cela University, Madrid, Spain
REVIEW RETURNED	17-Mar-2016

GENERAL COMMENTS	<p>It is a well written paper which analyses the evolution of publications in transplantation journals in four countries of East Asia from a bibliometric perspective. Despite their methodological limitations, the bibliometric analyses permit an overview of the growth, extent and distribution of the scientific literature related to a particular discipline (as the medical informatics, in this case), and the study of the evolution of not only the biomedical speciality, field of specialization or issue in question, but also the scientific production of an institution, country, author or research group. The authors used recognised bibliometric indicators in their analysis.</p> <p>Abstract is reasonable, and Introduction is focused on the topic.</p> <p>Methods section describes, of very general form, some bibliometric indicators of quantity and quality. However, the authors does not apply certain indicators widely used in bibliometry, as Price's Law (the indicator most widely used in analysis of the productivity of a specific discipline or a particular country, and that reflects a fundamental aspect of scientific production, which is its exponential growth), Lotka's Law about the productivity of researchers, or Bradford's Law (bibliometric indicator of dispersion of scientific information). This last model permits identification of the journals most widely used or with greatest weight in a given field of scientific production. The data collected after the application of some of these indicators could remarkably enrich the results of this interesting study.</p> <p>Results and Discussion (with 5 Tables and 1 Figure) are clearly presented. However, I allow myself to make some suggestions:</p> <p>a) Figure with the growth of literature could be more illustrative if the Price' Law had been applied. A mathematical adjustment to an exponential curve vs. a linear adjustment would allow to verify if the growth of literature fulfils the Price' Law.</p> <p>b) Also, in the Table with the journals more used in the diffusion of the compiled material would be illustrative another column with the ratios "number of papers about transplantation / total number of</p>
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	<p>papers”.</p> <p>c) Another interesting analysis would be to correlate the annual productivity with some social and health data, such as number of physicians or total per capita expenditure on health.</p> <p>With respect Discussion, also I allow myself to do some suggestions:</p> <p>a) They would be interesting that the authors discussed some of the reasons that, in their opinion, would explain the great increase of the productivity on transplantation from year 2006.</p> <p>b) It could be interesting that the authors carried out a comparative analysis with other Occidental countries in the region (i.e. Australia). This would give more relevance to paper and would eliminate the localist character, although this approach can suppose a new one paper in the future.</p> <p>c) The authors do not affect other contributions of the bibliometric techniques and the implications socio-sanitary (relation with total per capita expenditure, etc.). See below the papers of López-Muñoz et al. on East-Asia countries</p> <p>d) Many data provided in Results are again shown in Discussion.</p> <p>Other comments:</p> <p>a) Why the authors begin their study in 2006 and not from the origin of publications in this field?.</p> <p>b) The authors admit some limitations of their study. Some are very relevant, as the type of database used; they have only used WOS and not other databases widely used, as Medline, Scopus or Embase. Another limitation is the non-inclusion of other “emerging countries” of East Asia area, such as the city-countries Hong Kong and Singapore or Malaysia.</p> <p>c) In Author’s contributions, the authors talk of experiments. This type of analysis can not be considered as experiments.</p> <p>d) Supplementary Table 1 it’s not necessary.</p> <p>e) Some typesetter errors throughout all the manuscript exist that would have to be corrected, i.e. “china” (page 16) or name of journals without italics (in text and Tables).</p> <p>f) References would have to be reviewed, according with editorial lines of BMJ Open, i.e., lack the page in quote 5, initials of names of journals in lowercase, etc.</p> <p>In conclusion, the manuscript could be acceptable for its publication, depending on the priorities of the editors, although the inclusion of some of suggestions mentioned could be interesting.</p> <p>López-Muñoz F, Shen WW, Moreno R, Molina JD, Noriega C, Pérez-Nieto MA, Rubio G, Álamo C. International scientific productivity on second-generation antipsychotic drugs in Taiwan: A bibliometric study. Taiwanese Journal of Psychiatry 2012; 26: 114-129.</p> <p>López-Muñoz F, Shinfuku N, Shen WW, Moreno R, Molina JD, Rubio G, Huelves L, Noriega C, Pérez-Nieto MA, Álamo C. Thirty years of scientific research on second-generation antipsychotic drugs in Japan: A bibliometric analysis. Open Journal of Psychiatry 2013; 3: 18-25.</p> <p>López-Muñoz F, Shen WW, Pae CU, Moreno R, Rubio G, Molina JD, Noriega C, Pérez-Nieto MA, Huelves L, Álamo C. Trends in scientific literature on atypical antipsychotics in South Korea: A bibliometric study. Psychiatry Investigation 2013; 10: 8-16.</p> <p>López-Muñoz F, Chung AK, Shen WW, Huelves L, Noriega C, Rubio</p>
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	<p>G, Molina JD, Moreno R, Pérez-Nieto MA, Álamo C. A bibliometric study of scientific research on second-generation antipsychotic drugs in Hong Kong. <i>Clinical & Experimental Pharmacology</i> 2013; 3: 124. doi. 10.4172/2161-1459.1000124.</p> <p>López-Muñoz F, Castle DJ, Shen WW, Moreno R, Huelves L, Pérez-Nieto MA, Noriega C, Rubio G, Molina JD, Álamo C. The Australian contribution to the literature on atypical antipsychotic drugs: A bibliometric study. <i>Australasian Psychiatry</i> 2013; 21: 343-345.</p> <p>López-Muñoz F, Sim K, Shen WW, Huelves L, Moreno R, Molina JD, Rubio G, Noriega C, Pérez-Nieto MA, Álamo C. A bibliometric study of scientific research conducted on second-generation antipsychotic drugs in Singapore. <i>Singapore Medical Journal</i> 2014; 55: 24-33.</p> <p>López-Muñoz F, Shen WW, Shinfuku N, Pae CU, Castle DL, Chung AK, Sim K, Álamo C. A bibliometric study on second-generation antipsychotic drugs in the Asia-Pacific Region. <i>Journal of Experimental and Clinical Medicine</i> 2014; 6: 111-117.</p>
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REVIEWER	<p>Jennifer Moodley Director: Cancer Research Initiative Faculty of Health Sciences University of Cape Town South Africa</p>
REVIEW RETURNED	18-Mar-2016

GENERAL COMMENTS	<p>General This article describes transplantation scientific articles from 4 countries in the East Asia region. The authors describe the total number of articles, number of reviews and original articles, impact factors and citations for articles published between 20016 and 2015. The article is likely to be of interest to researchers in the field, but requires major revision. In addition the article requires extensive language editing to correctly convey scientific meaning.</p> <p>Introduction The introduction does not sufficiently explain the importance and usefulness of a bibliometric analysis in this field. Factors that are likely to influence publications in the transplantation field e.g. gross domestic product, number of transplantation clinicians per country, availability of transplantation facilities etc. should be described for each of the countries. The authors need to contextualize the field of transplantation internationally and in the four East Asian countries.</p> <p>Methods Indicate if the 25 journals represent the total number in the transplantation in the field or if they are a subset. If the latter, please indicate what criteria were used to select the 25 journals? Describe the inclusion and inclusion criteria. Define accumulated impact factor Indicate what different quality measures are suggested by the “accumulated impact factor” versus the “average impact factor” The authors state that “articles published in the top 10 transplantation journals were compared. ” Indicate what were they compared for? How were scientific outputs for each country/region identified? It would be useful to classify the articles by study design and by transplantation site. Further analysis by transplantation site and by study design should then be undertaken and included in the results</p>
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	<p>section</p> <p>Results Please change "Total number of articles and trends" to "Trends in total number of articles"</p> <p>Types of articles in the field of transplantation The authors only present information on original and review articles. Could the authors provide a more detailed classification of original articles by study design and by transplantation site.</p> <p>Discussion Discuss in more detail how factors that are known to influence publications e.g. gross domestic product, number of transplantation clinicians per country, availability of transplantation facilities etc could explain differences observed in the transplantation scientific outputs. One of the limitations mentioned is that some relevant articles were excluded. Please discuss the likely impact of this on the results presented. The second limitation is not relevant as these countries were not included in the analysis. It is not clear what previous study the authors are referring to and no reference is provided for this "previous study" Results should be discussed with reference to the more detailed analyses by study type and transplantation site suggested above.</p> <p>References: The authors state " One major reason for it is that researchers in East Asia region had a general weakness in English-writing, contributing to the lack of scientific output in the international journals" and reference articles 11-14. Article '14' does not refer to the East Asia region.</p> <p>Research Checklist: Use of the COREQ checklist is inappropriate as this is not a qualitative study design</p>
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VERSION 1 – AUTHOR RESPONSE

Reviewer: 1

Reviewer Name

Francisco López-Muñoz

Institution and Country

Camilo José Cela University, Madrid, Spain.

1. Please state any competing interests or state 'None declared': None declared

Thank you for your suggestion. Now, it has been corrected.

Please leave your comments for the authors below

It is a well written paper which analyses the evolution of publications in transplantation journals in four countries of East Asia from a bibliometric perspective. Despite their methodological limitations, the bibliometric analyses permit an overview of the growth, extent and distribution of the scientific literature related to a particular discipline (as the medical informatics, in this case), and the study of the evolution of not only the biomedical speciality, field of specialization or issue in question, but also the scientific production of an institution, country, author or research group. The authors used recognized bibliometric indicators in their analysis.

Abstract is reasonable, and Introduction is focused on the topic.

2. Methods section describes, of very general form, some bibliometric indicators of quantity and quality. However, the authors does not apply certain indicators widely used in bibliometry, as Price's Law (the indicator most widely used in analysis of the productivity of a specific discipline or a particular country, and that reflects a fundamental aspect of scientific production, which is its exponential growth), Lotka's Law about the productivity of researchers, or Bradford's Law (bibliometric indicator of dispersion of scientific information). This last model permits identification of the journals most widely used or with greatest weight in a given field of scientific production. The data collected after the application of some of these indicators could remarkably enrich the results of this interesting study.

Thank you for your suggestion. Bibliometric indicators "Price's Law" has now been added in the methods.

3. Results and Discussion (with 5 Tables and 1 Figure) are clearly presented. However, I allow myself to make some suggestions:

a) Figure with the growth of literature could be more illustrative if the Price' Law had been applied. A mathematical adjustment to an exponential curve vs. a linear adjustment would allow to verify if the growth of literature fulfils the Price' Law.

It has now been added in the section: Trends in total number of articles (page 10, paragraph 1). Because the growth of literature did not follow the Price' Law, no figures were provided.

b) Also, in the Table with the journals more used in the diffusion of the compiled material would be illustrative another column with the ratios "number of papers about transplantation / total number of papers".

Now it has been added in results (page 10, paragraph 3). During the period studied, the proportions of articles in transplantation among all articles from all four countries (areas) were still minimal (< 0.5% of total articles).

c) Another interesting analysis would be to correlate the annual productivity with some social and health data, such as number of physicians or total per capita expenditure on health.

Now it has been added in result: Publication activity in relation to socio-economic factors (page 10, paragraph 2). Because of no sufficient data about number of physicians or total per capita expenditure on health, we mainly discussed correlation of the annual productivity with the important socio-economic factor gross domestic product (GDP).

4. With respect Discussion, also I allow myself to do some suggestions:

a) They would be interesting that the authors discussed some of the reasons that, in their opinion, would explain the great increase of the productivity on transplantation from year 2006.

Now it has been added in discussion (page 18, paragraph 3;page 19, paragraph 1).

b) It could be interesting that the authors carried out a comparative analysis with other Occidental countries in the region (i.e. Australia). This would give more relevance to paper and would eliminate the localist character, although this approach can suppose a new one paper in the future.

Since this study was focused on scientific output of transplantation by researchers in East-Asian region, other occidental countries were not included. Of course, I will compare scientific output of transplantation by researchers in different occidental countries in the future.

c) The authors do not affect other contributions of the bibliometric techniques and the implications socio-sanitary (relation with total per capita expenditure, etc.). See below the papers of López-Muñoz et al. on East-Asia countries

Thank you for your suggestion. We now discussed many factors influencing research productivity in discussion. Of course, other socio-economic factors were also discussed according to the results of

previous studies (page 18-19).

d) Many data provided in Results are again shown in Discussion.
The discussion part has been modified accordingly

5. Other comments:

a) Why the authors begin their study in 2006 and not from the origin of publications in this field?
Thank you for your suggestion. Since many authors analyzed ten-year publications in many medical fields to compare scientific output of different countries (areas), for example dermatology, public, environmental and occupational health, respiratory diseases [1-3], we begin our study from 2006 to 2015.

References

1. Man HB, Xin ShJ, Bi WP, et al. Comparison of publication trends in dermatology among Japan, South Korea and Mainland China. *BMC Dermatology*, 2014, 14:1
2. Li M, Liu X, Zhang L. Scientific publications in public, environmental and occupational health journals by authors from China, Japan and Korea in East Asia: A 10-year literature survey from 2003 to 2012. *Int J Occup Med Environ Health*, 2015, 28(4):663-73.
3. Ye B, Du TT, Xie T, et al. Scientific publications in respiratory journals from Chinese authors in various parts of North Asia: a 10-year survey of literature. *BMJ Open*, 2014, 28;4(2):e004201.

b) The authors admit some limitations of their study. Some are very relevant, as the type of database used; they have only used WOS and not other databases widely used, as Medline, Scopus or Embase. Another limitation is the non-inclusion of other “emerging countries” of East Asia area, such as the city-countries Hong Kong and Singapore or Malaysia.
Firstly, if different database were used, results will be different to some extent [1-2]. At last I chose WOS database, because it offers a powerful analysis of data from various aspects and all data can be easily transferred to Microsoft Excel for statistical analysis or graphics [3]. Other “emerging countries” of East Asia area will be discussed in the future study.

References

1. Kulkarni AV, Aziz B, Shams I, Busse JW. Comparisons of citations in Web of Science, Scopus, and Google Scholar for articles published in general medical journals. *JAMA*. 2009, 302(10):1092–6.
2. de Granda-Orive JI, Alonso-Arroyo A, Roig-Vazquez F. Which data base should we use for our literature analysis? Web of Science versus SCOPUS. *Arch Bronconeumol*. 2011, 47(4):213.
3. Sa'ed H. Zyoud, Samah W. Al-Jabi and Waleed M. Sweileh. Scientific publications from Arab world in leading journals of Integrative and Complementary Medicine: a bibliometric analysis *BMC Complementary and Alternative Medicine*, 2015, 15:308

c) In Author's contributions, the authors talk of experiments. This type of analysis can not be considered as experiments.
Thank you for your suggestion. Changed accordingly

d) Supplementary Table 1 it's not necessary.
Supplementary Table 1 has been removed.

e) Some typesetter errors throughout all the manuscript exist that would have to be corrected, i.e. “china” (page 16) or name of journals without italics (in text and Tables).
We are very sorry for our unclear writing. Now they have been corrected.

f) References would have to be reviewed, according with editorial lines of BMJ Open, i.e., lack the page in quote 5, initials of names of journals in lowercase, etc.

We are very sorry for our faults. They have been modified.

In conclusion, the manuscript could be acceptable for its publication, depending on the priorities of the editors, although the inclusion of some of suggestions mentioned could be interesting.

References 6 and 7 in the list were cited in this paper.

1. López-Muñoz F, Shen WW, Moreno R, Molina JD, Noriega C, Pérez-Nieto MA, Rubio G, Álamo C. International scientific productivity on second-generation antipsychotic drugs in Taiwan: A bibliometric study. *Taiwanese Journal of Psychiatry* 2012; 26: 114-129.
2. López-Muñoz F, Shinfuku N, Shen WW, Moreno R, Molina JD, Rubio G, Huelves L, Noriega C, Pérez-Nieto MA, Álamo C. Thirty years of scientific research on second-generation antipsychotic drugs in Japan: A bibliometric analysis. *Open Journal of Psychiatry* 2013; 3: 18-25.
3. López-Muñoz F, Shen WW, Pae CU, Moreno R, Rubio G, Molina JD, Noriega C, Pérez-Nieto MA, Huelves L, Álamo C. Trends in scientific literature on atypical antipsychotics in South Korea: A bibliometric study. *Psychiatry Investigation* 2013; 10: 8-16.
4. López-Muñoz F, Chung AK, Shen WW, Huelves L, Noriega C, Rubio G, Molina JD, Moreno R, Pérez-Nieto MA, Álamo C. A bibliometric study of scientific research on second-generation antipsychotic drugs in Hong Kong. *Clinical & Experimental Pharmacology* 2013; 3: 124. doi. 10.4172/2161-1459.1000124.
5. López-Muñoz F, Castle DJ, Shen WW, Moreno R, Huelves L, Pérez-Nieto MA, Noriega C, Rubio G, Molina JD, Álamo C. The Australian contribution to the literature on atypical antipsychotic drugs: A bibliometric study. *Australasian Psychiatry* 2013; 21: 343-345.
6. López-Muñoz F, Sim K, Shen WW, Huelves L, Moreno R, Molina JD, Rubio G, Noriega C, Pérez-Nieto MA, Álamo C. A bibliometric study of scientific research conducted on second-generation antipsychotic drugs in Singapore. *Singapore Medical Journal* 2014; 55: 24-33.
7. López-Muñoz F, Shen WW, Shinfuku N, Pae CU, Castle DL, Chung AK, Sim K, Álamo C. A bibliometric study on second-generation antipsychotic drugs in the Asia-Pacific Region. *Journal of Experimental and Clinical Medicine* 2014; 6: 111-117.

Reviewer: 2

Reviewer Name

Jennifer Moodley

Institution and Country

Director: Cancer Research Initiative

Faculty of Health Sciences

University of Cape Town

South Africa

Please state any competing interests or state 'None declared':

None

Please leave your comments for the authors below

General

This article describes transplantation scientific articles from 4 countries in the East Asia region. The authors describe the total number of articles, number of reviews and original articles, impact factors and citations for articles published between 20016 and 2015. The article is likely to be of interest to researchers in the field, but requires major revision. In addition the article requires extensive language editing to correctly convey scientific meaning.

Introduction

The introduction does not sufficiently explain the importance and usefulness of a bibliometric analysis in this field. Factors that are likely to influence publications in the transplantation field e.g. gross

domestic product, number of transplantation clinicians per country, availability of transplantation facilities etc. should be described for each of the countries. The authors need to contextualize the field of transplantation internationally and in the four East-Asian countries. We have modified introduction part accordingly, thanks! (Page 5-6).

Methods

Indicate if the 25 journals represent the total number in the transplantation in the field or if they are a subset. If the latter, please indicate what criteria were used to select the 25 journals?

Yes, we considered the 25 journals are a subset. Bibliometric analyses in other medical disciplines confirmed that results of category-oriented assessments of published articles were not basically changed even if discipline-related articles published in other journals were additionally considered [1 2]. Therefore, we thought that our results could reflect research activities on transplantation. The 25 journals were selected from the transplantation category of the Science Citation Index Expanded (SCIE).

Reference

1. Boldt J, Maleck W, Koetter KP. Which countries publish in important anesthesia and critical care journals? *Anesthesia and analgesia* 1999;88(5):1175-80
2. de Jong JW, Schaper W. The international rank order of clinical cardiology. *European heart journal* 1996;17(1):35-42

Describe the inclusion and inclusion criteria.

Original articles and reviews from Mainland China, Japan, South Korea and Taiwan from January 2006 to December 2015 were included, since two types of publications basically reflect scientific output. Other types of publications such as editorials, letters to editor, conference abstract, news and correction were excluded. Additionally, only English articles will be included in this study.

Define accumulated impact factor

The accumulated impact factor was calculated by multiplying the number of articles with the impact factor (JCR 2014) of the individual journal, and then summing up these data from the selected 25 journals between 2006 and 2015.

Indicate what different quality measures are suggested by the “accumulated impact factor” versus the “average impact factor”

We feel that accumulated impact factor generally represents the overall quality of publications from countries (areas), but the more articles one country (area) had, the higher accumulated impact factor one country (area) usually had. To assess more accurately the quality of the articles from countries (areas), average impact factor were introduced. Average impact factor were defined as accumulated impact factor divided by total number of the published articles..

The authors state that “articles published in the top 10 transplantation journals were compared. ”

Indicate what were they compared for?

Because the number of articles in high-impact journals often represents research level of one country (area) in the specific field, we compared the difference of the number of articles in top 10 transplantation journals between four countries (areas) to get knowledge about which countries (areas) is leading in transplantation.

How were scientific outputs for each country/region identified?

As long as the four countries (areas) names (China, Japan, Korea and Taiwan) were listed in the author's affiliation, the articles were considered to be research output from the four countries (areas).

It would be useful to classify the articles by study design and by transplantation site. Further analysis by transplantation site and by study design should then be undertaken and included in the results section

Now it has been added (page 7).

Results

Please change “Total number of articles and trends” to “Trends in total number of articles”

Now it has been corrected.

Types of articles in the field of transplantation

The authors only present information on original and review articles. Could the authors provide a more detailed classification of original articles by study design and by transplantation site.

Further analysis by transplantation site and by study design has been added in results section:

Classification of articles by study design and transplantation site (Page 11).

Discussion

Discuss in more detail how factors that are known to influence publications e.g. gross domestic product, number of transplantation clinicians per country, availability of transplantation facilities etc could explain differences observed in the transplantation scientific outputs.

Thank you for your suggestion. Because of no sufficient data about number of transplantation clinicians per country, availability of transplantation facilities, we mainly discussed correlation of the annual productivity with the important socio-economic factor gross domestic product (GDP). Of course, other socio-economic factors were also discussed according to the results of previous studies (page 18-19).

One of the limitations mentioned is that some relevant articles were excluded. Please discuss the likely impact of this on the results presented.

Bibliometric analyses in other medical disciplines confirmed that results of category-oriented assessments of published articles were not generally changed even if discipline-related articles published in other journals were additionally considered [1-3]. Therefore, we thought that our results could reflect research activities on transplantation.

References

1. Oelrich B, Peters R, Jung K. A bibliometric evaluation of publications in urological journals among European Union countries between 2000-2005. *European urology*, 2007, 52(4):1238-48
2. Boldt J, Maleck W, Koetter KP. Which countries publish in important anesthesia and critical care journals? *Anesth Analg*, 1999, 88:1175–80.
3. de Jong JW, Schaper W. The international rank order of clinical cardiology. *Eur Heart J*, 1996, 17:35–42.

The second limitation is not relevant as these countries were not included in the analysis. It is not clear what previous study the authors are referring to and no reference is provided for this “previous study”

We are very sorry for our unclear expression. In previous design, we found the paucity of scientific publications in transplantation field from Mongolia and North Korea, so the two countries were excluded. Therefore, the accurate expression is not “previous study” but “previous design”.

Results should be discussed with reference to the more detailed analyses by study type and transplantation site suggested above.

Thank you for your suggestion. Now it has been added (page 19, paragraph 2).

The authors state " One major reason for it is that researchers in East Asia region had a general weakness in English-writing, contributing to the lack of scientific output in the international journals" and reference articles 11-14. Article '14' does not refer to the East Asia region.
We are very sorry for our faults. Now it was deleted.

Research Checklist: Use of the COREQ checklist is inappropriate as this is not a qualitative study design.

Thank you for your suggestion. Now we use the STROBE checklist.

VERSION 2 – REVIEW

REVIEWER	Francisco López-Muñoz University Camilo José Cela, Spain
REVIEW RETURNED	12-Jun-2016

GENERAL COMMENTS	The authors have made most changes suggested in the first review, incorporating analyzes orders and incorporating a number of very interesting figures. I think that the manuscript is improved enough for publication on BMJ Open. The manuscript may be acceptable for its publication, depending on the priorities and saturation of the editors, by the interest of the data that contributes. I have no major objections concerning the manuscript in this version.
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