ARTICLE DETAILS

TITLE (PROVISIONAL)	Scientific publications in respiratory journals from Chinese authors in various parts of North Asia: 10-year survey of literature
AUTHORS	Ye, Bo; Du, Ting-Ting; Xie, Ting; Ji, Jun-Tao; Zheng, Zhao-Hong; Liao, Zhuan; Hu, Liang-Hao; Li, Zhao-Shen

VERSION 1 - REVIEW

REVIEWER	Danielsen, AK Herlev Hospital, University of Copenhagen Denmark
REVIEW RETURNED	17-Nov-2013

GENERAL COMMENTS	Thank you very much for the opportunity to review this interesting paper reporting the results of a survey study. The authors have aimed at exploring the number, the development in numbers, and the quality of published studies from respirology originating from China (three major regions). In order to do so a survey based on a systematic literature search was performed. The authors conclude that the number of published articles has increased significantly over the period. Furthermore, that the quality of the articles published from two of the regions was superior. I have some comments to this manuscript, and they are ordered according to the items in the review check list: **ad 1: Is the research question or study objective clearly defined?** The authors are advised to clarify the rationale behind the increase in respiratory diseases in China, and the specific objective of the study. **ad 7: If statistics is used are they appropriate and described fully?** The authors are not sufficiently explicit about the actual test that they have used to analyze data. I would like the authors to clarify this

issue: *the nonparametric test for trend* and *rank-sum test between two*. Please, specify this.

Furthermore, the authors seem to have done an analysis aimed at change in the total number of published studies over time. The variable year of publication is categorical, and as every study is only published once the data must be considered unpaired. As I am not quite sure what test the authors have used, I would like the authors to elaborate on this. Specifically, the authors should address the question of data not being paired.

Moreover, I do not understand how the p-value for the results regarding the percentage of the articles, as presented in figure 2, was generated?

I would advise the authors to rewrite this section and present the statistical strategy in more detail.

Ad 10 Are the results presented clearly?

The results section *Impact factors* presents that the authors have excluded some of the studies as they were published in journals without impact factor. I do not understand why they exclude the observation zero from the analysis?

Furthermore, I would like the authors to review the tables/figures:

Table 1: I do not understand the need for the row *Total.*

Table 2: The text beneath the table is a duplicate of the text in the table.

Table 3: The text beneath the table should be included in the table.

Figure 1, p 20: The results in this table are all presented in the text, and the authors are advised to clarify the results in the text section and to refrain from the table.

Figure 4, p. 23: I do not understand what the figure presents? In the text section the total number of citations is presented, which do not match the actual figures presented in figure 4.

ad 11 Are the discussion and conclusions justified by the results?

The discussion is partly backed by the results, but the results from table 1 to be discussed in full. There seems to be a linkage between a decrease in the average impact factor over time, and the rise in accumulated impact factor. Combined with the increase in number of published papers these links should be reflected in the discussions section.

ad 13 Is the supplementary reporting complete?

The authors have uploaded a Prisma check list, although the study is in fact not a systematic review. I would advise the authors to upload a flow chart, and perhaps the STROBE check list for the reporting of observational studies in Epidemiology could be applied.

ad 15 Is the standard of written English acceptable for publication?

Here and there in this interesting manuscript there are sentences that were very difficult to understand. For instance: p 12, l. 14-15: *These journals, though with lower impact factors, are necessary for every research in this area.* I do not understand the meaning of this sentence, and I am afraid that there are several more examples like this.

Further comments:

I wonder why the authors have set a limitation for the survey in 2009? It would seem logical to update it up to 2013.

REVIEWER	Yongchang Sun Beijing Tongren Hospital, Capital Medical University
REVIEW RETURNED	16-Dec-2013

GENERAL COMMENTS	This article reported the respiratory research output in 10 years from authors in the Mainland, Taiwan, and Hong Kong, China. The numbers and the quality of the published articles were compared among these three regions. There are some questions that need to be addressed: 1. In addition to the impact factor of a journal, citations are also very important for evaluating the "quality" of an article. This paper reported the total citations of the three regions, and found no difference. It may be more meaningful to analyze the average or mean citations per article. 2. Asthma is one of the most important diseases in respiratory medicine, and is the leading area of research (and publications) in China. Many respiratory physicians and researchers choose to publish their studies in Allergy journals, such as JACI, Allergy, Clin Exp Allergy, among many others. Exclusion of Allergy journals would underestimate the contribution of asthma research to the total output. The authors of this paper did not describe whether Allergy journals were included for analysis. Table 3 shows that the top 4 of the 10 most popular respiratory journals in Mainland are actually thoracic journals and a journal of lung cancer. Most of the articles are contributed by thoracic surgeons and oncologists. Does this list suggest that a considerable

	number of papers (for example, asthma research) by respiratory physicians, may be missing? 3. North Asia as a geographic term here in the title may be misleading. There are "Chinese authors" in other countries in North Asia. A title like "Scientific publications in respiratory journals from authors in the Mainland, Taiwan and Hong Kong, China: 10-year survey of literature" might be more specific.

VERSION 1 – AUTHOR RESPONSE

Reviewer #1 Danielsen, AK:
1. Please state any competing interests or state 'None declared': None declared
Response: Thank you for reminding me. We have declared "No conflicts of interest exist" in title page.
ad 1: Is the research question or study objective clearly defined? The authors are advised to clarify the rationale behind the increase in respiratory diseases in China, and the specific objective of the study.
Response: We appreciate your comment very much. China in recent years is prospering rapidly economically to become the second-largest economy in the world after the United States. However, air pollution, especially hazes, followed this prosperity. The Global Burden of Disease Study 2010 found that particulate matter with an aerodynamic diameter of less than 2.5 μm (PM2.5) has become the fourth biggest threat to the health of the Chinese people [1]. Although smoking has fallen in China, the prevalence of lung cancer has still increased, most probably due to air pollution[2].Now China is faced with an arduous task in addressing the challenges of environmental pollution[3].Today, the pace of life is increasing with technological advancements, this leads to hyper-tension, decreased exercise in people's daily life. All of these risk factors obviously will increase the morbidity of respiratory diseases. There is a price that developing countries must pay for modernization. However, let the price the Chinese pay not exceed the benefits from modernization. Therefore, government, scientific association and doctors pay more attention to the study about respiratory diseases.
1. Cancer death report in China: the third national retrospective sampling death survey People's Medical Publishing House, Beijing (2008).National Office for Cancer Prevention and Control National Center for Cancer Registries Bureau of Disease Prevention and Control Ministry of Health
2. Xu P. Haze, air pollution, and health in China. Lancet. 2013; 382(9910):2067.
3 .Chen Z, Wang JN , Ma GX et al. China tackles the health effects of air pollution. Lancet. 2013; 382(9909):1959-60.
ad 7: If statistics is used are they appropriate and described fully?
> The authors are not sufficiently explicit about the actual test that they have used to analyze data. I would like the authors to clarify this issue: the nonparametric test for trend and rank-sum test between two. Please, specify this.
Response: Thanks for your comments. The nonparametric test for trend is very common, and we didn't highlight it in the text. The following websites can be for your reference.
http://www.stata.com/support/faqs/statistics/test-for-trend/ or
http://www.ats.ucla.edu/stat/stata/faq/test_trend.htm.
For rank-sum test, URL: http://www.stata.com/help.cgi?ranksum.
> Furthermore, the authors seem to have done an analysis aimed at change in the total number of published studies over time. The variable year of publication is categorical, and as every study is only published once the data must be considered unpaired. As I am not quite sure what test the authors have used, I would like the authors to elaborate on this. Specifically, the authors should address the question of data not being paired.
Response: Thanks for your comments. Rank-sum test was used. URL: http://www.stata.com/help.cgi?ranksum.
> Moreover, I do not understand how the p-value for the results regarding the percentage of the articles, as presented in figure 2, was generated?
Response: The test we used in figure 2 was trend test. URLs:

http://www.stata.com/support/faqs/statistics/test-for-trend/ or
http://www.ats.ucla.edu/stat/stata/faq/test_trend.htm.
> I would advise the authors to rewrite this section and present the statistical strategy in more detail.
Response: Thank you for your suggestion. We thought that the statistical method was common and we didn't emphasize it in the text.
Ad 10 Are the results presented clearly?
>The results section Impact factors presents that the authors have excluded some of the studies as they were published in journals without impact factor. I do not understand why they exclude the observation zero from the analysis?
Response: Our purpose was to select high quality and currently published journals, and SCIE is generally recognized by the world. We have mentioned it in the limitations of this paper, "Our study has its limitations, however. A few journals covered resources beyond respiratory even selected from the respiratory systems of SCIE. Besides, some related journals not shown in SCIE were not collected. Some respiratory medicine research articles are published in general journals, rather than in the specialized ones".
Furthermore, I would like the authors to review the tables/figures:
>Table 1: I do not understand the need for the row Total.
Response: It can reflect the trend of 10 years.
Table 2: The text beneath the table is a duplicate of the text in the table.
Response: We agreed your suggestion and deleted the duplicate content beneath the table.
>Table 3: The text beneath the table should be included in the table.
Response: If the text beneath the table was included in the table, the journal names and journal IF would be duplicated. Furthermore, some journal names need to be abbreviated to fit the table.
Figure 1, p 20: The results in this table are all presented in the text, and the authors are advised to clarify the results in the text section and to refrain from the table.
Response: Figure 1 reflected the trend of number of articles in three areas, which cannot completely showed in the text. We believe it is valuable to retain it.
Figure 4, p. 23: I do not understand what the figure presents? In the text section the total number of citations is presented, which do not match the actual figures presented in figure 4.
Response: We are sorry to not explaining the concept of "citation report" clearly in the text, and we have complemented it in the text. "The ISI has not set up a function for finding a citation report of articles by limiting the department of the corresponding author, so in this citation report the articles included were affiliated with a Chinese institution, more than the previous search results in PubMed". Furthermore, we double checked the data of figure 4 and found the statistics right.
>ad 11 Are the discussion and conclusions justified by the results?
> The discussion is partly backed by the results, but the results from table 1 to be discussed in full. There seems to be a linkage between a decrease in the average impact factor over time, and the rise in accumulated impact factor. Combined with the increase in number of published papers these links should be reflected in the discussions section.
Response: We appreciate your comment very much. More and more new journals with lower impact factors are listed in the ISI database, which may lead to the rise in accumulated impact factor and a decrease in the average impact factor. This situation will probably happen in many regions and countries.
>ad 13 Is the supplementary reporting complete?
> The authors have uploaded a Prisma check list, although the study is in fact not a systematic review. I would advise the authors to upload a flow chart, and perhaps the STROBE check list for the reporting of observational studies in Epidemiology could be applied.
Response: We entirely agree with your comments. We have changed it.
>ad 15 Is the standard of written English acceptable for publication?
> Here and there in this interesting manuscript there are sentences that were very difficult to understand. For instance: p 12, l. 14-15: These journals, though with lower impact factors, are necessary for every research in this area. I do not understand the meaning of this sentence, and I am

afraid that there are several more examples like this.

Response: Thank you for your advices. We have changed the sentences which are difficult to understand. The manuscript has been reviewed by a native English-speaking editor.

> Further comments:

> I wonder why the authors have set a limitation for the survey in 2009? It would seem logical to update it up to 2013.

Response: Thanks for raising this insightful comment. The study with a setting period from 2000 to 2009 can be mainly attributed to the following factors. First, researchers in bibliometrics prefer to explore the impact of their field, the impact of a set of researchers, or the impact of a particular paper in some decades, for example, the U.S. 1991-2000 [1], Japan 1990-2000[2], China 2000-2009 [3], Portugal 1995-2005[4], Australia 1990-2005[5] and etc. By analyzing academic literature in some decades, we can compare various studies in the same/different periods. Second, the PubMed database records every article with an initiate online date which will be replaced by the volume/issue date later. To avoid the miscount, we would rather search the papers after their volume/issue dates were defined. Third, collecting data, analyzing data, accomplishing and publishing an article usually take 6-12 months. The final published data lags behind the actual data in bibliometrics study.

1.Rahman M, Fukui T. A Decline in the U.S. Share of Research Articles. N Engl J Med. 2002; 347(15):1211-1212

2.Fukui T, Rahman M. Contribution of Research in Basic and Clinical Sciences in Japan. Internal Medicine .2002; 41(8):626-8

3.Zhu XF, Hao JF, Xin L. Scientific publications in obstetrics and gynecology journals from China, 2000-2009.Int J Gynaecol Obstet. 2013;123(2):96-100

4.DonatoHM, De Oliveira CF. Breast pathology: evaluation ofthe Portuguese scientific activity based on bibliometric indicators. Acta Med Port.2006; 19(3): 225-34

5.McLean R, Mendis K et al .Retrospective bibliometric review of rural health research: Australia's contribution and other trends. Rural Remote Health. 2007; 7(4):767

Reviewer #2 Yongchang Sun:

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

Response: Thank you for reminding me. We have declared "No conflicts of interest exist" in title page.

> This article reported the respiratory research output in 10 years from authors in the Mainland, Taiwan, and Hong Kong, China. The numbers and the quality of the published articles were compared among these three regions.

> There are some questions that need to be addressed:

> 1. In addition to the impact factor of a journal, citations are also very important for evaluating the "quality" of an article. This paper reported the total citations of the three regions, and found no difference. It may be more meaningful to analyze the average or mean citations per article.

Response: Thanks for raising this insightful comment. The mean citations per article may give a misleading impression of the citation performance of the bulk of each journal's papers because only a small minority of papers will reach or exceed the mean value [1]. Furthermore, any statistical comparisons between journals where the dependent variable is the number of citations per paper will probably require either a data transformation [2] or a nonparametric approach [3] because of the markedly abnormal distributions. Therefore, we didn't analyze the average or mean citations per article.

1. Jemec GB, Nybaek H. A bibliometric study of dermatology in central Europe 1991–2002. Int J Dermatol, 2006; 45(8):922-6.

2. Tabachnick BG, Fidell LS. (2001) Using Multivariate Statistics, Harper Collins Publishers, New York.

3. Meddis R. (1984) Statistics Using Ranks: A Unified Approach, Basil Blackwell, Oxford.

> 2. Asthma is one of the most important diseases in respiratory medicine, and is the leading area of research (and publications) in China. Many respiratory physicians and researchers choose to publish their studies in Allergy journals, such as JACI, Allergy, ClinExp Allergy, among many others.

Exclusion of Allergy journals would underestimate the contribution of asthma research to the total output. The authors of this paper did not describe whether Allergy journals were included for analysis.
Response: Thank you for your advice and comments. Asthma is a common disease of respiratory system, and it's becoming an important cause of significant morbidity and economic burden in the developing country with fast growing economy and urbanization [1]. There is no doubt that Allergy journals are important parts of respiratory medicine. But the category we used was worldwide recognized. At the same time, we thought this was a limitation of our research, and we listed this limitation in the text, "few journals covered resources beyond respiratory even selected from the respiratory systems of SCIE. Besides, some related journals not shown in SCIE were not collected. Some respiratory medicine research articles are published in general journals, rather than in the specialized ones".
1. Sun YC. Taking ACTion for better control of asthma. Chin Med J (Engl). 2007; 120(12):1035-6.
2. Yao X, Sun Y. The sounds of small airways: emerging role in pathogenesis and clinical expression of asthma. Chin Med J (Engl). 2014;127(1):173-9
3. Sun YC. Advances in respiratory medicine in the mainland of China: a historical perspective. Chin Med J (Engl). 2010; 123(1):6-17.
> Table 3 shows that the top 4 of the 10 most popular respiratory journals in Mainland are actually thoracic journals and a journal of lung cancer. Most of the articles are contributed by thoracic surgeons and oncologists. Does this list suggest that a considerable number of papers (for example, asthma research) by respiratory physicians, may be missing?
Response: Thanks for raising this insightful comment. The "respiratory system" category includes multidisciplinary.
> 3. North Asia as a geographic term here in the title may be misleading. There are "Chinese authors" in other countries in North Asia. A title like "Scientific publications in respiratory journals from authors in the Mainland, Taiwan and Hong Kong, China:10-year survey of literature" might be more specific.
Response: To avoid the political bias, we used North Asia to cover these three areas. There have been examples previously [1-2].
1. LiawYF. Taiwan's contribution to clinical research in gastroenterology and hepatology. J Gastroenterol. 2004l; 39(7):698-9.
2. Maeda K, Rahman M, Fukui T. Japan's contribution to clinical research in gastroenterology and hepatology. J Gastroenterol 2003; 38:816-9

VERSION 2 – REVIEW

REVIEWER	Anne Kjaergaard Danielsen Department of Nursing, Faculty of Health and Sciences, Metropolitan University College, Copenhagen, Denmark
REVIEW RETURNED	21-Jan-2014

GENERAL COMMENTS	Statistical tests: Re: author reply p. 8 regarding STATA, non-parametric test for trend and paired observations: Thank you very much for the explanatory link to STATA and the non-parametric test for trend. I visited the web-page earlier during my first reviewing of your manuscript, and I am sure that other readers of your manuscript are likely to do the same. Therefore, I would like to rephrase my question, as I do not think that you have clarified the issue sufficiently. What puzzled me was, that the non-parametric test for trend is explained as "en extension of the Wilcoxon rank test". The Wilcoxon-rank sum is in fact a test for comparison of paired observations. However, the data that you are analyzing are to my mind not paired. Would you please comment on this and clarify the issue.

	Apart from this, I believe that you have adressed my questions in an orderly manner, and wish you good luck with this very interesting manuscript.

VERSION 2 – AUTHOR RESPONSE

Reviewer # Anne Kjaergaard Danielsen:

1. Statistical tests: Re: author reply p. 8 regarding STATA, non-parametric test for trend and paired observations: Thank you very much for the explanatory link to STATA and the non-parametric test for trend. I visited the web-page earlier during my first reviewing of your manuscript, and I am sure that other readers of your manuscript are likely to do the same. Therefore, I would like to rephrase my question, as I do not think that you have clarified the issue sufficiently. What puzzled me was, that the non-parametric test for trend is explained as "en extension of the Wilcoxon rank test". The Wilcoxon-rank sum is in fact a test for comparison of paired observations. However, the data that you are analyzing are to my mind not paired. Would you please comment on this and clarify the issue.

Response: Thanks for raising this insightful comment. There were two statistical methods to analysis the trend of time-related data: (1) time series analysis (2) non-parametric test for trend [1, 2, 3].

(1) Time series analysis: Autoregressive Integrated Moving Average model (ARIMA), which now is the most widely used in time series analysis, can be used to evaluate its trend. But ARIMA is difficult to describe (Example I was listed below) and the p-value for the trend cannot be calculated.

(2) Non-parametric test for trend: The time-related data was not in pairs because there were just one series of numbers, as you noticed. But it could be recognized as the number was ordinal categorical variable and could be paired with time. The non-parametric test for trend (STATA Syntax: nptrend varname [if] [in], by (groupvar)) was available for the data [4]. The p-value for the trend is approximate (The accurate p-value cannot be calculated in any statistical methods. Example II was listed below). The same results were calculated by the two statistical methods. We consulted the statisticians of our university about the issue and they recognized the non-parametric test for trend was an effective analysis and the p-value was acceptable. Although the p-value is not absolutely accurate, the increase/decline trend is clear and the method is easy to understand.

In main document, we changed the "The nonparametric test for trend was performed to confirm any significant change of the total numbers over the period of time." to "The nonparametric test for trend and time series analysis was performed to established change of the total numbers over the period of time."

References

[1] Time Series-Stata. URL: www.stata.com/manuals13/ts.pdf

[2] Xu Z X, Takeuchi K, Ishidaira H. Long-term trends of annual temperature and precipitation time series in Japan [J]. Journal of Hydroscience and Hydraulic Engineering, 2002, 20(2): 11-26.

[3] ONOZ B, BAYAZI M. The power of statistical tests for trend detection. Turkish J. Eng. Env. Sci, 2003;27: 247-251.

[4] William Sribney. A comparison of different tests for trend, STATA. URL: http://www.stata.com/support/faqs/statistics/test-for-trend/

2. Apart from this, I believe that you have adressed my questions in an orderly manner, and wish you good luck with this very interesting manuscript.

Response: Thank you for your positive comment.

Example I: the trend of publications in ML (ARIMA model)

Step 1: Input the data. Identifying the ARIMA model requires looking at the data. First plot the data to

ascertain if the data is stationary, and if it is non-stationary, try to ascertain whether it exhibits trend or drift. (The schematic diagram was listed in the "Responses to the Reviewers Comments.docx", which was uploaded in the supplementary files.)

Step 2: Make a preliminary decision on the nature and order of the time series processes - ARIMA(p,d,q) where p is the order of the Autoregressive process, q is the order of the Moving Average process, and d is the order of Differencing required to achieve stationarity. (The schematic diagram was listed in the "Responses to the Reviewers Comments.docx", which was uploaded in the supplementary files.)

Step 3: The output includes autocorrelation coefficient and partial correlations coefficients used to specify an ARIMA model. Having tenatively identified the time series process as an ARIMA(p,d,q) model, estimate the model. (The schematic diagram was listed in the "Responses to the Reviewers Comments.docx", which was uploaded in the supplementary files.)

Step 4: According the autocorrelation coefficient (AC) and partial correlations coefficients (PAC) to build the ARIMA model (stationary series model). (The schematic diagram was listed in the "Responses to the Reviewers Comments.docx", which was uploaded in the supplementary files.)

Step 5: Examine the coefficients of the model estimated to ensure that all are significant.

The results show the ARIMA model is a good match for the original curve(red box all $p < 0.05$), the stationary series model reflects steady increasing trend of publications in ML.

Example II: the trend of publications in ML (Syntax: nptrend). (The schematic diagram was listed in the "Responses to the Reviewers Comments.docx", which was uploaded in the supplementary files.)