

# A Bibliometric Analysis of Evolution of Global and Chinese Nursing Scientific Publications

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**How to cite this paper:** Ma, Q., Li, A. L., He, Q. L., & Wu, K. L. (2023). A Bibliometric Analysis of Evolution of Global and Chinese Nursing Scientific Publications. *Open Journal of Social Sciences*, 11, 649-659.

<https://doi.org/10.4236/jss.2023.1110038>

**Received:** September 19, 2023

**Accepted:** October 28, 2023

**Published:** October 31, 2023

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## Abstract

**Aim:** To analyze the nursing publications from Mainland China (ML), Taiwan (TW), and Hong Kong (HK) with comparison to the latest global nursing scientific productivity trend. **Methods:** A comparative bibliometric analysis based on nursing publications cited from 2016 to 2021 in the Web of Science was conducted: the global nursing research productivity and focus were explored. The number of nursing publications, impact factors, citation report, research focus and funding support were analyzed according to the articles retrieved from ML, TW, and HK. **Results:** A total of 44,654 articles were published in the 122 nursing journals globally with different research focuses. USA and Australia have stayed at the top 2 during all 5 years; China firstly passed the UK to the 3<sup>rd</sup> place in 2019. Different from the results of previous studies, our study firstly discovered that the number of publications in ML has surpassed that of TW for the very first time in 2018 and arrived at 1.46 times in 2019, while it exceeded HK with 2.17 times in 2015 and reached to around 3 times since 2016. The different trends in the most used keywords and most popular journals in three Chinese regions and worldwide may indicate different research interests and phenomenon focused by nursing researchers, which may have implications for nursing policy analysis. **Conclusions:** Bibliometric analysis revealed embedded values of nursing scientific activity, and provided evidence for the policy changes in nursing research, education, and practices. Chinese researchers' contribution to the global nursing field has increased significantly. The quality and quantity of nursing publications from ML firstly stayed at the 1<sup>st</sup> among Chinese three regions since 2017 and 2018 respectively. The fast development of nursing education and practice, broadened international collaboration, more funding of nursing research, higher publication requirements for career development were likely the main factors of the improvement of ML. Those trends could help China, especially the ML constructed better nursing research policy framework, and be more contributing to the global nursing scientific field.

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## Keywords

Bibliometrics, Journal Citation Reports, Nursing Research, Publication

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## 1. Introduction

With the rapid development of China's social economy, science and medicine have undergone tremendous changes in the past decade (Nie, Ouyang, & Redding, 2019; Xie et al., 2016). China is sharing a more important role in global nursing research, given the developing research status and over 4.45 million registered nurses in the country based on the official data of 2019 (NBS, 2019). Publication, as a central part of scientific research, is an important indicator of research productivity (Peng & Hui, 2011). "Nursing research promotes and improves the health of individuals, families, and communities across the lifespan". The bibliometric analysis could provide important advantages for determining the quantity and quality of publications in nursing field and as important reference for international research collaboration. These insights may also help benchmark nursing scientific output and help allocate future research funding. Therefore, in recent years, the role of bibliometrics in measuring scientific productivity has become more significant.

Researchers showed that China has played an increasing role in nursing research with the rapid development in nursing education and practice since the New Millennium (He, Fu, Su, & Luan, 2020; Kalisch & Liu, 2009; Li, Wei, Liu, & Tang, 2009; Li, 2014). Chinese people in the three major Chinese-speaking regions (ML, TW, and HK) have distinct political regimes, economic status, and health care systems, which lead to different scientific research productivity (Chair, Waye, Calzone, & Chan, 2019; Peng & Hui, 2011; Yan, Li, & McDonald, 2014). It has been widely used to compare the scientific productivity of these three regions in many medical fields (Cheng & Zhang, 2010; Jiang et al., 2016; Li et al., 2010; Nie et al., 2019; Zhang, Ye, Sun, Deng, & Qian, 2015). However, only two articles analyzed the nursing scientific publications in three Chinese regions until 2014 with comparison just within China, the most updated and comprehensive bibliometric analysis of Chinese nursing publications under the fast-developing global research status is still lacking (Peng & Hui, 2011; Zhang et al., 2016). Therefore, based on previous studies, we aimed to examine the quality, quantity, and hot topics of Chinese nursing scientific publications from the three regions with a comparison of worldwide trends during a most recent 5-year period with bibliometric analysis.

## 2. Methods

### 2.1. Search Strategy

There were 120 journals in the category of the Science Citation Index Expanded (SCIE) and 118 journals of Social Sciences Citation Index (SSCI) designed by

Thomson Reuters of the Journal Citation Reports (JCR) 2018. After the exclusion of the same journals of the two databases, a total of 122 journals were included and all citations were indexed in Web of Science. A computerized literature retrieval of papers published in these 122 journals was conducted in March 2022 with a period limited to January 1, 2017-December 31, 2021. The full journal titles were used with the “OR” operator to include all articles published in selected 122 journals. The filter of “Country/Region” of “HK”, “TW”, and “Peoples R China, NOT HK, NOT TW” were used to sort the articles published by different regions. Only original articles and reviews were included based on the “document types” filter analysis. Letters, editorial material, and corrections were excluded. The search output was exported to Microsoft Office Excel (2010 version) for further analysis. We identified the regions based on the institution of the corresponding author (reprint author) (Peng & Hui, 2011), and publications with different reprint addresses located in ML, TW, and HK were selected accordingly.

## 2.2. Data Extraction

Research selection and data extraction were conducted independently by two reviewers (He and Zhang) based on the JCR 2018, a third reviewer (Tang) was consulted for the disagreement resolving during the process. Articles unrelated to nursing were further excluded after reviewing the titles and abstracts of potentially qualified papers. Systematic analyses have been performed on included articles. Firstly, the total global nursing publication numbers and research hot-spot, top 10 productivity countries, and their specific share in the top 10 IF nursing journals were explored to have an overall view. Then, the total and annual numbers, the research focus of published articles from the Chinese three regions were calculated to identify their research productivity and comparison with the global trend. Thirdly, the total and mean impact factor (IF), the total and mean citations of publications were collected and accumulated to assess the quality of nursing research publications in the Chinese three regions. Fourthly, we quantified the articles published in the top 10 IF nursing journals and listed the top 10 popular journals from the three regions according to the number of articles published by authors in that region. Lastly, the nursing publication funding status and resources were also collected to show the support of nursing research in Chinese regions.

## 2.3. Statistical Analysis

SPSS version 20.0 (SPSS Inc., Chicago, IL, USA) was used to analyze the data and  $P < 0.05$  was considered significant. The trends of quantities of articles published from 2017 to 2021 were analyzed via regression analysis. The Kruskal-Wallis test was used to detect differences between regions. Citespace (version 5.8.R3, USA) was used for keywords analysis to compare global and Chinese three regional research hotspots.

### 3. Results

#### 3.1. Global Trends in Nursing Publication Productivity

A total number of 44,654 articles were published in the 122 nursing journals from 2017 to 2021. The global account of published nursing papers increased annually during the study period. The United States of America (USA) ranked at the first place during the 5 years with the highest share of global published nursing articles (19,800 articles), followed by Australia (4934), the United Kingdom (2820), Canada (2238), Brazil (2057), China (1999), Sweden (1904), South Korea (1832), Turkey (1221) and Spain (1028). A significant phenomenon is that the USA and Australia have kept the top 2 among all 5 years while UK and China have stayed the 3<sup>rd</sup> and 4<sup>th</sup> from 2015-2018, however, China firstly passed the UK to sit in the 3<sup>rd</sup> place in 2019. Canada, Sweden, South Korea, and Turkey all stepped 1 place forward during the recent 2 to 4 years. **Table 1** showed the top 10 countries (2017-2021) according to the annual number of published nursing articles.

#### 3.2. Global Top 10 Countries' Contributions in top 10 IF Nursing Journals

Further, a total of 4369 articles published in the top 10 high-impact nursing journals included in WOS from the above top 10 high productivity countries were published. Among the 10 countries, the USA published the most papers (1433/4369, 32.8%) in the top 10 journals, followed by Australia (994/4369, 22.75%), UK (558/4369, 12.77%), China (317/4369, 7.26%), Canada (276/4369, 6.32%), Sweden (253/4369, 5.79%), South Korea (181/4369, 4.14%), Spain (178/4369, 2.7%), Turkey (89/4369, 2.04%), Brazil (50/4369, 1.14%). USA published more articles than Australia in every journal among the top 10 IF lists except Australian Critical Care, Nurse Education Today, and International Journal of Mental Health Nursing. The UK shared the most publications in the top 2 high IF nursing journals among the 10 countries.

#### 3.3. Global and Chinese Regional Research Focus

To some extent, the keywords with high frequency in the literature can reflect the main contents of the research. The comparative analysis of global and three regional research focus was carried out by CiteSpace (version 5.8.R3, USA) using

**Table 1.** Top 10 nursing publication productivity countries (2017-2021).

Year	1	2	3	4	5	6	7	8	9	10
2017	USA	Australia	UK	China	Brazil	Canada	Sweden	South Korea	Netherlands	Turkey
2018	USA	Australia	UK	China	Brazil	Canada	Sweden	South Korea	Turkey	Norway
2019	USA	Australia	UK	China	Canada	Brazil	South Korea	Sweden	Turkey	Spain
2020	USA	Australia	UK	China	Canada	Sweden	South Korea	Brazil	Turkey	Spain
2021	USA	Australia	China	UK	Canada	Sweden	South Korea	Brazil	Turkey	Spain

keywords. The results demonstrated that the most frequently used keyword in the worldwide nursing publications was “care” (4005), while keyword of “quality of life” which in the 6<sup>th</sup> place worldwide stood at the top 1 in all three regions of China as ML (101), TW (150), and HK (43) respectively. “Nurse” was the 2<sup>nd</sup> most used keyword globally, as well as in ML and HK except TW. Among the top 10 keywords that occurred in nursing publications, “care”, “nurse”, “health”, “Quality of life”, “impact” were the 5 used commonly both globally and in the three regions of China. The top 10 keywords of “woman” and “stress” emerged in TW publications were not listed globally, neither in ML and HK areas. “Management” and “experience” were the two included both in the global and ML top 10 keywords list while intervention showed in worldwide and HK list.

### 3.4. Top 10 Popular Nursing Journals in Chinese Regions

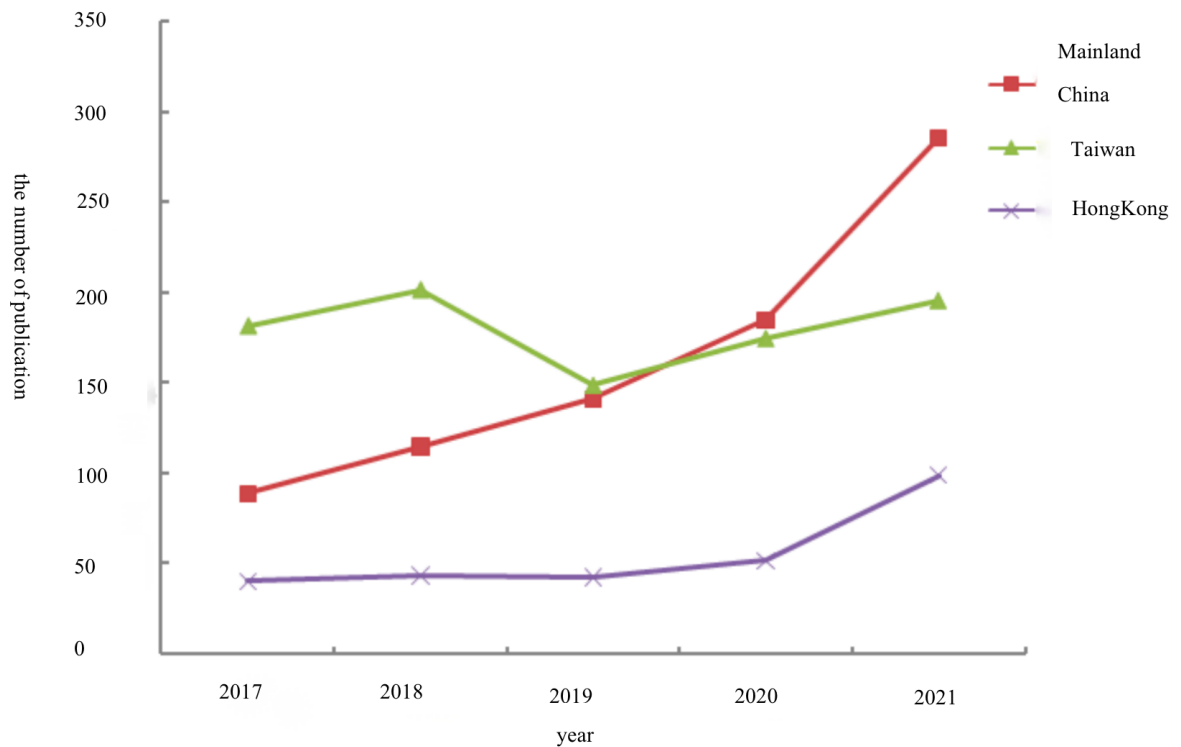
The top 10 journals that published the most articles written by nursing researchers from the Chinese three regions are examined. Over the most recent 5 years, the Journal of Clinical ranked first place in ML (102) and TW (113), while the Journal of Advanced Nursing was the most popular in HK (32). Journal of Clinical Nursing appeared in the top 3 journal lists across all three regions. Journal of Advanced Nursing was found in the top 4 journal list in two regions. International Journal of Nursing Studies appeared in the top six journal list in one region.

### 3.5. Nursing Scientific Publication from China

Of the 4,465 published articles from the 122 journals assessed between 2017 and 2021, a total number of 1999 publications originated from China. The annual total numbers of articles from China increased gradually with a 1.86-fold rise from 2017 to 2021 but the trend doesn't show significance (from 312 to 581,  $p = 0.06$ ). TW published the largest number of articles during the period (904/1999, 45.22%), followed by ML (816/1999, 40.82%) and HK (279/1999, 13.96%). **Figure 1** shows the published article number from ML, HK, and TW respectively. ML had the most rapid increase in the number of annual publications with a significant trend (from 89 to 286,  $p = 0.013$ ), which is a 3.21-fold increase, followed by HK (from 41 to 99,  $p = 0.104$ ) with a 2.41-fold increase, and TW (from 182 to 196,  $p = 0.99$ ), both of their trends don't show significant. Data showed that only publications originated from ML has increased significantly among 5 years ( $p = 0.013$ ). The comparison of the three regions of China showed differences ( $p = 0.001$ ). A significant result is that the number of publications in ML has surpassed that of TW for the very first time in 2018 and arrived at 1.46 times in 2019, while it exceeded HK from 2.17 times in 2015 and reached to about 3 times since 2016.

### 3.6. Impact Factors (IF) Analysis of Chinese Nursing Publications

Based on the IFs of the 122 journals in JCR 2018, TW had the highest total journal



**Figure 1.** Nursing scientific publication from China. Trends of yearly articles from mainland China, Taiwan, and Hong Kong (2015-2019). Only trend of mainland China showed difference ( $p < 0.05$ ).

IF (1580.76), followed by ML (1441.69) and HK (539.558) during the recent 5 years. However, the yearly total IF of journals published articles from ML firstly passed TW in 2017 and has arrived at 1.41 times in 2019. The mean IF of articles in HK (1.93) is higher than that in ML (1.77) and TW (1.75). The IF of the journals publishing articles from ML was between 0.323 and 3.57; the range for TW was from 0.511 to 3.57; HK was between 0.624 and 3.57. The comparison of the three regions of China showed differences ( $p = 0.011$ ).

### 3.7. Citation Report of Chinese Nursing Publications

Articles published between 2017 and 2021 from TW were cited the highest number of times (3775), followed by ML (2963) and HK (1118). Besides, the highest mean citation per article was exhibited from TW (4.18, 3775 citations/904 articles), compared to those from HK (4.01, 1118 citations/279 articles) and ML (3.63, 2963 citations/816 articles). The comparison of the three regions of China showed no difference ( $p = 0.114$ ).

### 3.8. Chinese Share in Top 10 IF Nursing Journals

In the 2018 JCR, the IF of the top 10 worldwide nursing journals in which Chinese authors published their work was greater than 2.433. A total of 317 articles from the three regions were published in the top 10 high IF nursing journals with the highest IF of 3.57 and the 10th IF of 2.433. Among them, the International Journal of Nursing Studies had the highest number of articles (85), fol-

lowed by Nurse Education Today (73), and Journal of Nursing Scholarship (32). Researchers from TW published the largest number of papers (143/317, 45.1%) in the top 10 high-impact journals, followed by ML (115/317, 36.3%) and HK (59/35, 18.6%).

### 3.9. Funding Status and Resources

Among 1999 Chinese nursing papers published in the period 2017-2021, 1644 articles have the funding resource from 3 regions respectively). ML had the highest ratio of papers funded to total published articles (720/1999, 36.02%), followed by TW (693/1999, 34.67%) and HK (231/1999, 11.56%). The top 3 funding resources in the ML were the National Natural Science Foundation of China (92/720, 12.78%), Natural Science Foundation of Shandong Province (14/720, 1.94%), Natural Science Foundation of Zhejiang Province (10/720, 1.39%); the top three funding agencies in TW were National Science Council of TW (128/693, 18.47%), Ministry of Science and Technology TW (94/693, 13.56%), Chang Gung Memorial Hospital (50/693, 7.22%) while HK Polytechnic University (8/231, 3.46%), HK Research Grants Council (7/231, 3.03%), National Natural Science Foundation of China (6/231, 2.6%) supported more on HK nursing researches published.

## 4. Discussion

As mentioned in the introduction, our study was the first paper to conduct the most updated and systematic bibliometric analysis of Chinese nursing research evolution with the comparison to the global trends according to SCIE and SSCI databases in WOS. The bibliometric analysis will enable the nurse researchers to realize the main sources of knowledge in which the global and Chinese nursing research is being developed and get a deeper understanding of nursing fields of study from the explanation and conclusion drawn. It could also be valuable and supportive for researchers for their research planning, and help to improve the nursing literature in libraries (Benton, Cusack, Jabbour, & Penney, 2017; Benton, Watkins, Beasley, Ferguson, & Holloway, 2020; Ergul, Ardahan, Temel, & Yildirim, 2010; Traynor, 2011).

Our study showed that global nursing publications increased annually during the most recent 5 years. The U.S.A and Australia have stood in the first and second place steadily both in the annual publication numbers and the productivity in the top 10 high-impact nursing journals included in WOS. China had a consistent improvement in nursing research productivity in the worldwide major nursing journals along with the significant increase trend too, especially ML. Among the top 10 nursing research productivity countries, China ranked 4<sup>th</sup> from 2017 to 2018 and firstly surpassed the UK to the third place in 2019, which ranked fourth with contributed 1999 papers of global total articles during the 5 years. UK and China also have stood at the 3<sup>rd</sup> and 4<sup>th</sup> place respectively on the list of top 10 publication countries in the top 10 high-impact nursing journals

included in WOS. No doubt, there was a dramatic increase in the annual number of published articles in China in the nursing field, which also has been demonstrated in many biomedical fields (Jiang et al., 2016; Li et al., 2010; Nie et al., 2019; Zhang et al., 2015). China is now the country with the 2nd largest R&D budget in the world. Since 2013, China's R&D expenditure has exceeded 2% of GDP for four consecutive years and reached 44% of that of the United States in 2016 (DLUT, 2019). However, considering the investment and relative size of the populations, China still lagged far behind the most productive countries in biomedical publications.

Different from the previous study (Zhang et al., 2016), the Journal of Clinical Nursing was not the most popular nursing journal in all the three regions anymore, instead of the Journal of Advanced Nursing was the most influential journal in HK, which may also suggest the different research interests and focus among the regions. Meaningfully, "quality of life" which in the 6<sup>th</sup> place nursing research keywords worldwide stood at the top 1 in all three regions of China, "depression" which not occurred in the most 10 frequently used keywords in worldwide nursing publications stated at the 2<sup>nd</sup> in TW area, the 5<sup>th</sup> in ML and 7<sup>th</sup> in HK. Both may imply that the different research focus of Chinese nursing researchers, as well as the phenomenon in the nursing field which caught the researcher's eyes.

Differently, both the two articles showed that TW was the most prolific region of nursing publications in China (Peng & Hui, 2011; Zhang et al., 2016), and ML exceeded the publication output of HK since 2011 (Zhang et al., 2016). However, our study firstly discovered that the number of publications in ML has surpassed that of TW for the very first time in 2018 and arrived at 1.46 times in 2019, while it exceeded HK with 2.17 times in 2017 and reached to around 3 times since 2018. HK has a long history of internationalization and a high level of modern science and education with a background of British colony since the mid-19<sup>th</sup> century. TW has advanced scientific and academic systems merged with the characteristics of China and the United States. Researchers from these two regions have contributed to some of the great scientific publications on nursing. Researchers reported that ML has lagged of HK and TW on the scientific research productivity over the years not only in Nursing but also in other biomedical fields (Li et al., 2010; Peng & Hui, 2011; Zhang et al., 2016). Our analysis demonstrated that nursing scientific publications from ML researchers in major international nursing journals increased dramatically and left behind both HK and TW since 2018, which updated the different trends of the previous similar nursing researches (Peng & Hui, 2011; Zhang et al., 2016). Several explanations could be the reason for the dramatic development of nursing research in ML in the most recent 5 years. Firstly, the fast development of nursing education and practice in ML has prepared well-educated nursing researchers, who conquered the systematic research theories and skills and well-trained in science study field. Secondly, the broadened international collaboration and visiting programs wi-



dened the views of mainland Chinese nursing researchers, and get more interactive with the global nursing researchers. Thirdly, based on the years of hard work of Chinese nurses, also with the emphasis of scientific research by the government, the nursing field gets more fundings, and more programs were launched into the nursing research. Fourthly, nursing faculty and clinical nurses were required to reach high-quality standards in publishing to advance in their careers under the fast development of Chinese nursing education and practice (He et al., 2019). Just as Traynor (2011) hoped, “this phenomenon (of nursing research) helps to influence the delivery of health care and health promotion (in China) in a positive way”, the career position and professional practice and researches of Chinese nurses are in much higher lever with more policy support from the government and well-recognition from the public (Traynor, 2011). We also could speculate those reasons and trends could help China be more contributing to the nursing research field.

Although the quality evaluating standards of scientific publications remains controversial, the impact factor (IF) and citations are widely used in many bibliometric analysis (Jiang et al., 2016; Li et al., 2010; Nie et al., 2019; Peng & Hui, 2011; Xie et al., 2016; Zhang et al., 2016). As an index to reflect the average number of article citations published in the journal, the IF is commonly regarded as an indicator of the journal’s relative importance in its field. Nursing publications from TW had the highest journal Total IFs while HK showed the highest Mean IFs of papers of the whole 5 years. However, the yearly journals Total IFs of ML firstly past TW in 2017 even though the total publication numbers were lower than TW then. The trends of this higher yearly journal of ML Total IFs went on and have arrived at 1.41 times to TW in 2019.

Besides, as the number of times, an article has been cited; citation represents the paper’s influence degree on other publications. Of the whole 5 years, articles from TW were cited most while ML stayed at the second, and papers from HK were cited the least. However, similar trends of higher yearly citations were shown among the 3 regions. Nursing publication citation of ML firstly past TW in 2017, reached 1.35 times to TW and 2.49 times to HK in 2019. The mean citation of per article from TW was highest, publication from HK was in the second and China was third. This may happen cause of two reasons. On the one hand, ML published 75% of total papers of 5 years (614/816) in the most recent 3 years. The older an article is, the more likely it has the time of being cited. On the other hand, this may also imply the quality of nursing publications from ML needs to be improved along with the rise of publication numbers. ML and TW shared about 81% of papers published in the global top 10 IF nursing journals. As for the funding status of nursing research, ML had the highest ratio of funded papers, which was consistent with our above analysis of the increasing nursing research productivity from ML. The funding resources mainly from the government, provincial agencies and universities for three regions, especially the national and provincial government funding had accounted the biggest part both

in ML and TW, while both TW and HK got support from abroad like Japan and U.S.A.

## Acknowledgements

We are very grateful for the support from the National Social Science Program (21BMZ018) and the Yunnan Provincial Department of Education Program (2023Y0958).

## Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

## References

- Benton, D. C., Cusack, L., Jabbour, R., & Penney, C. (2017). A Bibliographic Exploration of Nursing's Scope of Practice. *International Nursing Review*, *64*, 224-232. <https://doi.org/10.1111/inr.12337>
- Benton, D. C., Watkins, M. J., Beasley, C. J., Ferguson, S. L., & Holloway, A. (2020). Evidence-Based Policy: Nursing Now and the Importance of Research Synthesis. *International Nursing Review*, *67*, 52-60. <https://doi.org/10.1111/inr.12572>
- Chair, S. Y., Waye, M. M. Y., Calzone, K., & Chan, C. W. H. (2019). Genomics Education in Nursing in Hong Kong, Taiwan and Mainland China. *International Nursing Review*, *66*, 459-466. <https://doi.org/10.1111/inr.12537>
- Cheng, T., & Zhang, X. (2010). Growing Trend of China's Contribution to the Field of Rheumatology 2000-2009: A Survey of Chinese Rheumatology Research. *The Journal of Rheumatology*, *37*, 2390-2394. <https://doi.org/10.3899/jrheum.100524>
- DLUT, Dalian University of Technology, School of Economics and Management. (2019). China R&D Expense Report (2018). <http://news.dlut.edu.cn/info/1003/54708.htm>
- Ergul, S., Ardahan, M., Temel, A. B., & Yildirim, B. O. (2010). Bibliometric Review of References of Nursing Research Papers during the Decade 1994-2003 in Turkey. *International Nursing Review*, *57*, 49-55. <https://doi.org/10.1111/j.1466-7657.2009.00770.x>
- He, Q., Fu, Y., Su, Y., & Luan, Y. (2020). Understanding Chinese Nursing Education and Practice for Developing International Nursing Partnerships. *Journal of Transcultural Nursing*, *31*, 406-412. <https://doi.org/10.1177/1043659619872798>
- Jiang, H., Nong, B., Yang, L., Zong, S., Zhan, X., Wei, Q., & Xiao, Z. (2016). Assessing the Evolution of Scientific Publications in Orthopedics Journals from Mainland China, Hong Kong, and Taiwan: A 12-Year Survey of the Literature. *Journal of Orthopaedic Surgery and Research*, *11*, Article No. 69. <https://doi.org/10.1186/s13018-016-0404-z>
- Kalisch, B. J., & Liu, Y. (2009). Comparison of Nursing: China and the United States. *Nursing Economic*, *27*, 322-331.
- Li, M., Wei, L., Liu, H., & Tang, L. (2009). Integrative Review of International Nursing Research in Mainland China. *International Nursing Review*, *56*, 28-33. <https://doi.org/10.1111/j.1466-7657.2008.00694.x>
- Li, X. (2014). New Opportunity for the Development of Nursing in China. *Journal of Nursing Scholarship*, *46*, 145-146. <https://doi.org/10.1111/jnu.12074>
- Li, Z., Liao, Z., Wu, F. X., Yang, L. Q., Sun, Y. M., & Yu, W. F. (2010). Scientific Publications in Critical Care Medicine Journals from Chinese Authors: A 10-Year Survey of

- the Literature. *The Journal of Trauma: Injury, Infection, and Critical Care*, 69, E20-23. <https://doi.org/10.1097/TA.0b013e3181c45257>
- NBS, National Bureau of Statistics. (2019). National Data: Health Care Workers. <http://data.stats.gov.cn/easyquery.htm?cn=C01&zb=A0O02&sj=2019>
- Nie, X. F., Ouyang, Y. Q., & Redding, S. R. (2019). Scientific Publication in Obstetrics and Gynecology from Mainland China and Other Top-Ranking Countries: A 10-Year Survey of the Literature. *Journal of Obstetrics and Gynaecology Research*, 45, 695-704. <https://doi.org/10.1111/jog.13849>
- Peng, J., & Hui, Z. Y. (2011). Nursing Research in Three Regions in China: A Bibliometric Study. *International Nursing Review*, 58, 21-25. <https://doi.org/10.1111/j.1466-7657.2010.00873.x>
- Traynor, M. (2011). Bibliometrics as Politics: The Case of Emerging Disciplines. *International Nursing Review*, 58, 26-27. <https://doi.org/10.1111/j.1466-7657.2010.00874.x>
- Xie, G., Zhang, K., Wood, C., Hoefft, A., Liu, J., & Fang, X. (2016). China's Contribution to Anesthesiology Research: A 10-Year Survey of the Literature. *Anesthesia & Analgesia*, 122, 1640-1645. <https://doi.org/10.1213/ANE.0000000000001225>
- Yan, Z., Li, J. A., & McDonald, T. (2014). Nursing Education Development in China (1887-1949): Influences on Contemporary Nursing. *International Nursing Review*, 61, 380-388. <https://doi.org/10.1111/inr.12113>
- Zhang, D., Wang, X., Yuan, X., Yang, L., Xue, Y., & Xie, Q. (2016). Scientific Publications in Nursing Journals from Mainland China, Taiwan, and Hong Kong: A 10-Year Survey of the Literature. *PeerJ*, 4, e1798. <https://doi.org/10.7717/peerj.1798>
- Zhang, L., Ye, X., Sun, Y., Deng, A. M., & Qian, B. H. (2015). Hematology Research Output from Chinese Authors and Other Countries: A 10-Year Survey of the Literature. *Journal of Hematology & Oncology*, 8, Article No. 8. <https://doi.org/10.1186/s13045-014-0103-3>