Editing Practice

EDITORIAL RESEARCH

The improvement path of China's pharmaceutical journals from the publishing practice of international pharmaceutical journals

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ABSTRACT

This study examines English international pharmaceutical journals included in the Journal Citation Reports (JCR) database, summarizes their general situation in terms of quantity, impact factor, publishers, disciplinary research hotspots and trends, and internationalization degree, and analyzes their publishing models, intensification trend, open access (OA) citation rates, quality control and standardization, and internationalization degree to provide references for improving the quality of domestic pharmaceutical journals.

Key words: international pharmaceutical journal, publishing practice, pharmaceutical journals, improvement path

INTRODUCTION

Academic publishing is an important force supporting and promoting China's academic innovation and scientific development. The high-quality development of academic publishing requires scientific and technological journals to maintain high paper, review, and publishing quality levels.[1] Overall, the competitiveness of China's sci-tech journals is relatively strong, and the composite total citation frequency is increasing year by year.[2] However, the international market share of China's English journals is low, and brand journals in various fields are relatively scarce and lack sufficient competitiveness in the international academic community.[3–5] This study aims to provide a path for promoting the high-quality development of China's pharmaceutical journals and enhancing their influence and competitiveness by examining the publishing practices of pharmaceutical journals included in the core collection database of the Journal Citation Reports (JCR) platform.

DATA AND METHODS

General data

This study used journals classified under the "pharmacology and pharmacy" category in the 2023 edition of the JCR as the research data.

Method

Using the "Basic Search" function in the core collection database on the JCR platform, the keyword "pharmacology and pharmacy" was used for searching journals. The search yielded 354 journals.[6] The statistical date was March 19, 2025.

OVERALL SITUATION AND PUBLISHING PROGRESS OF INTERNATIONAL PHARMACEUTICAL JOURNALS

Overall situation

Impact factor (IF) situation

The IF distribution of the pharmaceutical journals

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included in the JCR database shows a large disparity. The highest IF is that of *Nature Reviews Drug Discovery*, reaching 122.8; the lowest is 0.1, shared by three journals: *Biuletyn Wydzialu Farmaceutycznego Warszawskiego Uniwersytetu Medycznego*, *BioPharm International*, and *Actualites Pharmaceutiques*. There are 11 other pharmaceutical journals with an IF exceeding 10, accounting for 3.38% of the total, such as *Pharmacological Reviews* (IF of 19.3), *Drug Resistance Updates* (IF of 15.8), *Advanced Drug Delvery Reviews* (IF of 15.2), and *Acta Pharmaceutica Sinica B* (*APSB*; IF of 14.8), but none exceeds 20. The median IF of pharmaceutical journals is 2.6, indicating that most pharmaceutical journals are in a low-IF state (Table 1).

Table 1: Statistics on IF values of international pharmaceutical journals (2023 JIF) (*n* = 354)

IF value range	Number of journals	Percentage (%)
⩽ 1.0	54	15.26
1.1-1.9	70	19.77
2.0-2.9	84	23.73
3.0-9.9	134	37.85
10.0-19.9	11	3.11
⩾ 20.0	1	0.28

IF, Impact Factor; JIF, Journal Impact Factor.

Disciplinary distribution

There are numerous international pharmaceutical journals, and their disciplinary distribution covers various fields of pharmacy, including clinical pharmacy, medicinal chemistry, drug discovery, drug metabolism, pharmacology, and pharmaceutics. From basic research to clinical application and from drug development to pharmacoeconomics, researchers in different fields can find suitable journals for publishing their results.

Research hotspots and disciplinary trends

On the basis of the articles published in journals, the current trends in international pharmaceutical research include the following: drug research, development, and innovation, including the discovery of new drugs, research on drug targets, and drug delivery systems; drug metabolism and pharmacokinetics, studying the metabolic processes and pharmacokinetic characteristics of drugs in the body; clinical pharmacy and drug therapy, focusing on the clinical application of drugs, drug efficacy evaluation, drug safety, *etc.*; and pharmacoeconomics, evaluating the economic value and cost-effectiveness of drugs.

With the interdisciplinary integration of pharmacy with biology, chemistry, medicine, and other disciplines, some journals have also begun to focus on interdisciplinary research content. For example, the *International Journal of Pharmaceutics* not only focuses on traditional research in the field of pharmacy but also involves emerging research directions such as pharmaceutical nanotechnology and personalized medicine.

Publishing progress

Publisher intensification

These journals are concentrated under different publishers. The top 10 companies publish as many as 220 journals, accounting for 62.14% of the total. There are 23 publishing groups with more than 1 but less than 10 journals, a total of 82 journals, accounting for 23.16% of the total. Publishers with more than one journal account for 78.53% of the total number of journals, indicating a very obvious trend of publisher intensification (Table 2).

Table 2: Top ten publishers by number of journals

Publisher	Number of journals	Percentage (%)
Elsevier Group	48	13.55
Taylor and Francis Group	36	10.16
Springer Group	34	9.60
Wiley Group	32	9.03
Bentham Science Publishing Group	18	5.08
Sage Publications Inc. Group	17	4.80
Adis International Ltd.	11	3.10
Lippincott Williams & Wilkins	9	2.50
Wolters Kluwer Medknow Publications	8	2.30
Pergamon-Elsevier Science Ltd.	7	2.00
Total	220	62.12

Publishing models

Currently, the publishing models of pharmaceutical journals are divided into two types: one is the traditional subscription/pay-to-access model, where readers need to subscribe or purchase individual articles to access the content; the other is the open access (OA) model, where authors pay a certain fee, and the article becomes freely available for readers to read and download.

In recent years, the number of OA journals in the field of pharmacy has gradually increased, and an increasing number of pharmaceutical journals are adopting the OA model. This model allows research results to be disseminated more widely and promotes academic exchange in the global pharmaceutical field. OA journals with relatively high influence include *International Journal of Pharmaceutical Sciences*, *Frontiers in Pharmacology*, and *International Journal of Pharmacology and Pharmaceutical Research*. However, there are also some problems with OA publishing.[7] The article processing charge (APC) associated with the OA model may pose obstacles for researchers from underdeveloped regions. The APC of gold OA journals is typically between $500 and $5000,

and for top journals, it can even reach as high as $13,000.[8] For research institutions or individuals with limited funds, this may directly prevent them from choosing OA publication.

Many journals have also improved publishing efficiency through digital platforms, shortening the time from submission to publication. For example, the *International Journal of Pharmaceutics* has an average time from submission to acceptance of 96 days, and publication occurs within 3 days after acceptance.[9] Some journals have also launched Online First services, further accelerating the dissemination speed of research results.

Citable OA data

Citable OA data are a key tool for measuring the progress of open science, optimizing the scientific research ecology, and predicting academic trends. Their role covers multiple dimensions such as evaluation, dissemination, technology integration, and quality control. These data reach 39.00% in the Science Citation Index Expanded (SCIE) field and 43.33% in Emerging Sources Citations Index (ESCI) journals.[3] JCR journals introduce these data to assist in evaluating journal contributions to open science. The high proportion of highly cited papers in OA journals indicates that OA can accelerate knowledge dissemination and enhance the influence of papers.

The highest citable OA among international pharmaceutical journals is 100% (Table 3), with 16 journals reaching this value, accounting for 4.50% of the total. The lowest is 0, with 22 journals, accounting for 6.20% of the total. Journals with a citable OA value above 70.00% account for 26.52% of the total, more than one quarter. These data reflect the inclination of international pharmaceutical journals toward open science and provide a basis for the academic community to predict the future development direction of journals.

Table 3: Statistics on citable OA data of international pharmaceutical journals (*n* = 354)

Value range	Number of journals	Percentage (%)
0	22	6.21
0.1-20.0	144	40.68
20.1-50.0	79	22.32
50.1-70.0	15	4.24
70.1-90.0	14	3.95
90.1-99.9	64	18.08
100	16	4.52

OA, open access.

Increasing number of special issues and thematic issues

To focus on research progress in specific fields, attract the attention of scholars in these fields, and accelerate the dissemination and citation of research results, many pharmaceutical journals regularly launch thematic issues or special issues. The *International Journal of Pharmaceutics* has recently released calls for papers for special issues on "Artificial Intelligence in Drug Delivery" and "Accelerating Sustainable Drug Development through Digital Design". Through special issues, journals demonstrate their ability to respond quickly to cutting-edge issues and attract high-quality manuscripts, thereby enhancing their IF and disciplinary ranking. The citation rates of high-quality special issues may be significantly higher than those of regular issues.[9] Some special issues explicitly require "priority processing of manuscripts before the deadline", which can significantly shorten the review cycle.

The review standards followed by special issues are the same as those of regular journals, with double-checking by guest editors and journal editors to ensure thematic relevance and academic quality. Special issues included in ESCI need to pass screening based on high OA rates (43.33%) and citation rates. Guest editors promote cross-institutional and cross-regional cooperation through targeted invitations or open calls for papers, establishing scholar networks, which helps in forming stable academic communities.

Quality control and standardization measures

To ensure article quality, most journals have established strict submission and writing guidelines. The journals' "Instructions for Authors" are clear, providing detailed regulations on aspects including heading levels, figure and table labeling, and reference formats. Experiments require reproducibility, necessitating detailed descriptions of experimental procedures, material sources, and data processing methods to ensure that other researchers can replicate the results. They encourage the deposition of raw data in public databases (such as Figshare and Dryad) and annotate the access link in the paper.[10,11] Most journals require the overall text similarity rate to be below 20%, and the similarity rate for any single section not to exceed 5%. Journals in Q1 may require below 15%.

Furthermore, most international pharmaceutical journals invite authoritative scholars in the field to serve as editorial board members who are responsible for the final review of the manuscripts, planning of special issues, and guiding the academic direction. They hold regular editorial board meetings to evaluate journal influence indicators (such as CiteScore and JCR quartile) and adjust submission strategies. They also implement a strict peer review system, where reviewers provide professional opinions on research methods, data reliability, and the logic of conclusions to ensure the scientificity and innovation of the articles.

Internationalization degree

International pharmaceutical journals have a high degree of internationalization. Not only are the authors from all over the world, but the editorial boards are also composed of internationally renowned experts. This enables the journals to publish research results with a global perspective and promotes international academic exchange. Some journals also enhance their international influence by cooperating with internationally renowned publishers. For example, the *International Journal of Pharmacy Practice* is published in cooperation with Oxford University Press. This cooperation model helps in attracting excellent manuscripts from around the world and promotes international academic exchange.

THOUGHTS ON THE IMPROVEMENT PATH FOR CHINA'S PHARMACEUTICAL JOURNALS

The current situation of English pharmaceutical journal publication in China

Number of journals

Currently, China hosts approximately 20 English journals in the field of pharmacy. In 2023, the total number of published articles was only 1713, accounting for 7.4% of the total number of global pharmacy articles published by Chinese authors in the same year (23,251 articles). The average number of articles published per journal was approximately 86, which is far lower than the scale of internationally renowned journals.[12] The number of journals and the number of published articles are far from meeting the publication needs of domestic researchers.

Database inclusion status of journals

Eleven journals were included in SCI; 16, in Scopus; and 7, in PubMed,[13] but some were not included in mainstream databases. There is a large gap in IFs. Leading journals such as *APSB* have ranked among the top in the world, but the IFs of most journals are relatively low. For example, the IF of *Journal of Chinese Pharmaceutical Sciences* is only 0.638.

Internationalization level of journals

The average proportion of international editorial board members in Chinese Journal of Pharmacy (English Edition) is 43.0%, and the proportion of papers from international sources is only 27.0%,[12] which is far lower than that of internationally renowned journals, indicating insufficient internationalization. Some journals, such as *Chinese Medical Journal*, are in English but have a long review period (approximately 6 months) and mainly rely on domestic manuscript sources.

Policy support for journals

The China Science and Technology Journal Excellence Action Plan explicitly supports English science and technology journals. Four English pharmacy journals were selected in the first phase, and six English pharmacy journals were selected in the second phase.[14] The Chinese Pharmaceutical Association has established a journal evaluation system, and the China Association of Chinese Medicine has provided support through cluster pilot projects.

Analysis of the journal's advantages

Among the English pharmacy journals in China, those that have grown rapidly include *Asian Journal of Pharmaceutical Sciences* (*AJPS*), *APSB*, *Drug Resistance Updates*, and *Journal of Pharmaceutical Analysis*. All four journals are research oriented, but they have their own advantages. *AJPS* focuses on the frontier fields of pharmaceutics, such as hot directions like nanomedicine delivery systems. Relying on the resources of the Asian Federation for Pharmaceutical Sciences (AFPS), this journal has formed an international cooperation network. It is globally distributed through the ScienceDirect platform, with an annual download volume exceeding 1.9 million times. *APSB* publishes papers covering pharmacology, medicinal chemistry, natural products, and other fields. attracts high-impact papers by organizing special issues around discipline hotspots and expands dissemination through databases such as Scopus and PubMed. International editorial board members account for 43%. It is worth mentioning that the journal also adopts an APC exemption policy to promote submissions from scholars in developing countries and expand the diversity of manuscript sources. *Drug Resistance Updates* focuses on drug resistance research, caters to the public health needs caused by global antibiotic abuse, takes advantage of the fast review process (with an average review cycle of 2 months), attracts clinical research with strong timeliness, and collaborates with institutions such as the World Health Organization (WHO) to promote the sharing of drug resistance monitoring data, thereby enhancing the authority of the journal.

Thoughts on the path to improving pharmaceutical journals in China

Intensified/clustered journal publishing

Outstanding domestic sci-tech journals have long adopted the model of intensified/clustered journal publishing, and there have been many successful cluster publishing practices. For example, the Shanghai University Periodicals Press centrally operates 17 journals, and Beijing Forestry University established a Journal Center to coordinate the resources of 6 academic journals.[15–19] These models mostly achieve intensive collaboration in editing, publishing, and operations by integrating scattered publishing resources, breaking the traditional fragmented journal-running paradigm, and markedly boosting efficiency. Currently,

one representative model in China is the intensification model of the Chinese Laser Press.[16] By subdividing departments (English Editorial Department, Publishing Department, New Media Department, *etc.*), clearly defining responsibilities, and establishing cross-department communication mechanisms, resources are integrated to enhance publishing efficiency. Another is the clustering model of the Shanghai University Periodicals Press,[17] which integrates 17 journals and uses brand journals to solidify the foundation of cluster construction, ensuring the efficient operation of each journal and forming cluster advantages.

Precisely because of these advantages, Phase II of China's Excellence Action Plan for Science and Technology Journals (2024-2028)[20] will selectively support a wider range of large-scale publishing organizations as pilots for cluster-based (group) operation, driving quality improvement and expansion of journal portfolios. Pharmaceutical journals should seize the opportunity, make full use of policy benefits and disciplinary advantages, choose models suitable for their actual situation, and expand and strengthen the academic publishing platform of the pharmaceutical discipline, striving for space for China to master the initiative in academic publishing and the power of discourse in academic evaluation in the field of pharmacy.

Improving publishing quality and efficiency

First, it is necessary to enhance academic leadership capability. Pharmaceutical journals should focus on the construction tasks of an innovative country and a sci-tech powerhouse,[20–22] concentrate on major national strategic needs in the pharmaceutical field, serve the main battlefield of pharmaceutical industry development, adhere to a problem-oriented approach, focus on cutting-edge areas such as biosimilars and targeted drugs, do good at discovering, encouraging, and leading innovation, and persistently track major academic issues.

Second, it is necessary to enhance editorial planning capability. Learning from international pharmaceutical journals, they can create key columns and organize thematic issues around major themes, guiding scholars to discuss the "meta-questions" of the pharmaceutical discipline through column settings and refining the disciplinary core.[23,24] Simultaneously, they should promote interdisciplinary research and expand disciplinary boundaries.

Third, it is necessary to enhance publishing service capability. They can learn from the advantages of the processes of foreign journals, focus on process optimization, apply manuscript management systems (such as online proofreading tools and automated typesetting systems), achieve full-process digital tracking, shorten the publishing cycle, and improve the timeliness of submission, review, and publishing. In addition, they can give full play to the roles of guest editors and journal editors, providing authors with high-level professional review comments and establishing fast-track review and publication channels for high-quality papers with significant innovative viewpoints. They can maintain close contact and interaction with scholars and academic organizations, fully leveraging the role of academic journals as a bridge in academic exchange and expanding the coverage of authors.

Strengthening international cooperation

Journal management strategies can be aligned with internationalization objectives. Journals can build an international talent network, attract top international scholars to join the editorial board or review team, establish international academic teams and academic collaboration networks, and promote transnational academic exchange and cooperation. In addition, they can encourage and attract international authors to submit manuscripts to them, enhancing the journals' international perspective and diversity. They can adopt the expert-run journal model, transition scientific editors toward the role of "journal publisher", fully leverage the hub role of international academic activities, and through cooperation, plan conference special issues or selected collections and promote cooperation between the journal and international academic conferences, international academic organizations, or other international journals. Furthermore, they can participate in or host international academic conferences, join international academic organizations, cooperate in publishing special issues,[25,26] deeply participate in international academic exchange projects, and enhance the journals' internationalization degree, visibility, and influence.

Publishing and dissemination models can be oriented toward internationalization. According to the journal's own characteristics, they can gradually adopt the OA publishing model, break down dissemination barriers, allow journal content to be more easily accessed and read by international readers, and promote international academic exchange. They can utilize digital platforms and social media to promote the journal and its content, attracting international readers and authors.[27–30] In addition, they can increase opportunities for international participation and exchange through webinars, online conferences, and other forms, enhancing their own academic quality and influence. They can build a multilingual dissemination system, providing English and other multilingual versions, supplemented by social media promotion, to expand the coverage of international readers.

Although a few Chinese pharmaceutical journals written in English have broken through and have gained some

influence in the international academic and publishing communities, the achievements are not commensurate with China's large volume of academic journals. Through the analysis of the current situation and publishing practices of international pharmaceutical journals, this paper provides suggestions and ideas for improving the quality and academic influence of domestic pharmaceutical journals, hoping that more pharmaceutical journals can step onto the international academic stage and send a stronger "Chinese voice" internationally.

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