

Have Online International Medical Journals Made Local Journals Obsolete?

David Ofori-Adjei, Gerd Antes, Prathap Tharyan, Elizabeth Slade, Pritpal S. Tamber

Background to the debate: All of the major international medical journals are now available both in print and online. Being online increases the potential for these journals to have a more global distribution. With the rise of these online international journals, what functions do local journals serve?

David Ofori-Adjei's Viewpoint: African Journals Can Advance Health Sciences and National Development

Only a few journals in the developing world have a long history of survival. Many are struggling to remain afloat, plagued with a lack of funding, irregular publication schedules, weak peer-review mechanisms that lack credibility, and poor local and international visibility. The factors leading to this situation are well known and are influenced largely by the lack of importance placed on journals by decision makers in government and academia, and the lack of opportunities for career development and academic progression in developing countries. Most journals are driven by the academic community. Journals in developing countries, particularly in Africa, are often published by professional associations and academic institutions. Most of these non-privately owned journals face staffing problems, have volunteer editors, and suffer from limited distribution. Many of these journals are not in the major indexing services and have poor visibility on the Internet.

The time has come to recognize local journals as a resource for health.

For researchers in the developing world, there is a strong pull toward publishing their research in well-established journals of developed countries. But the result is that this research becomes inaccessible to researchers, clinicians, and health policy makers in developing countries, given their limited access to the Internet and the high cost of subscriptions to the established journals of the developed world.

This problem is compounded by the fact that many policy makers are not aware of what is published in local journals, and so the findings of research published locally are not put to their full use. Research published in local journals is also not readily visible to the rest of the international scientific community. A recent report by the Academy of Science of

South Africa, for example, showed that in the past 14 years, one-third of South African journals had not had a single paper quoted in their international counterparts [1].

In the face of these problems, it is legitimate to ask whether journals in the developing world meet the roles for which they were established. Journals are expected to provide a medium for scholarly discourse, sharing of information, and dissemination of knowledge and practices. The basis of these interactions is scientific research, the results of which must contribute to the generation of knowledge and the translation of knowledge into policy and practice. In this regard, research should be seen as a public health good. In the African developing world, very few journals can be said to provide these roles.

There have been efforts in recent times to improve the scientific quality of African medical journals and their international visibility through listings on databases such as Medline and through creating Web sites for these journals. The Special Programme for Research and Training in Tropical Diseases, a joint program of the United Nations Children's Fund, the United Nations Development Programme, the World Bank, and the World Health Organization, took the first steps in this direction by initiating the Forum for African Medical Editors [2].

Another initiative, the African Journals Partnership, sponsored by the National Institute of Environmental Health Sciences, the National Library of Medicine, and the Fogarty

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Abbreviations: IF, impact factor

David Ofori-Adjei is Editor-in-Chief of the *Ghana Medical Journal*, Accra, Ghana. E-mail: Director@noguchi.mimcom.net. Gerd Antes is a researcher and methodologist in clinical research at the Medical Faculty of Freiburg University, Freiburg, Germany, and Director of the German Cochrane Centre, Institute of Medical Biometry and Medical Informatics, University Hospital Freiburg, Freiburg, Germany. E-mail: antes@cochrane.de. Prathap Tharyan is Professor and Head of the Department of Psychiatry, Christian Medical College, Vellore, Tamil Nadu, India, and Coordinator of the South Asian Cochrane Network, Professor Bhooshanam V. Moses Centre for Clinical Trials and Evidence Based Medicine, Christian Medical College, Vellore, Tamil Nadu, India. E-mail: prathap@cmcvellore.ac.in. Elizabeth Slade is Senior Editor of Scienconow, London, United Kingdom. E-mail: elizabeth@biomedcentral.com. Pritpal S. Tamber is Managing Director of Faculty of 1000 Medicine, London, United Kingdom. E-mail: Pritpal.S.Tamber@f1000medicine.com

The PLoS Medicine Debate discusses important but controversial issues in clinical practice, public health policy, or health in general.

International Center and implemented by the Council of Science Editors, has established partnerships between four African medical journals and five established journals in the developed world. The partnership seeks to support the African journals and to promote their objectives [3]. Other organizations such as the International Network for the Availability of Scientific Publications are working with partners in Asia, Africa, and Latin America to strengthen local research publications. Through these initiatives some local journals have acquired technical, editorial, and infrastructural support (computers and Internet access) to move forward. Every effort should be made to assist many more developing-world journals.

Local African journals have a role to play in advancing health sciences and contributing to national development. The editors should have “author-friendly” policies while respecting the tenets of the peer-review process. By maintaining high editorial standards, local journals can help set national standards for publishing and research. Editors should be able to assist authors of poorly written manuscripts of good science and ensure a peer-review mechanism that can improve the quality of published research.

The sustainability of many of these journals depends on good management policies. Governments, universities, and professional associations should value the importance of local journals and invest in their sustainability. Journals should also be assisted in creating open-access versions of their articles.

The time has come to recognize local journals as a resource for health and a means to information and knowledge sharing. Local journals should work closely with authors and the media to convert their scientific content into press releases and policy briefs that can be easily understood by policy makers and the general public. This way, journals can add value to their publications and address an important gap in the utilization of research findings.

Gerd Antes' Viewpoint: Relevant Research Is Now Rarely Seen in German Journals

German medical journals have lost the status that they had during the beginning of the last century. The main and most obvious reason is historical: Germany's almost complete withdrawal from the international science process during Nazi rule and the Second World War and some time thereafter. While Germany has recovered from that time as an economic power, its medical science, including its scientific medical journals, has not recovered to the same extent.

In addition, there are two other dominant factors that are hindering the development of German biomedical journals. The first is the growing influence of impact factors (IFs) as a financial incentive and a steering mechanism in research policy. The second is the decreasing role of non-English languages in the global science and communication process.

In many countries, including Germany, a substantially increasing proportion of financial support for biomedical research has been shifted from fixed budgets to performance-related budgets, a shift driven by science policy makers such as the German Science Council. Journal IFs, which are assigned by the company Thomson Scientific (formerly known as Thomson ISI), have been established as a dominant parameter in allocating resources to medical faculties and

research institutions. In other words, research funding is increasingly dependent on publishing in journals with high IFs. But while there are several English-language specialist and general medical journals with high IFs (several above 10), the highest-ranked purely German-language science journal, as ranked by Thomson Scientific, has an IF of only 1.9, and almost all German biomedical journals have an IF far below 1.

The enormous economic pressure to publish in journals with high IFs has led to increased efforts by German-speaking researchers to publish in English. The result is that high-quality original research articles are rarely seen any more in Germany. While this trend for German-speaking researchers to publish in English-language journals is mostly seen as having a positive influence on the research enterprise because global scientific communication in English is accepted and fosters healthy scientific competition, nevertheless the trend also has some unfortunate consequences.

For example, the trend to publish in English-language journals has a serious impact on health care because most German physicians and other health-care professionals are still not able or willing to read English in their daily routine. And there is a growing division between, on the one hand, the career-driven pressure to publish in high IF—and therefore English-language—journals, and, on the other hand, the need for high-quality and timely information in German about new research results for health care.

Most German health-care professionals are still not able or willing to read English.

All of the several hundred local journals are struggling with this challenge and have chosen different strategies to cope with it. Aside from the 253 local journals listed in Medline (about 100 of which are purely in German), and the 61 local journals that have been assigned an IF, a considerable number of local scientific journals—some of them the top medical specialty journals in Germany—are not listed in Medline, nor have they been assigned an IF. While being assigned an IF is not a major priority for these top journals, since papers in these journals are rarely formally cited by indexed journals, many of them would welcome yet are struggling for recognition by being listed in Medline.

Rejection, or a total lack of response, from the US National Library of Medicine, which is responsible for indexing journals in Medline, is a continuing source of anger for these local journals and is often interpreted as arrogance and cultural ignorance of the non-English-speaking part of the world. A few journals came to the conclusion that the only solution would be to switch completely to English. Examples of such journals are *German Medical Science* (<http://www.egms.de>) and *Swiss Medical Weekly* (<http://www.smw.ch>). The success of this move seems to be variable, with some potential benefits and obvious shortcomings. The switch to English may help to keep a high-level publication alive, although such publications will be in direct competition with established journals with higher IFs. The loss of large parts of the *local* readership seems to be inevitable.

Most local journals have chosen an alternative route, totally shifting from publishing new research results to secondary

publications, reviews, and editorials, digesting new findings and presenting them to health-care professionals in the context of continuous medical education. This strategy keeps the journals locally relevant, but because they are neither indexed in Medline nor have an IF, and because they are written in German, these journals are essentially “invisible” to most of the world. The biggest challenge with this second strategy is to motivate authors from the research community who have almost no incentive to write review articles—indeed, many researchers consider writing review articles a waste of time in relation to their need to publish research papers in high-IF journals.

Another problem faced by local research journals is their economic viability. Local research journals are crucial for the dissemination of locally relevant research results, but their future remains uncertain in the face of restricted library budgets and decreasing readiness to pay for personal subscriptions.

Where we will be in a few years? It seems inevitable that there will be an ongoing polarization between a few local journals that try to survive in the global market by publishing in English, and the majority that publish in German with a key role in continuous medical education. The latter group is crucial and indispensable for improving the patchy health information available to German health-care professionals, although serious efforts are needed to improve their quality and to maintain their economic and editorial independence. Countries such as Germany must understand that they have the status of a developing country with respect to global communications and that major reforms are needed to remedy this situation. The real solution seems to be to wait for Germany to become a genuinely bilingual society, using English as the global language of science and German as the local language spoken and read by health professionals and patients. Unfortunately, that’s at least one generation away. *Supporting references for Gerd Antes’ viewpoint are mostly in German, and are available from the author.*

Prathap Tharyan’s Viewpoint: Locally Relevant Research Is Still Crucial

There are more than 250 journals published in India devoted to medical sciences, diseases, health, treatments, and Indian systems of medicine. Most are published in English, though a proportion of those that cover Indian systems of medicine and a few that cover health are in local Indian languages [4]. The IndMED database (<http://indmed.nic.in>) includes prominent peer-reviewed Indian biomedical journals and provides access to more than 100 of these, but only 34 are indexed in Medline [5]. Of the indexed journals, most are available online and many of these belong to the family of open-access journals.

There are historic reasons why most of the health-related Indian journals are English language, largely linked to India’s colonial past and the establishment of centers and systems of higher education that propagated the language of our British rulers. The British influence also set up systems of academic exchange that led to many of our courses being taught in English as well as many teachers being trained in the UK and other English-speaking countries. Consequently, higher professional education in India is still largely grounded in

the English language, an asset for this country in this era of globalization and outsourcing, and a common linguistic platform when it comes to publishing medical journals.

Do we still need such local journals in this electronic age and in the era of open-access publishing and high-quality, international medical journals? While India is at the forefront of the software boom, the reach of the Internet, particularly to small towns where many clinicians practice, is slow, as are connection speeds in areas that do have Internet access; hence purely Internet-based journals still have a limited reach. There are indications, however, that with the growth of the Internet in the future, even in remote areas (see <http://www.ispai.in/intetinindia.htm>), online journals could have a greater audience in India.

Locally relevant research is required to contextualize the evidence on which to base one’s practice.

Many Indian journals are also official publications of associations of medical specialties, sub-specialties, and organizations. Some of these journals provide a mixture of commentary, viewpoints, and debate—discussions that are crucial to the health community in India in its work towards improving health care. Some content is devoted to distilling international guidelines or presenting secondary evidence to readers too busy to peruse the original articles; this is certainly a role that local journals should serve. Yet more content is devoted to local research, with local focus and appeal, which would not find a place in current international journals. Some examples of such local studies are standardizing health rating scales for use in local situations, long-term follow-up of recipients of BCG vaccine from a randomized controlled trial done in India, or a seroprevalence study of hepatitis C virus antibodies in local populations. All of these studies are important from a local point of view but may not interest global audiences.

However, if local journals are to survive, some reform is in order. Firstly, there needs to be an Indian association of medical journal editors that sets binding standards for reporting and publication and that educates, supports, or gently pressures recalcitrant journal editors to conform. A model for such an association is the African Forum for Medical Editors [2,6].

Examples of where such consensus-based action from editors is needed include: requiring authors to submit manuscripts of randomized clinical trials in accordance with the Consolidated Standards of Reporting Trials guidelines [7]; endorsing the International Committee of Medical Journal Editors’ call for prospective trial registration [8]; and supporting the World Health Organization’s position on mandatory disclosure of the 20-item dataset at trial registration [9] as a prerequisite to publication.

More Indian journals need to be indexed and available online to provide more ready access to their content; accessibility could be enhanced if URLs of these journals could be linked in a master list or register of Indian journals, as the IndMED database currently attempts to do. Harnessing the benefits of electronic publishing to the fullest, in ways such as e-mailing table of contents to subscribers, would

enable journals to increase their accessibility. More exposure via online, preferably open, access could also result in an improvement in standards of reporting and publishing as a consequence of feedback from readers.

In the final analysis, local medical journals will survive in India as long as there is a realization that locally relevant research is required, alongside cutting-edge research published in major international journals, to fully contextualize the evidence on which to base one's practice.

Elizabeth Slade and Pritpal S. Tamber's Viewpoint: Major Medical Journals Are Simply Not International

It is easy to assume that increasing access to international journals via the Internet lessens the need for local journals. However, to make that assumption is to over-estimate just how "international" so-called international journals are and underestimate the broader role of local journals.

So-called "international" journals are rarely international in their content, readership, or editorial boards. Most articles published in these journals focus on issues that are of importance to primarily Western audiences [10]. Research from developing countries is under-represented in the main "international" medical journals [11]. There is economic logic to this—most journals need to cover their costs, so it makes sense that they prioritise articles that appeal to readers who are willing and able to pay.

Most international journals are currently failing to embrace the potential of the Internet. Online publication not only frees journals of (print) page constraints but also enables them to publish more articles (for instance, online-only) at a fraction of what it used to cost to publish in print. This enables "international" journals to choose a greater range of topics that would appeal to a broader base of readers (not just those who can afford to pay). However, in our experience, most international journals have, to date, failed to take advantage of the online medium, choosing to keep their articles and issues the same lengths as when print was the only medium.

Embracing an open-access business model could also help journals become more international. If a journal could be funded by submission and/or publication charges, publishers need not concern themselves with choosing content that would appeal to wealthy audiences. Instead, the journal could publish any and all worthy articles, even if they were on topics important only to those who could never afford a subscription fee.

Given that "international" journals are not so international after all, it seems local journals must step in to fill the gap. Local journals provide a home for articles on issues of importance to audiences outside of the West, create a platform for local expertise, and add context to research results generated in the West.

Unfortunately, local journals often face problems of lower standards than would be acceptable in an international journal. These problems include poor research quality, invalid reporting of research, and "inadequate language" [12]. Local journals probably experience these problems for two reasons. Firstly, research into issues of interest to "international", or wealthy, audiences is likely to be better

funded, better described, and hence more likely to be acceptable to "international" journals. Because of this, authors of higher-quality research still prefer publishing in "international" journals given the associated kudos.

Secondly, research into issues of more local interest is likely to be less well funded, preventing the development of a true research culture, which includes being able to describe one's findings effectively. These articles are less likely to be acceptable to "international" journals due to both their quality and topic. This is especially problematic if you accept that clinical skills are transferable and so practitioners in high-income countries can learn from their peers in low- and middle-income countries—research communication needs to be a dialogue, not a North-to-South monologue [13]. Therefore, an invaluable element in the role of local editors is to work with local authors and institutions to help to raise standards of research and reporting.

Making local journals visible to a global audience relies on indexing by services such as PubMed and Thomson Scientific. But journals from low- and lower-middle-income countries are under-represented in indexing services compared with journals from upper-middle- and high-income countries [14]. Accusations of a systematic bias are rife, and, if true, troublesome; however, editors of local journals must lobby indexing services to include their content.

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Visibility via indexing services could also be combined with getting local journals online (if they are not already) so that these journals can be accessed by readers beyond the traditional print subscription base. As with international journals, local journals would benefit from ensuring that as many people as possible could access their articles. With that in mind, subscription fees may limit local journals' reach. Although readers in high-income countries are likely to be able to pay for access, others in low- or middle-income countries are not—once again limiting the flow of information. If local journals were to embrace open-access business models, this could then open the doors for communication between communities with similar needs and economic circumstances. After all, why should communication *between* low-income countries have to go *through* high-income countries?

With so-called international journals failing to be international in any true sense, and also failing to explore the possibilities of the Internet, local journals not only remain essential, but also have more potential than ever to get the attention and respect of a broader, global audience.

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