Scholarly publishing and research dissemination in South Asia: some exemplary initiatives and the way forward
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Abstract
High costs associated with traditional print-based publishing have made open access publishing a popular way to improve research dissemination. Now several options and initiatives are enabling developing-world authors to attain equitable access to the scientific literature. However, little is known about the role of journals and initiatives from low- and middle-income countries in Asia regarding open access and their publication standards. Therefore, this article presents some exemplary initiatives to promote research dissemination in South Asia through open access and publishing standards of the regional journals. Such initiatives deserve wider recognition, especially when undertaken by resource-limited countries, and international collaboration schemes hold the potential to build further on current achievements.

Keywords: Developing countries; Open-access; Scientific Publishing; South Asia.

Introduction
The traditional print-based publishing paradigm remains the most prevalent means of knowledge dissemination; however, due to the high costs associated with this technology, open access (OA) publishing is gaining popularity and is increasingly being adopted in the modern era of information technology. Open access refers to "online and free of charge literature that is free of most copyright and licensing restrictions". Some authors argue that the costs associated with the OA publishing model are meant to support publishing costs (based on the average cost per article), and that OA lowers the economic burden on libraries compared to subscription costs. However, the average cost of OA journals ranges from USD-1500 3000, and at some journals the article processing charge (APC) is as high as USD 5000. Although most OA publishers have a waiver policy for authors from low- and middle-income countries, not all authors can benefit from these policies. In fact, even after waivers are in place, some authors and institutions might not be able to pay the APCs.

In order to circumvent the issue of high APCs, local and regional OA journals may help promote knowledge dissemination. However, the publishing policies and standards of journals from developing countries also need continued debate and development, especially after the appearance of questionable, low-quality, predatory journals. Since local journals play a key role in disseminating knowledge, it is essential for the scientific community to become aware of the existence of reputable OA journals from the developing world and the publishing standards these journals follow but little is known about the contribution of developing countries to the OA publishing industry, or their publishing standards. Specifically speaking, several noticeable steps have been taken recently to promote knowledge dissemination in Asia through subsidized and low-cost OA publishing. Therefore, this paper presents some exemplary initiatives to promote OA publishing in South Asia, and examples of scientific publishing venues promoting high publishing standards. Although this article presents some regional and international examples, the main focus of the paper would be the initiatives and steps taken to promote OA publishing, as a means of improved research dissemination, in South Asia - South Asian Association for Regional Cooperation (SAARC) - countries.

Exemplary journals and initiatives in South Asia
In Asian, journal editors and stakeholders of national and medical schools have set examples to promote education about research integrity and publishing standards. Although most OA publishers have a waiver policy for authors from low- and middle-income countries, not all authors can benefit from these policies. In fact, even after waivers are in place, some authors and institutions might not be able to pay the APCs.

In order to circumvent the issue of high APCs, local and regional OA journals may help promote knowledge dissemination. However, the publishing policies and standards of journals from developing countries also need continued debate and development, especially after the appearance of questionable, low-quality, predatory journals. Since local journals play a key role in disseminating knowledge, it is essential for the scientific community to become aware of the existence of reputable OA journals from the developing world and the publishing standards these journals follow but little is known about the contribution of developing countries to the OA publishing industry, or their publishing standards. Specifically speaking, several noticeable steps have been taken recently to promote knowledge dissemination in Asia through subsidized and low-cost OA publishing. Therefore, this paper presents some exemplary initiatives to promote OA publishing in South Asia, and examples of scientific publishing venues promoting high publishing standards. Although this article presents some regional and international examples, the main focus of the paper would be the initiatives and steps taken to promote OA publishing, as a means of improved research dissemination, in South Asia - South Asian Association for Regional Cooperation (SAARC) - countries.

Pakistan
Unfortunately, from Pakistan have not been successful in producing good quality journals. For instance only 1
pharmaceutical and 3 medical journals out of over 50 health science journals approved by the Pakistan Medical and Dental Council and the Higher Education Commission of Pakistan have been successful to have an impact factor and meet the indexing requirements of PubMed.7 However, some of these journals have contributed to increasing OA publishing and education about publishing standards, without cost or at a very low cost to the authors. The Journal of the Pakistan Medical Association (http://www.jpma.org.pk) is a classic example, which charges a small amount to local authors (between USD 20 and USD 80) and provides its content freely to the readership. The journal also gives undergraduate students a space to publish their work in the “Undergraduate Students’ Corner” at a charge of only USD 10 to USD 30. The Journal of the College of Physicians and Surgeons Pakistan (https://www.jcpsp.pk), an OA journal funded by the College of Physicians and Surgeons Pakistan, is another example and publishes articles free of charge.

It is essential that the journal editors, especially those from developing countries, consider including sections such as Learning Research, Lessons in Biostatistics, and Research Integrity Corner, or topics covering these areas, in order to educate their readership about these issues (for example, the Journal of Korean Medical Science and Biochemia Medica).8 Recently, journals such as the Journal of Pakistan Medical Association and Pakistan Journal of Medical Sciences (https://www.pjms.com.pk/) have been publishing frequently about such topics. Similarly, the Pakistan Journal of Medical Sciences offers a yearly training scholarship for a junior editor, setting an example of collaborative efforts to strengthen national and regional research publishing standards.8 Only one journal published by a university, the Journal of Ayub Medical College Abbottabad Pakistan (http://jmcayubmed.edu.pk/), has been able to set good standards and achieve indexing in PubMed. However, the journal does not publish articles for free. A quick search through the Directory of Open Access Journals (DOAJ) reveals that only 10 journals of Medicine are indexed in it and similar results are for indexing in Scopus.

India
There are several journals from India promoting OA, and with high publishing standards. The most important examples in this context include Current Science and the Indian Journal of Medical Ethics.

Current Science (http://www.currentscience.ac.in/) is a multidisciplinary journal published by the Current Science Association in collaboration with the Indian Academy of Sciences. The Indian Journal of Medical Ethics (https://ijme.in/) is a PubMed-indexed “multidisciplinary academic journal” owned and published by the Forum for Medical Ethics Society (FMES). These journals frequently publish topics about research ethics and integrity and publishing policies and standards. Several journals published by an India-based publisher, MedKnow Publications, either publish papers without charges or at a low cost. This is partly due to the fact that various journals hosted by this publisher are affiliated with an organization or a university, and from the developing world. For example, the Annals of Indian Academy of Neurology (http://www.annalsofian.org/) is an official publication of Indian Academy of Neurology, and does not charge for submission, processing or publication of an article. Similarly, the Journal of Postgraduate Medicine (http://www.jpгонline.com), a multidisciplinary biomedical journal, is supported by the Staff Society of Seth G. S. Medical College and K. E. M. Hospital, Mumbai, India. These journals published by MedKnow Publications have been indexed in databases like PubMed, Scopus, DOAJ, and Web of Science.

Nepal
In Nepal, government organizations and universities have jointly been striving to improve the publishing standards of their journals hosted on the Nepal Journals OnLine (NepJOL) platform as part of the JOL Project, with support from the International Network for the Availability of Scientific Publications (INASP). There are 133 journals listed on NepJOL (https://www.nepjol.info/), with 50 journals on Medicine, Dentistry, and Allied Health.10 Most of these journals do not charge for publication or have a low publication costs (USD 100, for example).

The only impact factor journal, the Journal of Nepal Medical Association (http://jnma.com.np/), is published and supported by the Nepal Medical Association, Madhur-Ramesh JNMA Trust, Anjani-Mukti-Kedar Trust, and Ministry of Health, Government of Nepal. Another example, the Journal of Nepal Health Research Council (http://www.jnhrccom.np), is supported by the Nepal...
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Health Research Council. Similarly, the Kathmandu University Medical Journal (http://www.kumj.com.np) is another example, which is published jointly by the medical colleges affiliated with Kathmandu University, Nepal.

**Bangladesh**

In Bangladesh, journals are hosted on the Bangladesh Journals OnLine (BanglAJOL) platform as part of the JOL Project, with support from the INASP. There are 142 journals listed on BanglAJOL (https://www.banglajol.info/), with 74 journals on Medicine, Dentistry, and Allied Health. These journals are supported by government organizations and universities. There are either no costs associated with publishing in these journals or the papers are published at a low cost.


**Sri Lanka**

Like Bangladesh and Nepal, Sri Lankan journals are hosted on the Sri Lanka Journals OnLine (SLJOL) platform as part of the JOL Project, which is managed by National Science Foundation of Sri Lanka, with support from the INASP. There are 81 journals listed on SLJOL (https://www.sljol.info/), with 31 journals on Medicine, Dentistry, and Allied Health. These journals are supported by universities and national organizations. There are either no costs associated with publishing in these journals or the papers are published at a low cost. The Ceylon Medical Journal (https://cmj.sljol.info), the oldest journal of Sri Lanka, is indexed in Web of Science and is published by the Sri Lanka Medical Association. Another Web of Science indexed journal is the Sri Lankan Journal of Anaesthesiology (https://slja.sljol.info), supported by the College of Anaesthesiologists of Sri Lanka.

<table>
<thead>
<tr>
<th>Country</th>
<th>Comment</th>
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<tbody>
<tr>
<td>Pakistan</td>
<td>The Pakistani Medical Journals and Drugs Database (Pakmedinet; <a href="http://www.pakmedinet.com/">http://www.pakmedinet.com/</a>), a non-funded voluntary source operated by a team of individuals, is an example of a country-specific database.</td>
</tr>
<tr>
<td>India</td>
<td>The indMED database (<a href="http://www.indmed.nic.in/">http://www.indmed.nic.in/</a>) and MedIND portal (<a href="http://www.medind.nic.in/">http://www.medind.nic.in/</a>), are part of the National Databases of Indian Medical Journals, operated and supported by the National Informatics Centre (NIC) and Indian Council of Medical Research (ICMR) under the auspices of the Indian Medlars Centre</td>
</tr>
</tbody>
</table>

**Table-1: Country-specific databases in South Asia.**

**Local and regional databases**

Regional or national organizations should consider working collaboratively and effectively to promote research through OA journals, repositories, and databases. A regional database with a somewhat broader scope is Index Medicus for the Eastern Mediterranean Region (IMEMR; http://www.emro.who.int/information-resources/IMERM/imerm.html), supported by the WHO Eastern Mediterranean Regional Office. However, there are some regional databases providing space to country-specific journals in South Asia (Table 1). Moreover, a list of regions and countries with OA initiatives can be found at the Global Open Access Portal (GOAP, http://www.unesco.org/new/en/communication-and-information/portals-and-platforms/goap/).

**Role of regional and international organizations**

On a global scale, international organizations have also taken steps to facilitate open access and research dissemination in developing countries—such as those in South Asia. A few exemplary initiatives in this context include the South-East Asia Journal of Public Health (http://www.who-seajph.org/aboutus.asp), supported and published by the World Health Organization (WHO) Regional Office for South-East Asia, and the Eastern Mediterranean Health Journal (http://www.emro.who.int/emh-journal/eastern-mediterranean-health-journal/about-the-journal.html), supported and published by the WHO Regional Office for the Eastern Mediterranean. Other initiatives include the Hinari Access to Research for Health programme (http://www.who.int/hinari/about/en/), Research4Life (http://www.research4life.org/) and the INASP-supported Programme for the Enhancement of Research Information (http://www.inasp.org.uk/), and initiatives to provide editing assistance...
and training in writing and publishing skills such as the AuthorAID in the Eastern Mediterranean (http://authoraidem.org/).\textsuperscript{10}

**Suggestions and the way forward**

Open access publishing, as a means to improve research dissemination, is on continuous rise in South Asia. However, there is still much room for further improvement in the publishing standards of journals from this region (Table 2). For instance, only 7 out of 185 Web of Science indexed Indian journals are from the upper quartile (i.e. Q1= the journal in the top 25% of its subject category) of the Scimago Journal Rank (SJR) while 1 journal from Bangladesh, and none of the Web of Science indexed journals from Pakistan, Nepal, and Sri Lanka are in the Q1 of the SJR.

Several Asian countries such as India, Iran, China, Korea, and Indonesia are increasingly adopting OA as a means of knowledge dissemination, but national policies on OA are still non-existent.\textsuperscript{11-14} Therefore, governments should consider formulating a cohesive national- or regional-level OA plan. It is noteworthy that the national organizations in a few countries of South Asia, e.g. Indian associations and organizations such as the University Grants Commission India and the Medical Council of India are at the forefront of promoting publishing standards and research dissemination.\textsuperscript{8} On the other hand, the policies of the Pakistan Medical and Dental Council, the Higher Education Commission of Pakistan and the College of Physicians and Surgeons Pakistan have been criticized due to their shortcomings and lack of potential to improve publishing standards.\textsuperscript{7} Similarly, the guidelines of the the University Grants Commission India and Medical Council of India were criticized for the inclusion of a questionable indexing service called Index Copernicus, and overtly excluding legitimate open-access journals from the faculty promotion criteria.\textsuperscript{15,16}

Journals editors from developing countries should ensure that their journals avoid claiming indexation in questionable databases such as Index Copernicus.\textsuperscript{17} However, most of the journals hosted by JOL Project, from Pakistani publishers, and those published by MedKnow Publishers India mention indexing in Index Copernicus. Also, use of scientometrics and indexes that do not have the scientific value such as the ResearchGate Impact Factor (mentioned by the journals in the BanglaJOL Project), should be avoided.\textsuperscript{18} In this context, some recently published papers have discussed challenges to open access publishing to non-mainstream science countries and to global arena, and offered some suggestions.\textsuperscript{13,14}

Journal editors should avoid questionable practices that might blur the line between their journals and the so-called “predatory” journals. Although open-access publishing is a positive step for knowledge dissemination, researchers need to be educated in ways to avoid the downside of it? “predatory publishing”. Thus, authors from developing countries should be wary of them, and journal editors from developing countries should facilitate authors to avoid publishing in such journals.\textsuperscript{6,7,18,19} At the same time, it might be noted that some authors now argue that the term “predatory” overwhelmingly includes low-cost, newly emerging journals, highlighting the need of an alternative terminology.\textsuperscript{20,21} Therefore, the scientific community should consider using a terminology that does not erroneously include low-cost, newly emerging journals from developing countries in the list of “predatory” journals. It may also be noted that increasing the quality of journals in developing countries is likely to be the key to enhancing publishing standards and research dissemination in these regions, rather than increasing the number of journals produced in each country.\textsuperscript{22} Therefore, collaborative efforts by universities, national organizations, and regions may help promote open access publishing and publishing standards in developing countries.

Some authors argue that large indexing databases marginalize journals from developing countries - a situation that makes it crucial to develop and support local databases.\textsuperscript{11} However, these databases should also set high standards for quality and to avoid accusations of providing space to questionable journals and

![Table-2: Open access and indexation of journals from South Asian countries.](https://www.scimagojr.com/journalrank.php)

<table>
<thead>
<tr>
<th>Country</th>
<th>Scopus*</th>
<th>WoS*</th>
<th>DOAJ*</th>
<th>Open access journals</th>
</tr>
</thead>
<tbody>
<tr>
<td>India</td>
<td>492</td>
<td>185</td>
<td>264</td>
<td>166</td>
</tr>
<tr>
<td>Pakistan</td>
<td>102</td>
<td>17</td>
<td>51</td>
<td>24</td>
</tr>
<tr>
<td>Bangladesh</td>
<td>17</td>
<td>6</td>
<td>20</td>
<td>9</td>
</tr>
<tr>
<td>Nepal</td>
<td>6</td>
<td>2</td>
<td>15</td>
<td>3</td>
</tr>
<tr>
<td>Sri Lanka</td>
<td>6</td>
<td>3</td>
<td>13</td>
<td>2</td>
</tr>
</tbody>
</table>

* indexed journals, WoS: Web of Science (Core Collection); DOAJ: Directory of Open Access Journals, Data obtained from the Scimago Journal Rank, (https://www.scimagojr.com/journalrank.php), and the Directory of Open Access Journals (https://doaj.org/). Note that the data are for the journals listed in these databases and not specific to medical and health-related journals.
publishers. Another important issue in this regard, is concerning the research dissemination in developing countries. Unfortunately, lack of indexation in databases (PubMed/Medline, Web of Science, and Scopus etc.), decreases the visibility and likelihood of citations and recognition of the papers published by the journals from developing countries. Thus, journal editors should strive to improve the indexing of their journals as well as national organizations and universities should work to facilitate access of researchers to the subscription-based databases.

A few developed countries of Asia such as China, Korea, and Japan, a classic example of promoting open access and standards in scholarly publishing. The Korean Association of Medical Journal Editors (KAMJE) is at the forefront of efforts to improve the quality and indexing of its member journals. In order to promote the research dissemination and to provide space to the regional journals, the Korean Association of Medical Journal Editors has launched and supported the KoreaMed Synapse database (https://www.synapse.koreamed.org/), a local database. ScienceCentral (a Journal Article Tag Suite (JATS)-based full-text database compatible with PubMed Central; http://www.e-sciencecentral.org/), is operated by the Korean Federation of Science and Technology (KOFST). The KPubS (http://www.kpubs.org) is an OA journal platform initiated by the Korea Institute of Science and Technology Information. Other such examples come from China and Japan in the shape of China Open Access Journals (http://www.oaj.cas.cn) operated by the Chinese Academy of Sciences and J-STAGE (https://www.jstage.jst.go.jp) operated by the Japan Science & Technology Agency, respectively. In fact some Korean editors are serious in training other journal editors to increase the visibility of their journals in databases like Science Citation Index Expanded and Medline. These initiatives are exemplary and a learning experience for the journal editors from South Asia.

Journal editors from developing countries should consider all these factors to promote their publishing standards. Moreover, they should learn from the editorial by Nassi-Calò L suggesting that the Latin American scenario of open access publishing is one of the most favourable worldwide, “the characteristics of its business models - small non-for-profit publishers funded by educational and research institutions and funding agencies not only ensure the region’s very low index of predatory journals, but also enable countries in the region to adopt the fastest growing form of publication in the world”, and that such initiatives are reproducible in other regions of the world.

Conclusions

This article is an attempt to summarize the status of support for research promotion initiatives to increase knowledge dissemination through OA and exemplary publishing standards used by the journals in South Asia. Such initiatives deserve wider recognition, especially when undertaken by resource-limited countries, and international collaboration schemes hold the potential to build further on current achievements.

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