

Open Access journals and research from low and middle income countries

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There are many barriers to research in the resource poor areas of low and middle income countries (LMIC). Two of which are the cost of publishing the results in peer-reviewed journals and ensuring that their work is accessible to the communities and scientists in these regions. The emergence of the internet, and the development of open access publishing has improved the situation, but significant barriers persist.

Access to improved communication through mobile technology, in particular to the internet has made a significant impact to the transfer of knowledge in LMIC. No longer are health care workers and scientists restricted to the outdated textbooks found in many institutional libraries, or the limited journals that the libraries can afford. Access to the internet has provided a conduit to research, guidelines and contentious discussions of health care matters. Although internet access has improved dramatically in many LMIC in the last decade, it still remains relatively expensive and sometimes erratic.

There are significant barriers to open access in LMIC. Most journals charge fees for the publication to be made open access. These charges can be considerable (up to 5000 US dollars), prohibitive for researchers in LMIC, where their institutions cannot or will not pay for the publication. The fees can be much more than the annual subscriptions to the journals despite the reduction in cost publishing online. The charges often amount to more than a researcher's monthly salary. In some cases, the fees are waived for researchers from LMIC, but this is often restricted to those from the poorest nations, but not from the other fifty-eight LMIC¹. Often there is an imposed delay in the open access, reducing the immediacy of the research.

Clearly, publishers need to remain financially viable in order to offer the platform for scientific publishing. And publishers do provide a system of independent verification of the science and enhanced content². So what are the solutions? Journals and publishers depend upon the people who submit papers to review other peoples authors for free. Some journals offer payments in kind e.g. free access to journals or citation databases in recompense. Other suggestions include acknowledging the reviewer's institution in some way, thus providing people incentives to review papers¹. Such credit could be used to defray the cost of Open Access publishing. Some organisations e.g. Wellcome Trust have started Wellcome Open Research (<https://wellcomeopenresearch.org/>), which allows Wellcome Trust funded researchers to publish research for free within days of submission, subjected to open invited peer review. However this journal is restricted to Wellcome Trust researchers, although the model could be adopted by other charitable and philanthropic organisations. The World Health Organization provides a portal of access to over 16,000 journals for LMIC institutions for free or low cost (<https://www.who.int/hinari/en/>), although access is often restricted to papers 6 months after they are published. The cost of online publishing can be low. For example at the Journal of the International Child Neurology Association (<https://jicna.org/index.php/journal/index>), we estimate the cost to be about 200 US dollars

per paper for copy editing, lay out and registration with various web sites e.g. CrossRef, but this does not include the time for the web master or editorial staff.

Open access publishing of scientific research could have a significant impact on science, development and health in LMIC, but it does need support. Established publishing companies could do more to make papers accessible to researchers in LMIC, particularly those papers that relevant to these areas and improving the immediacy of the research. Funders and philanthropic organisations should support open access of the work that they fund. Authors should be encouraged to publish in Open Access Journals, or at least ensure that other researchers and communities have access to their findings for the benefit of communities in these areas.

1 Wingfield B, Millar R. The open access research model is hurting academics in poorer countries. *Quartz Africa*; 2019. <https://qz.com/africa/1593271/open-access-research-publishing-hurts-academics-in-poor-countries/>

2 Haug CJ. No Free Lunch — What Price Plan S for Scientific Publishing? *New England Journal of Medicine* 2019; **380**: 1181-5.