

Cost of journals vs quality

The editorial on 'Science journals: Issues of access' by Balaram¹ brought out two important points, based on a critical analysis regarding the access of journals. While the high cost of science journals, especially the foreign ones, creates problems for the libraries to subscribe within the limited budget allocations, with regard to the scientists, the 'pay for publishing' model in high-impact journals is disadvantageous. Neither the research student with meagre fellowship nor the scientist with moderate income can afford to pay for publishing his quality research paper in a high-profile journal. Most of the institutions in India do not have budget provision to meet the expenditure to get a research paper of a scientist published in foreign journals. If five scientists want to publish their quality papers, the institution will find it difficult to make the payment as reallocation is not allowed. The Director cannot afford to discriminate scientists for sanctioning of any paper for the 'pay for publishing' model. Even if there is provision made in the research contingencies in externally aided projects like DBT, CSIR, etc., for publishing papers on payment, there will be objections from the finance and audit department, preventing the sanctioning authority to take any positive decision. This situation is not uncommon in many institutions and universities. Thus, even the scientists doing quality research work are forced to submit papers to medium to low standard journals. This may be unfair, but unavoidable and demoralizing to the scientists. Publication cost, therefore, plays an important role and Indian journals (most of which are of low standard)

should strive hard to reach the high profile category to help the scientific community. How do we go about this? If most of the prestigious institutions and distinguished professors patronize only foreign journals for publishing their papers, Indian journals would never improve. Therefore, a change in the mindset to upgrade the Indian journals with certain percentage of quality papers is the best solution for the overall growth of scientific research in India.

The second important point mentioned in the editorial is on the steps to prune the subscription for journals in the library of the Indian Institute of Science (IISc), Bangalore. The criteria adopted to discontinue subscription were not only simple but most practical. The list included those journals in which the faculty of IISc did not publish any paper for a few years and secondly, those which failed to cite any paper published by the institute. According to Balaram, this meaningful exercise resulted in saving of rupees one crore. Almost a similar approach was adopted by the author in 2002–03 as the Director of the CPCRI, Kasaragod, where the costly journals like *Planta*, *Nature* and *Physiologia Plantarum* were being subscribed by both the headquarters and the regional station in Vittal, just 50 km away. The library committee recommended to discontinue duplication and instead proposed a set of other journals required by the regional station. This helped to reallocate the budget without jeopardizing the interest of the scientists.

Another novel step was that the Directors of CPCRI, Kasaragod; Indian Institute of Spices Research, Kozhikode, and

National Research Center for Cashew, Puttur, took a wise decision to list the journals which are common in all the Institutes and those which can be shared among them. As plantation crop institutes, there were common journals in genetics, plant breeding, entomology, pathology, etc., which could be shared. CPCRI and NRCC, within 70 km subscribed to only one of the costly journals like *Science*, *Nature*, etc. This exercise not only helped each institute to save a few lakhs of rupees, but also enhanced the exchange of contents of required journals by the scientists. This network was appreciated by the ICAR and is being continued by the three institutes successfully. This model may facilitate institutes with common interest and vicinity in cities like Delhi, Mumbai, Kolkata, Chennai, Bangalore and Hyderabad. Thus, the highly prohibitive cost of the foreign journals may be shared among institutes like IISc, ISRO and National Institute of Astrophysics in Bangalore. Likewise, the ICAR institutions in Hyderabad, i.e. CRIDA, NRCS, DRR, DOR and NAARM, can adopt the model to save on library subscription to the tune of crores of rupees. Thus, there is scope for overall improvement of access to journals, if the institutes bestow more attention in revitalizing their libraries.

1. Balaram, P., *Curr. Sci.*, 2008, **94**, 837–838.

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Lack of health research in India: Need to produce physician-scientists

Recently, India overtook China in becoming the biggest hub for clinical trials. India is also the largest destination for medical tourism in the world. While these encouraging events are taking place, there is a near absence of clinicians participating in health research in India. As a result, India does not figure in the

process of the wealth of knowledge that is being generated in health science in the global scenario.

Physician-scientists are vital to the advancement of medical knowledge as they bring to medical research the unique perspective of asking scientific questions inspired by their experience of caring for

patients. Therefore, there is an urgent need from the chronically indifferent national elites in the field of academic medicine to swing into action in spearheading a concerted, long-term effort to identify, develop and implement substantive but practical solutions that will ensure the growth of physician-scientists in both

universities and educational institutions. By definition, a physician-scientist is someone who in addition to running his/her clinic runs an extramurally funded research programme, where Ph D students and clinical and postdoctoral fellows are trained. By this criterion, accomplishments of the medical universities and institutions in India are dismal.

Physician-scientists in those countries placed in high esteem for their research contributions pursue just two aspects: translational research and research on rare diseases. None of these issues figures in the agenda of the universities and medical institutes in India.

Bench-to-bedside approach to translational research is a two-way street. Basic scientists provide clinicians with new tools for use in patients and for assessment of their impact, and clinical researchers make novel observations about the nature and progression of diseases that often stimulate basic investigations. Translational research, of late, has proven to be the most powerful process that drives the clinical research engine. At least the medical institutes should have strong research infrastructure to initiate this critical part of the clinical research

enterprise. However, lacking are the attempts to catalyse translational research by initiating M D/Ph D programmes (to run concurrently) and recruiting entry-level faculties who are true physician-scientists, judged by the track record of independence in research, evident from the ability of the candidates to secure extramural funding while running their clinical programmes.

The study of rare diseases always produces path-breaking discoveries and makes paradigm shift in the field of biomedical research. In 2006, the National Institutes of Health, US launched the Rare Diseases Clinical Research Network to study about 6000 rare diseases in that country, with a population of 300 million. One can only imagine, albeit with frustration, that in India having a population of 1.1 billion, how many rare diseases are staring at our faces to be discovered. Unfortunately, the elites of academic medicine in India do not even take note of this gold mine.

Overall, there is a need for change in culture in India when it comes to the practice of academic medicine. Indian clinicians need to recognize that the leaders in medicine are not renowned

medical practitioners because of their robust practice, but are those who perform scholarly research impacting the practice of medicine.

To conclude, let us take the case of Harrison's *Principles of Internal Medicine*. It is a must-read book for postgraduate students of internal medicine. How many students have noticed that the six editors in the latest 16th edition have a staggering average publication of 550 research articles in renowned journals, while they run successful clinics? We may forgive the students for missing this point, but the mentors cannot be forgiven for not encouraging the students to become physician-scientists. The failure comes from the handicap of the mentors themselves for not being physician-scientists, i.e. a failure to be role models.

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Students: The worst sufferers

During the late 1990s, UGC initiated the scheme of vocationalization of education. Under this scheme courses like BCA, BBA, food technology, biotechnology, etc. were started in various self-financing colleges.

But most of these courses were initiated without any proper infrastructure and talented faculty members¹. Moreover, neither proper permission from the university nor the NOC (No Objection Certificate) from the concerned State Government or the affiliating bodies was sought prior to the commencement of such courses in most of the cases.

For example, the UGC-sponsored and approved Centre for Vocational Education in Biotechnology² offers B Sc (Hons) in biotechnology at T.N.B. College (NAAC accredited B⁺), Bhagalpur, a constituent college of T.M. Bhagalpur University. Four batches have already passed out and three batches are currently on the rolls. But the matter of concern is that the university is reluctant to award degrees, because the course is not recognized by the State Government and NOC has not been conferred yet.

This situation has only added to the frustration among the students and

diluted the very concept of vocationalization. Under these conditions the concerned authorities like UGC, should take note and do the needful at the earliest.

1. Singh, R., *Curr. Sci.*, 2007, **93**, 889.
2. http://www.tnbcollege.org/Dept_Biotechnology.aspx

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