

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.

NAIBEDYA CHATTOPADHYAY

*Division of Endocrinology,  
Central Drug Research Institute,  
Chattar Manzil,  
P.O. Box 173,  
Lucknow 226 001, India  
e-mail: n\_chattopadhyay@cdri.res.in*

## 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 members<sup>1</sup>. 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 Biotechnology<sup>2</sup> offers B Sc (Hons) in biotechnology at T.N.B. College (NAAC accredited B<sup>+</sup>), 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](http://www.tnbcollege.org/Dept_Biotechnology.aspx)

SAURABH KUMAR

*Department of Biotechnology,  
T.N.B. College,  
T.M. Bhagalpur University,  
Bhagalpur 812 007, India  
e-mail: saurabhkr87@yahoo.co.in*