

Speaking for Ourselves

The cultures of academic medicine in India

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Academic medicine and research in India have been in focus since the publication of the Medical Council of India's revised guidelines for promotion of faculty in medical colleges. The new guidelines have been discussed within the medical fraternity and debated across Indian medical journals.¹⁻⁵ While there is a general acceptance of the belief that research experience improves the quality and standard of medical teaching, many saw the devil in detail. Different aspects of the guidelines have been dissected and their emphasis on authorship, type and quality of journals, category of articles and publication requirements discussed.

Nevertheless, ground realities including poor infrastructural facilities within medical schools, limited human resources, enormous clinical load and the lack of training in research methodology, as negatively affecting research, were also highlighted. Fraud in research⁶ and the recent phenomena of predatory journals⁷ were stressed. However, there was no debate about the elephant in the room, i.e. the body of work (i.e. four papers) and its quality, which bestow professorial status to medical teachers, confer skill and confidence to faculty who lead and create academic environments in medical schools in the country.

While islands of excellence and oceans of mediocrity were mentioned, the debate was marked as much by the concerns raised as by the stoic silence on crucial issues. This article attempts to examine the big picture of academics, research, teaching and clinical care within medicine in India.

CULTURES OF RESEARCH

Medical education and research in India are marked by their diversity and variability of standards. Despite publications from the country in some of the best national and international journals, the general quality of medical research from India is poor. Training in evaluating scientific literature, instruction in research methodology and medical writing is limited across medical schools, often non-existent. While the best medical colleges run a short course in research methodology and expose their students to research projects, even good medical schools do not necessarily produce graduates and postgraduates capable of independent enquiry and investigation. The paucity of role models, the absence of a strong academic environment, minimal publication requirements for academics and a dearth of formal training contribute to low standards of academics and research.

Nevertheless, four different cultures can be identified, albeit with considerable overlap and varied combinations. These are listed below.

Culture of cheap imitation

The need for research dissertations for doctoral degrees (MD, MS, DM and MCh) for postgraduate students, to be done while

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the courses of study essentially focus on clinical medicine makes it low priority. It effectively becomes a course requirement, a series of boxes to be ticked, rather than a skill to be mastered and confidence to be acquired. The fact that the supervisors (i.e. professors) have barely published four research papers as a requirement for their lofty academic titles makes the task of good research difficult, if not impossible.

Weak academic leadership and limited guidance in choosing a relevant and feasible topic, identifying appropriate research design, studying design guidelines and examining suitable statistics leaves many students stranded. Imitating research done in the West, albeit using small convenient samples; descriptive studies, filled with simple tables, colourful graphs, attractive pie charts and bar diagrams make many such attempts cheap imitations of work already done. Despite the emphasis of dissertations being on research method rather than original work, answers or conclusions, poor methodology is the norm.

The lack of specific areas of interest among supervisors results in choosing varied topics for their students and such academic promiscuity leads to superficial understanding, and shallow studies. The few papers published from such efforts compared to the number of postgraduate dissertations done across the country, which are filed in drawers and do not see the light of day, speak volumes of the lack of guidance for students and absence of skill in research among supervisors.

Fraudulent research

India also contributes to fraud in research.⁶ However, spectacular takedowns are rare. Nevertheless, one suspects the prevalence of low level of fraud, adjustments made in reporting methodology and tweaking of results. The failure to maintain audit trails of research work done in clinical specialties makes it difficult to identify the extent of fraud. The increase in outfits outside academia willing to provide help with dissertations suggests that wholesale cooking up of theses may be on the increase. The failure to identify such investigations is probably because of the routine nature of their conclusions, which replicate existing findings and support existing arguments and frameworks and/or the failure to publish in journals of repute.

Culture of high-quality replication

The funding for good quality medical research projects has recently increased with many governmental and non-governmental organizations increasing the size, quality and number of grants (e.g. Department of Biotechnology [DBT], Department of Science and Technology, Council of Scientific and Industrial Research, Indian Council of Medical Research, The Wellcome-DBT Alliance and Tata Trusts). The high standards set have raised the benchmark of medical research in India. Detailed protocols, elaborate study designs, large samples,

rigorous data collection, audit trails and complex statistical procedures are the norm for such externally funded projects. The number of good publications in high quality national and international journals has increased substantially.

Yet, much of the research tends to replicate data to support western, international concepts and theoretical frameworks. Studying problems specific to India and interpretations, which lie outside the dominant theoretical frame, are rare. It is not uncommon to see variations from published literature buried under mountains of data; patterns, which conform to traditional knowledge, justify existing frameworks, are reiterated and re-emphasized. The pursuit of exceptions and differences in context, which do not fit the mould, are rare. Despite international standards in methodology, data collection and analysis, timidity in interpretation is common.

Innovation and diligent study

Islands of academic excellence do exist in the country, though these are often driven by specific individuals, who seem to create a learning and academic environment around themselves. They engage with local issues, break out of their disciplinary straight-jackets and challenge existing paradigms. They emphasize the need to study relevant issues, document regional conditions, varied contexts, unusual comorbidity, uncommon pathology, differing outcomes and the need for distinctive treatment strategies and to communicate complex issues. They analyse existing paradigms and suggest alternative conceptualizations. They challenge establishment perspectives. They also empower younger physicians and colleagues, to question conventional wisdom and to view issues from a perspective that is different. However, such individuals are rare and tread lonely roads, less travelled.

TRAINING

Many medical schools teach research methodology to their undergraduate medical students. Such efforts include lectures and projects, often as part of the training in community health. Postgraduate seminars on contemporary understanding of science and journal clubs on recent advances in the field are the norm in most postgraduate courses. A dissertation/thesis is a part of the requirement for all doctoral/masters medical programmes in India.

Some medical schools attempt to empower their postgraduate students by conducting courses in research methodology. These programmes help with choosing appropriate study designs, developing protocols and statistical help with analysis for their dissertation/thesis. Many schools also have departments of biostatistics to assist with analysis. Some medical colleges even run periodic workshops in epidemiology, research design, statistics, systematic reviews, meta-analysis and even manuscript writing. Yet, most of these efforts often transmit knowledge rather than transfer skill and confidence. While many students and teachers can spout the jargon, they are not able to internalize the principles and practice of research.

Despite such efforts, most medical teachers lack skill and confidence to seriously examine and investigate issues within their chosen field of study and areas of interest. Marrying rigorous designs and analysis with limited departmental expertise is not just a major challenge; it is a major roadblock.

Much blame for the failure to empower young physicians in research and set standards for the country lies with senior faculty, who preside over impoverished academic environments. They perpetuate cycles of mediocrity and often destroy bright young careers with their failure to facilitate and promote growth among younger colleagues. The Indian cultural emphasis on rote

learning encourages parroting of medical trivia rather than stimulating critical thought, thereby stifling creativity and innovation. It inculcates bad attitudes even among those with reasonable intellectual and language skills.

The few who take up the challenge of serious academic pursuits often fail due to the lack of support from colleagues, mediocrity of scholastic milieu, low academic standards, minimal requirements for academic advancement and the absence of a critical mass of proficient teachers, role models and colleagues. The lack of such exemplars in Indian academia mandates the need for more Ekalavyas,⁸ who are able to build ideal role models in their imagination and follow them.

CLINICAL PRACTICE AND ACADEMIC MEDICINE

Patients seek care from physicians, who are accessible and who are perceived to have expertise in quality clinical care. Although patients demand clinical expertise in their physician irrespective of the setting, there is a general perception that doctors working in academic environments have greater clinical expertise, have accessibility to state-of-the-art technology and practice scientific medicine compared to those practising in non-academic settings. Yet, physicians highly focused on clinical care and working in academia face numerous challenges; yardsticks for the advancement of academic careers and rewards within the system are heavily biased towards research rather than exceptional patient care.⁹ This situation is complicated by the fact that excellent patient care is difficult to define and measure, impeding recognition and reward for such talent and efforts.

Research always trumps teaching and clinical care in academia although institutions of medical learning should be holistic demanding that the academic hand be played in no-trump, with clinical care, teaching and research given equal emphasis, recognition and reward. While the advancement of evidence-based medicine is a major goal, inspiring the next generation of physicians and providing healing, and care and cure for patients is equally important.⁹ Academics, who have millions of rupees in research grants, may not necessarily have the time, the inclination or talent to teach students or provide exceptional care for patients. The tripartite aims of academic medicine with its inherent bias towards research often mean that teaching and clinical care have much lower priority.

The failure of academic medicine to recognize excellence in clinical medicine¹⁰ and medical teaching includes (i) low morale and prestige among clinicians and teachers; (ii) less than excellent patient care and medical education; (iii) loss of talented clinicians; (iv) a lack of commitment to improve patient care systems and teaching curricula, syllabi and methods; and (v) fewer excellent clinician and teacher role models to inspire trainees. Academic centres and medical colleges who fail to recognize clinical excellence among their physicians and those who refuse to acknowledge the role of inspiring teachers are doing a disservice to the patients and students that they pledge to serve.

POSSIBLE SOLUTIONS

Raising the standards of medical research, clinical care and medical education in India is complex, and the current approaches are obviously inadequate. Some suggestions include:

Separating clinical from academic mentorship

Medicine in India awards the same postgraduate degrees for those aspiring for clinical careers as for those who strive to work in academia. This not only results in lip service to research within

the curriculum with its focus on clinical training but also dilutes academic standards. Separating clinical mentorship from people involved in academics and research is a way forward.

Clinical professors, who are experts in the art and science of medical practice, should be appointed as teachers in medical colleges and should be involved in the instruction of trainees. Their focus will remain on practical matters and clinical education, rather than theoretical approaches, research and academic priorities. Such professors of practice emphasize the importance of practical skill rather than research; the equivalent position in non-clinical specialties would be teaching professors.

Assessment of careers in clinical medicine should include number and complexity of patient problems, time spent in clinical care, evaluation of clinical audits done and improvements made, and an understanding of local health issues. Teachers should be evaluated on the incorporation of diverse methods of teaching into their repertoire, innovations in medical education and on contribution to medical curricula and syllabi.

Many professors in medical colleges are currently fulfilling these roles with distinction and should be recognized as such. Their clinical and teaching skills and experience should be recognized as much as their educational credentials.

Raising the academic bar

Research professors and academic departments in medical institutions should focus on research. Their work should be funded by research grants and fellowships. The evaluation of individuals, who choose such career options, and academic departments, should be based on the evaluation of grants received and the quality of their publications. Promotion of faculty who choose this career path should be based on the detailed evaluation of the body of work done. Assessments should include rigor in methodology, standard of past publications, nature of grants and funding obtained, innovations in the field and a substantial contribution to science. Trainees working in such departments should have basic qualifications and should be pursuing research degrees by thesis (e.g. MD and PhD).

The assessment of research professors should differ markedly from clinical professors and be comparable across institutions and countries. Raising the bar for research assessment in medical institutions will automatically raise academic standards.

Such separation of responsibilities, as done in many western countries, will not only raise the standards of research and academics but also clinical practice. It will also raise teaching standards. Clinical professors will be able to devote their time to good clinical practice, clinical audits to improve care and by being role models to their students. Medical teachers will necessarily have to improve teaching methods, design appropriate curricula and syllabi and inspire the next generation of doctors. Physicians involved in full-time research and those who choose career paths of clinical medicine and teaching will naturally have higher bars

for evaluating their effort, raising the standards of medical science, of clinical care and medical education in the country.

CONCLUSIONS

Much of the debate in India on raising standards of research and teaching in medical institutions does not take the bull by its horns; it soft-pedals crucial issues. It focuses on trivia.

Research and academics in medicine in India need to focus on the many health, illness and disease challenges facing the country. India needs to examine local conditions and contexts, study inequality in health status and the lack of access to healthcare. It needs to theorise medical practice suitable for its context.¹¹

Medical schools in India should focus on clinical and teaching skill among their faculty, measure their clinical and teaching performance, which should translate into meaningful recognition for those achieving excellence such that outstanding clinicians and medical teachers may feel valued and decide to stay in academia.

India needs good medical teachers as well as competent and innovative researchers. The current compromise of lofty academic titles for poor quality research diminishes medicine in the country. There is an urgent need for a new vision for academics, research, medical education and clinical care in the country. Cosmetic changes as proposed and debated will not meet the challenge and will not bring about the necessary revolution; neither will they set the stage for the possible evolution of quality in medical research, teaching and clinical care in the country.

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