

Letter to the Editor

[The Editor is not responsible for the views expressed by the correspondents]

What they didn't teach us in Medical College — An Indian Perspective

SIR, — In the last four decades the world has changed beyond recognition and so has the world of doctors, but the question is 'has the medical education changed too'? With an exploding population and enhanced awareness because of the internet, a doctor today is expected to know many new things and develop many new skills which the past medical students perhaps never required to master. There is a huge set of skills that they still don't teach students in medical school, and they are expected to pick them up by osmosis from unsubstantiated sources. Needless to say, these medical students miss these skills dearly all their lives. The science of medicine is important, but the art of medicine can no longer be ignored. A renewed emphasis is today needed on the professional aspect of medicine, rather than catering only to the knowledge base for a doctor to be maximally useful to the society. We have tried to enumerate all these skills, which a doctor should have but the busy medical curriculum leaves no time for them.

Biostatistics & Data Science :

Today's doctors are jotting notes on an iPad and navigating various electronic medical record systems. Medical practices and hospitals are generating and dealing with a deluge of data. Smarter and smarter software's are being used to record this data. But none of the medical students knows why they are generating this data or equipped enough to use them or understand the data fully. The aim is to connect the collected data to patient outcome to understand the disease and improve treatment. This is the road to 'Evidence based medicine' from the less accurate 'Eminence based medicine'.

From good data, protocols are developed and if the designed are implemented properly, it saves patients' lives and good data generate good protocols¹. Standardization of the steps in routine patient care that do not utilize physician intellect frees up time to focus on actually practicing medicine. If everyone has a different way to treat a disease, say Hypospadias, for which there are over 300 surgeries, and each surgeon can't all be doing it the best way! By following protocols two things happen - quality of health care goes up and costs go down giving rise predominantly to evidence based medicine.

Information technology 101 :

Doctors are increasingly using technology in their practices, whether it's to record notes or store patient data in an electronic medical record². Some doctors are using the newest telemedicine tools to consult with patients online. Almost all medical journals are today available online and conferences held continents apart can be attended and webinars conducted on handheld electronic devices. So why are medical graduates not being taught to use information technology both for their own education as well as for patient care?

Communication skills :

Doctors need to be nice people and doctors need to be nice to people too and for that good communication skills is mandatory³. What to say, whom to say, when to say and how to say cannot be

left for chance. The most effective doctors understand how to communicate with patients. That doesn't mean rattling off a diagnosis and sending them home. It requires picking up on the subtle indications that a patient has not understood something or is too upset to take in information.

Only 35% of communication is verbal and the remaining 65% involves facial expression, tone of voice, movement, appearance, eye contact, gesture, and posture! A consultation involves listening, writing, presenting, negotiating, influencing, and finally establishing a professional relationship. The crux is who should be teaching the medical students all this, and the reply is obviously a communication expert who need not be a doctor.

Personal Finance :

The medical profession may be a gold mine for some, but majority of the doctors are poor in managing personal finance. Outlandish lifestyle and block-buster success stories, owning palatial mansions, fancy speed boats, helicopters and airplanes are usually anecdotal and not the rule. The reality is that too many of the doctors are in debt, paying too many EMIs and as a result, cannot afford to retire when they should. It's now imperative that doctors learn to manage their money, or they risk drowning in debt. Recent medical school graduates could benefit from some formal education about how to use the latest web and mobile tools to manage their finances. The present generation feels that investment managers and property dealers usually take them for a ride because of their ignorance of the subject. From personal finances, to dealing with loans, to contract negotiation to basic skills involved in setting up a practice, there is no formal education in medical schools.

Teaching skills :

A doctor will remain an educator all his life. Whether he is a resident or a medical educator or a consultant or a family physician he has to impart the knowledge of good health. Teaching is such an invaluable skill for the doctors. But are oblivious about the difference between adult or child learning and what is worse, we don't even know how to keep on learning ourselves! As a teacher one wears many hats - a communicator, a disciplinarian, a conveyor of information, an evaluator, a classroom manager, a counselor, a member of many teams and groups, a decision-maker, a role-model, and even a surrogate parent. Unfortunately, the doctors are not trained for any one of these!

The four core qualities essential for teaching are knowledge, the skills to convey that knowledge, the ability to make the teaching material interesting and relevant, and a deep-seated respect for the student. Except the first none of the other three are taught in medical colleges. And all this is an established science today supported by information technology.

Management and Entrepreneurship :

Doctors need to be taught how to run a business, the basics of money, the basics of running a hospital or clinic, the realities of the world of taxes and how to be competitive and yet commercially viable. A very unfortunate reality is that when it comes to financial stability, it takes a long time for the Doctor of Medicine who has been in school for at least 8 years! The business of medicine is not

taught in medical school, and sadly, that is where the money is. Some courses in business management and entrepreneurship specially tailored for medical students need to be a part of their curriculum. It is estimated that India needs about 6,00,000-7,00,000 additional beds over the next five to six years - indicative of an investment opportunity of \$25-30 billion⁴.

Leadership and Man Management :

Doctors are often placed in leadership roles even in their residency years. Doctors have to run teams of interns, coordinate with other physicians and nurses, conduct multi-disciplinary planning sessions and align families around shared treatment goals. And yet there is almost no training on how to succeed in the working world! Man management involves managing oneself, managing communication, managing relationships and managing teams. It is a complex interplay and very difficult to pick up if not properly taught. Doctors can be benefited from basic management skills - delegating work, providing feedback, motivating others, and collaborating with other teams. They could use training on how to lead a room full of people with different roles, experiences, and emotions, especially in the trauma emergency. A medical graduate needs to know how to interact with juniors, seniors, teachers, nurses, ministerial staff, patients, relatives, administrators, Class IV employees.

Time management :

Time is our most precious asset and yet right from the medical college days, majority of the doctors fail to respect it. It is known that 20 percent of patients consume 80 percent of healthcare resources and our energy. In medical colleges, the medical professionals spend 80 percent of their time on 20 percent of diseases, including a litany of esoteric rare disorders that are academically illuminating but most clinicians will never see in their entire careers. The medical professional does not need to know about rare, complex and difficult to pronounce syndromes and fancy investigations being done in laboratories nowhere near their practice, but they need to know how to manage dementia, manage pain thoughtfully and assess patient safety. The biggest gap in 21st century medical training is a lack of old-school skills, and not high-tech coding. Thankfully we, the past generation were taught clinical signs⁵ which have been replaced today by a battery of investigations. Picking up papilledema is far quicker way of diagnosing raised intracranial tension than a CT scan. In a study from India, more than two-third of the students were found to have poor to average time management skills⁶.

Research skills :

If India still remains a developing country despite being the fastest growing economy in the world, then it is because we lack research skills. A medical graduate is expected to understand:

- how to critically read a research article?
- how to cite sources and find good articles?
- how to understand basic statistics?
- how to get a research grant?
- how to get ethical clearance for clinical trials ?
- how to train in GLP – good laboratory practices?
- how does one start a lab and get funding?

The medical graduates, in most Indian colleges, don't even know what a career in research looks like and how does it even start!

Nutrition, Fitness and Disease prevention :

Though the doctor spends a lot of time studying Social &

Preventive Medicine but how much of that is brought to clinical use? What proportion of the consultation time is spent on conveying the message of nutrition, fitness and disease prevention? Lifestyle diseases drive some of the biggest costs in healthcare and have some of arguably the biggest impacts on patients' lives but how many of us find ourselves adequate enough to discuss about lifestyle changes, nutrition, and exercises to our patients?⁷ Keeping people healthy is far easier and cheaper than treating them when they are sick. In a study from University of Florida, it was highlighting the need for significant improvement in education of physicians about nutrition and physical activity and need for physicians to focus on good personal health behaviors, which may potentially improve with better education⁸.

Biotechnology :

The medical community need not know the entire subject, but they at least need to know how the instrument in their hand works and what can be done to prolong its life? Whether it is X-Ray, CT Scan, MRI, Lasers, or Endoscopes, Medicine is surrounded by technology and ever changing ones. How long can one keep on wearing blinkers and relying on company engineers? They think the doctor are too demanding, don't understand machines and the doctor think they don't understand our demands and make machines first and then start searching for their use. This dichotomy can only be solved if the medical professionals become more tech savvy and make way to the boardrooms of these medical technology companies. Interestingly enough Texas A&M University has plans to create such a program in creating "Physician Engineers"⁹.

Ethics :

Is it not an irony that the first time a medical student hear about it is when the thesis proposal goes to the Institutional Ethics Committee? Though the introduction to bio-ethics should start in 1st. Semester and go right up to the end of stay in the medical college with booster doses at every stage of MBBS or postgraduate education, it is hardly ever discussed as a subject. The topic can be taught as didactic lectures, group discussions- knowing another student's thought process, case presentations – review different ethical cases and seminars –with different sections of the society – judiciary, teacher, journalist, home maker, hospital owner and so on. The purpose is to make the budding medical doctors passionate about ethical medicine¹⁰.

Health policies and Health Insurance :

This freaks out most doctors. They feel they should have a say in the formulation of health policies of the government, but they know nothing about it. Doctors are not taught how health policies are formulated and how they are brought into action. They are unaware of how they are lobbied for and how to make changes in them. The doctors think black ribbons, candlelight marches and strikes are the only weapon .

Very few of the medical professionals understand how different health insurance schemes work and end up burning their fingers by treating diseases and patients not covered by insurance and not getting remunerated at the end of the day! Doctors are never taught how expensive different medications are, how patients get billed, how can they lower costs for patients in general. Doctors don't even know the different policies, restrictions, and costs it takes to run a clinic or hospital. They are not market ready! Every doctor should be aware of 4 insurances - **Professional**

Indemnity Insurance, Personal Accident Insurance, Property Liability Insurance and Public Liability Insurance¹¹.

Humanities:

The “humanistic” side of medicine is routinely ignored in the Indian medical institutions as they are 100 % geared towards the “scientific” side of medicine. Bedside manners are neither taught nor tested. Manners are easy to teach to a kid and very difficult to a 20+ year old. The purpose is to change in a manner that is amenable to what patients want in their doctors and change according to the patient’s beliefs and religious and social compulsions. When a procedure goes fine, a good bedside manner can be a luxury. When serious complications arise, empathy and communication can be the difference between acceptance and a dangerous false hope¹².

Patient’s place a lot of importance on the way a doctor interacts with them. If they can travel miles and wait for hours, they have every right to expect quality time during consultations, uninterrupted by ringing phones and barging in nurses and technicians.

Sustaining empathy for the patients and providing encouragement to them at all times while not keeping them in the dark about the prognosis is absolutely non-negotiable. No problem, however trivial it may sound, can be dismissed without giving due attention. The doctors are overburdened but it’s not the patient’s fault! Spoken words should be carefully chosen and the medical community should be taught this art. Patients being berated for being overweight or noncompliant or smelly or difficult are absolutely unacceptable. They may repeat, recall and really take to heart....so they need patience and encouragement! There is again a lot of patience and hand holding involved in this art of communicating a poor prognosis, a complication, news of an impending amputation of limb or worst of all, death. Even telling a new mother that her newborn has to stay an extra day because of jaundice can be difficult. 90% of the time, even this little disappointment results in tears. Are the doctors trained to handle this? If not then they will have to face emotional outbursts.

Taking care of ourselves :

The doctors are expected to give – time, effort and energy and keep on giving.....But they should not give so much of themselves away that patients, whom they once enjoyed treating, become burdens and the doctors become empty shells. The doctors need hobbies and interests and days off and vacations and permission to breathe sometimes. Doctors need family time and crazy friends and people around us who let us just be a mom/dad or a wife/husband or a referee in a football game. They need people who don’t keep putting us on an impossible pedestal and who allow us to be humans. In a study from India, the pooled prevalence of burnout was 24% in the emotional exhaustion domain, 27% in the depersonalization domain, and 23% in the personal accomplishment domain. Younger age, female gender, unmarried status, and difficult working conditions were associated with increased risk of burnout¹³.

Conclusion :

Good communication, patience and encouragement prepare our patients for our imperfections. While the science of medicine is invaluable and is being both taught and updated with time, the art of medicine is lagging behind as our medical education is too science heavy. Thanks to the internet, the savvy patient often knows what his/her disease is and smart medical apps will soon offer treatment too, but it will not be able to offer empathy, comfort and understanding. Are the doctors of today offering the same? Or are they in a mad rush jotting online forms, getting irritated by huge patient load and suffering early burnouts? With time our medical education must change and our doctors, the product of that education, must be market ready for all eventualities.

REFERENCES

- 1 <https://www.forbes.com/sites/shourjyasanyal/2019/05/01/5-reasons-why-doctors-should-learn-data-science/?sh=16d26ed42b85>
- 2 <https://www.national.edu/2021/11/03/information-technology-important-healthcare/>
- 3 Biglu M, Nateq F, Ghojzadeh M, Asgharzadeh A — Communication Skills of Physicians and Patients’ Satisfaction. *Mater Sociomed* 2017; **29(3)**: 192-5. doi: 10.5455/msm.2017.29.192-195
- 4 <https://www.entrepreneur.com/article/307400>
- 5 Verghese A, Charlton B, Cotter B, Kugler J — A History of Physical Examination Texts and the Conception of Bedside Diagnosis. *Trans Am Clin Climatol Assoc* 2011; **122**: 290-311.
- 6 Naik BN, Rangasamy S, Vrushabhendra HN — Time management among undergraduate medical students: A study from a tertiary health-care teaching institution in Puducherry. *J Integr Health Sci* 2019; **7**: 39-43.
- 7 <https://www.chicagotribune.com/lifestyles/health/sc-doctors-diet-nutrition-health-0803-20160801-story.html>
- 8 Aggarwal M, Singh Ospina N, Kazory A, Joseph I, Zaidi Z, Ataya A, *et al* — The Mismatch of Nutrition and Lifestyle Beliefs and Actions Among Physicians: A Wake-Up Call. *Am J Lifestyle Med* 2019; **14(3)**: 304-15. doi: 10.1177/1559827619883603.
- 9 https://www.bizjournals.com/houston/morning_call/2016/06/texas-a-m-plans-to-create-innovative-engineering.html
- 10 Glick SM — The teaching of Medical Ethics to Medical Students. *J Med Ethics* 1994; **20(4)**: 239-43. doi: 10.1136/jme.20.4.239
- 11 <https://www.insurancedekho.com/health-insurance/articles/doctors-here-are-4-key-insurance-policies-for-you-330>
- 12 Panda SC — Medicine: Science or Art? *Mens Sana Monogr* 2006; **4(1)**: 127-38. doi: 10.4103/0973-1229.27610
- 13 Kesarwani V, Husaain ZG, George J — Prevalence and Factors Associated with Burnout among Healthcare Professionals in India: A Systematic Review and Meta-Analysis. *Indian J Psychol Med* 2020; **42(2)**: 108-15. doi: 10.4103/IJPSYM.IJPSYM_387_19.

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