Letter from Chennai

MEDICAL EDUCATION IN ONE LIFETIME

The year 2020, which was stolen from us by the virus, necessarily made great changes in the way teachers transferred knowledge to their students and led me to reflect on the evolution of education in medicine over the past seven decades, from the time I entered the Madras Medical College as a first-year student. I will deal only with general medicine. While I was a student of all the subjects of the medical curriculum, I have taught only general medicine and nephrology, and so am not qualified to speak about teaching in the other subjects. The accent was on clinical medicine, for we spent 5 hours each day, from 7 a.m. to 12.30 p.m., in the outpatient department and the wards of the hospital, with a coffee break in between. We had only an hour of lectures in medicine each day, though of course, the hospital posting in medicine was for only 3 months each year while the lectures went on for 9 months.

Our clinical posting was far from ideal. We had around 150 students in each year of the course. My class began with 136 of us in the first year. (I learn with horror that there are now 250 admissions each year in my alma mater.) Of course, only a minority passed the first MBBS examination on the first attempt and went on to the clinical side, while the rest stayed back to spend more time in the study of anatomy and physiology. However, we were joined by a large number of our seniors who had finally passed the preclinical subjects after a second or later attempt, so the overall number of students in each class remained fairly constant. We rotated through medicine, surgery, and obstetrics and gynaecology for 3 months each, so we were 50 in the medicine department, and all of us were expected to attend the outpatient clinic. Add up 50 each from the third year, fourth year and final year and that made 150 crowding into the outpatient room, which could accommodate 30 or 40 without asphyxiation. It was perhaps just as well that many gave up the struggle, marked their attendance and moved to the canteen. For those who remained, there was not much difference between ward clinical teaching and outpatient teaching. A patient was allotted to one student, and he had to examine and present the patient to the teacher, but almost everyone who remained for the outpatient teaching wanted to examine the patient, so often we were able to see only one part of the patient, like the blind men of Hindustan studying the elephant. While teachers varied in their approach, most of them would make a diagnosis from the clinical findings and then discuss the cause, investigation and treatment of that disease, making most of the session indistinguishable from a theory lecture.

Teaching in the wards was not much different, but the numbers were more reasonable. We were seven or eight from each year in each clinical unit, and often final years were taken separately from the third years, one set by the chief and one by the assistant, with the fourth years going with one or the other group. The accent was on patients with physical findings, murmurs, abnormal breath sounds, abdominal masses or neurological defects. The majority of patients had none of these, and we were not taught anything about how to handle fevers, diarrhoeas, abdominal pains and anaemias. We had to learn about these when we began to practise medicine, and our early patients were our involuntary teachers, and suffered as we learned from our mistakes. Of course, we handled such patients as housemen but there was no formal instruction then.

I can aver that I was a good student. None of my teachers and only a few of my classmates are alive to contradict me, but I have some certificates and prizes to attest to my statement. I was in general practice for two years before I took a postgraduate qualification and called myself a consultant physician. I saw just three patients whose diseases I had been taught about in my days as an undergraduate student. The majority of them had fevers, diarrhoea, aches and pains. No one taught me how to make a diagnosis or treat them, nor were these subjects discussed in any detail in our theory classes. Even the treatment of primary hypertension was just passed over. There were not as many drugs available in those days, but today, the choice could be bewildering. The university clinical examinations were based on patients with physical findings. Teachers want their students to clear the examinations, and naturally coach them in what will feature in the examinations.

I last taught general medicine in a medical college 48 years ago, apart from visits to colleges in India and overseas where I gave lectures or did some clinical teaching as a visiting professor. Dr Namitha Narayanan, Associate Professor of Medicine in the Tiruvannamalai Medical College, and some of her contemporaries from the colleges in Chennai (who did not wish to be named) were kind enough to speak to me in some detail and tell me about the situation now. There had been no fundamental difference in the method of teaching or in the evaluation of candidates from 1950 till the pandemic forced a change of tactics. Since March 2020, students were quite rightly kept out of the colleges and the hospitals, and all teaching was done online. A lecture online may not be different from one delivered in person, but as a teacher, I would miss the opportunity to keep scrutinizing my audience and spotting those who do not seem to be following me. A question or two addressed to the lagging student, and a little more explanation would help and you cannot do that online with a large number. When I lecture in person, if I see that I am losing the majority of the audience, I would go over the argument again with a different approach. Unable to scrutinize his listeners, a lecturer online would only have to hope his audience was awake, listening and getting the message.

On the other hand, how can one teach clinical examination? Cardiac murmurs and adventitious breath sounds recorded and played, however advanced the instrumentation, never sound as they do through an ordinary stethoscope. Can you convey the feeling of the tip of a barely palpable spleen through a video? Nothing can replace the live patient, and so our students have lost a year of learning clinical skills, and I hope we will soon be able to bring them back to the wards and in contact with patients.

I was told that the examinations, which were postponed in 2020 and will be held shortly, will be conducted under the Objective Structured Clinical Examination (OSCE) system. For those of you not actively involved in teaching now, let me just say this is a system of evaluation developed at the University

[**To cite:** Mani MK. Letter from Chennai. *Natl Med J India* 2021;**34:**240–1.]

of South Dakota in the USA. As applied in Tamil Nadu, there would be five stations and candidates rotate through them. Each gives a clinical scenario: there may be a medical professional who acts as a patient and gives history, and answers questions from the candidate to assess his skills in history taking. The method of eliciting clinical signs may also be tested, and perhaps, when actual patients are available the examiner could assess the candidates' ability to elicit physical findings. One may have X-rays and ECGs to assess the ability of the candidate to interpret them. At present, this is a learning experience for both examiners and examinees.

My own inadequacy when I entered general practice (I suppose it would be called family practice now) led me to ponder over the purpose of the MBBS course. Surely, the aim should be to produce a doctor who can set up a practice and treat all the common conditions that afflict the majority of people. He should be able to do minor surgery such as suturing wounds, incising abscesses, and should treat fevers, diarrhoeas, aches and pains. He should be able to recognize the patient who needs more specialized attention, so that he can refer him or her to the appropriate specialist, or in a rural setup, to the centre with more facilities. I see no point in ignoring common conditions altogether, and producing a doctor who cannot recognize and treat them, but can diagnose valvular and congenital heart disease, major respiratory conditions, brain tumours, none of which he will be able to treat himself. Today, not even the top cardiologist diagnoses mitral stenosis without an echocardiogram, and we are prepared to fail candidates in examinations for missing a minor degree of mitral incompetence in addition to the stenosis.

When I began teaching, I decided I would teach candidates what they needed to know to be good family practitioners. In the outpatient clinic, I took 6 consecutive patients from the waiting line and allotted each to one of the students who was given just 10 minutes to see him, make a diagnosis and present him to the class with his suggestions of how he would investigate further if necessary, and treat. The majority should be treated without investigations. All admissions in the wards were allotted to one or other of the students posted in the unit, irrespective of whether they were considered 'examination material' or, more often, not. I took the patient on bed one on day one, bed two the next day, and so on so that the class saw a cross-section of the patients who came to the outpatient clinic and of those who were ill enough to warrant admission. Over the years, large numbers of my students have told me that their time with me was the most useful preparation they had for their life as family practitioners.

However, as long as the examiners continue to keep questioning candidates about what they would do to investigate an aortic systolic murmur and what would be the indications for surgery, students taught by me would not pass their examinations. I had to get them through their examinations, so I had to teach them about 'examination material' also. In practice, if they found a patient with an aortic murmur, they would refer the patient to a cardiologist and he would take over the care. Few consultants would report back to the referring doctor so that he could add something to his knowledge. I believe medicine should be taught as I did, but examiners should change their methods so that they could assess what a good family practitioner should know. The OSCE system would be ideal to examine a candidate for family practice. The scenario could be of a patient with dysentery. Is it bacillary or amoebic, would you just treat or investigate, and if you would, how? Will there be exciting changes in the output of our medical colleges, so that we turn out excellent family physicians? Those who want to go on to be specialist physicians and surgeons after further training could do so. Sadly, with our ossified systems, I expect we will need another generation or two to adopt that method, and by that time, the rest of the world would have moved much further ahead.

M.K. MANI

Letter from Glasgow

CLIMATE CHANGE AND HEALTH

Fifty years is a long time ago but I remember 1971 very well. I was 14 years old and having left India aged 5 for Scotland, I went back to India for the first time since leaving. I spent 2 months that glorious summer visiting relatives and having a great holiday visiting Delhi, Amritsar, Dehradun, Agra and Mumbai, among other places.

In the history of climate change, 1971 was also the year that the Study of Man's Impact on Climate conference of leading scientists reported a danger of global climate change caused by humans.[1] Ominously, it was also reported that the Mariner 9 spacecraft found a great dust storm warming the atmosphere of Mars, with indications that Mars had a different climate in the past.

[**To cite:** Kohli HS. Letter from Glasgow. *Natl Med J India* 2021;**34:**241–2.]

What I do not remember in 1971 is a young man, John Forbes Kerry, who had served in the US Army in Vietnam.[2] He came back from the war to become a spokesperson for the Vietnam Veterans Against the War. It was many years later I saw his testimony on 22 April 1971 at the hearing on the Vietnam War of the US Senate Foreign Relations Committee. His testimony is electrifying in its 'telling truth to power' of the lies told about US intervention in Vietnam.[3,4] If you have not heard the speech, do so and feel the hair on your neck stand on end.

Why, I hear you say, is he wittering on (an informal UK term for speaking at length about trivial matters) about 1971, climate change, John Kerry and the Vietnam War? And what has this to do with public health? But bear with me.

John Kerry is now a seasoned American politician and diplomat and is currently serving as the first United States Special Presidential Envoy for Climate. He will be coming to