

Medicine and the Humanities in Medical School Curricula

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I was given the choice of three subjects about which to speak today. The first was entitled *The Tsunami of HIV/AIDS – Social and Economic Impact*. However, I am no expert in the non-scientific aspects of AIDS and I am neither in the Faculty of Sociology nor Economics. The second choice was *Spirituality in Medical School Curricula*, a very important topic and typifies the broad outlook of Professor Barton. In fact, I will include a little aspect of this in my talk today. The third choice was *Medicine and the Humanities in Medical School Curricula*. This was an offer that I could not refuse.

Indeed, as early as the 1970s, I have been advocating to the Faculty Board at the University of the West (UWI) Trinidad and Tobago that a certain percentage of slots for admission into medical school should be reserved for applicants who have high grades in General Certificate of Education (GCE) and advanced levels in non-science subjects but with good GCE ordinary level grades in biology and chemistry, and who wish to enter medical school.

However, it may be said that it all came to a head last year when two of my staff at the Medical Research Centre of Trinidad and Tobago of which I am the director, were not admitted to medical school at the St Augustine campus of UWI located at Mt Hope, following which I began a campaign to change the entry requirements there. One had a Masters degree in Public Health from Tulane University in New Orleans, USA. The other had a BSc with honours from an internationally-recognized university in New York. But because they both did not have an A in Physics, an A in Chemistry and an A in Mathematics when they were in college (college level, mind you), they did not qualify for entry in Mt Hope! Fortunately, they were both accepted by the medical school of this Jamaican campus for which I thank you.

Undoubtedly, they are only two tips of the large iceberg of rejected applicants in the medical school of the St Augustine campus. The selection and promotion process at this campus is much more complex than meets the eye. But I am not going there today.

As you know, the European and, above all, the American systems require a first degree for entry into medical school. So said, there are many reasons why the standard of medicine and science in general is much higher in the United States of America (USA) than the rest of the world and I do believe that part of that success starts with the embryonic period of the pre-medical education programme.

In my opinion, it is a programme which helps to foster a broad knowledge, independent thinking and research.

On the other hand, Jules Dienstag, a celebrated hepatologist of international repute and Dean for medical education at Harvard Medical School, Boston, criticizes the US college curriculum. He wrote in the *New England Journal of Medicine*: “The college courses that fulfill administration’s requirement to medical school are not adequately focussed on human biology, and the topics covered in the many courses in chemistry, physics and mathematics are so removed from human biological principles that they offer little value to the premedical student and steal time and attention from more relevant science preparation. Does a student, for example, really need a full year of chemistry to prepare for the study of biochemistry? Moreover, pre-medical science courses often fail to achieve sufficient rigour to prepare students for taking the sciences fundamental to medicine at the advanced molecular level now required.”

He supported greater efficiency and a higher focus on science that really “matters” to medicine. He felt that colleges should expose premedical students not only to general chemistry, but also to introductory biochemistry that provides the foundation for the study of biologically-relevant chemistry, building a foundation for medical school courses that begin at and reach higher plateaus. In fact, how well I remember a certain disconnect between the chemistry I learnt in college and the biochemistry I had to learn in medical school. He believed that courses should also provide an introductory grounding in probability and statistics which are required for understanding the scientific and medical literature of today.

Moreover, Dienstag believed that because human beings are complex organisms whose discrete systems are linked intricately and elaborately within the body and modified profoundly by external influences, we need to teach in ways that reflect this complexity. In short, the patient does not represent a biochemistry problem, an anatomy problem, a genetics problem or an immunology problem, rather each person is a product of myriad molecular, cellular, genetic, environmental and social influences that interact in complex ways to determine health and disease.

Our teaching, therefore, ought to echo this conceptual framework that cut across disciplines. Many universities agree with this philosophy but whether it is properly and adequately conducted is another matter as it defies the traditional compartmentalization of disciplines into departmental silos. Of course, another major concern is whether traditional lecturers are prepared to change. Apropos this, for example,

Delivered by: Professor Emeritus Courtney Bartholomew at the distinguished lecture series of the Department of medicine, Mona, Jamaica. He dedicated this to Professor Charles Denbow.

I am not quite sure that the so-called problem solving programme is being properly practised.

In addition, and this is most important, the college period should be a time to explore and stretch, not only academically but intellectually engaging creatively in an expansive liberal arts education encompassing literature, languages, the arts, humanities and social sciences to prepare for citizenship in society. Included in this foundation should be analytical writing and communication skills, fluency and a nuanced facility in English, and even perhaps the mastery of a foreign language, achieving cultural awareness and facilitating the habit of a life long self-education and in-depth sustained independent study, which fosters a well rounded educated individual.

Now, Dr Sandeep Jauhar, an assistant professor of medicine at Albert Einstein College of Medicine in the Bronx, New York, also wrote that he entered medical school at the age of 26 years, and said that he was considered to be a non-traditional student. He was hardly alone. A middle age woman in his class had an advanced degree in cell biology, one classmate in his early 30s had been a physician's assistant for 10 years. In fact there was also a lawyer in his class. As he wrote: "We were the new face of medicine, or so we were told, and there was considerable interest in us from professors and administrators, if not our classmates".

So said, in the USA, the mean age of first-year medical students today is about 24 years, though 10% are 27 years or older. Indeed, medical schools now routinely admit students in their 30s or 40s who already have families or are well into another career before turning towards medicine. Indeed, these students are welcomed into the profession there, as they bring maturity, diversity, a broader perspective and also life experiences. It is also observed that older students tend to ask smart questions and challenge assumptions. They bring diverse experiences that improve a class. They are more certain about their career choices and have a greater ability to deal with emotional distress and a clearer sense of what they want to do in medicine

According to Dr Scott Barnett, associate dean for admissions and graduate medical education at New York's Mount Sinai School of Medicine: "At our school, 50% of medical students are non-science majors. Out of 140 students, a quarter are from our undergraduate humanities in medicine programme, 10% are PhDs and quite a few are career changers. Such students are at the forefront of our school. They are older and have a broader view of the world. In fact, we have realized that the conventional biology major may not be necessary to produce competent, morally and ethically upstanding citizens and doctors."

Lawrence Smith, former dean of medical education at New York's Mount Sinai Medical School, also said that non-traditional students are often a challenge to medical educators. "They are more self-confident. They are more conscious of what they want to do with their time. They are not

just willing to just work through their rote aspects of medical training. They are the ones you see in the dean's office saying: "Don't inflict this horrible teacher on me." At the same time, they bring an integrative, adult vision of the work to medicine. They excel in the clinical setting. They ask more questions. They challenge assumptions. They ask "why" more than younger students. They are more comfortable dealing with people. I am not 100% sure that they all necessarily make better doctors but I think the class is definitely enhanced by their presence."

Leslie Khal, dean of students' affairs at Washington University School of Medicine, in St Louis, said the decision of such students to enter into medicine is almost always self-conscious. My sense is that they are more focussed. More goal-oriented when they arrive. They bring a different, slightly more mature or empathetic approach towards their own patients. In fact, many non-traditional medical students themselves believe that they have advantages over their younger counterparts – greater sensitivity, interactions with patients, more certainty about their career choices, a greater ability to deal with emotional distress and a clearer sense of what they want to do with their medicine.

These characteristics are important ingredients for admission to medical school. But here lies the rub. All this also calls for a mature, highly qualified, culturally – sensitive and experienced medical school admissions committee, which, in my opinion, should also include highly-respected elders from certain other faculties, for example, social sciences and other departments of the humanities.

Now, why is it that I sympathize with the opinion of these American deans. My response to that, among other things, is that I was admitted to medical school in University College Dublin, a university with a long tradition of scholarship, with A' level subjects, not in physics, chemistry and mathematics but in English Language, English Literature, French, Spanish, Spanish Literature and Latin, but with chemistry and biology at O'level. Throw in Greek for good measure. Moreover, I did not enter medical school immediately after leaving college at the age of 19 years but at age 24 years after working for 4 years in Her Majesty's Customs and Excise Department in Trinidad and Tobago, as it was called in those days, and after attaining many life experiences. Yet I was appointed the first Trinidadian professor of medicine. It tells a story.

I also strongly believe that no university worth its salt does not have a very strong and internationally-recognized research reputation. Indeed, where would science and all the other disciplines be without high-level research. In my case, I was fortunate in Dublin, Ireland, to have worked with a Professor of Medicine who also focussed on research on the pancreas and then Professor Dame Sheila Sherlock, the queen of the liver, as I like to call her, at the Royal Free Hospital in London, who devoted her career to research on the liver, not to mention another stint at the teaching hospital

of McGill University in Montreal where I was a research fellow in gastroenterology for 2 years. These exposures certainly broadened and shaped my medical outlook.

I do recognize however that good research needs a costly budget but one can always get collaboration from US, British or Canadian research institutions if an interesting research observational project is presented to them. Professors Nigel Gibbs, Barry Hanchard, Owen Morgan in Jamaica and myself in Trinidad and Tobago have benefited from such collaborations with the National Institutes of Health of the USA.

In recent years, calls have also come from various quarters for medical schools to teach ethics, altruism and compassion. I also feel strongly about this as I witness the progressive commercializing of medicine in my country and doctors who look at medicine as a business rather than a privilege; doctors who in many cases charge exorbitant fees even to poor people and doctors who are prepared to go on strike at the expense of patient care. The medical school must bare some responsibility for that. Surely, it is acceptable that professionals should be financially rewarded but to exploit sickness to gain undue wealth is, to me, immoral.

I also feel that to broaden the education of our students, they need to be exposed to first world hospitals with higher levels of medical care and expertise. In fact, it is standard practice in the USA Canada and England and even Australia for students to have a six-week or two-month elective period to observe medicine in another setting, particularly in first world countries but even also in third world settings.

So said, the Dean's office should be more engaged in arranging elective experiences for our medical students to spend a month or two in university hospitals abroad and in this process do away with an overcrowded undergraduate medical curriculum, which promotes book work and book learning, a cram school, without life experiences.

As for spirituality in medical schools, as early as the fourth century, Augustine of Hippo recognized the responsibility and irresponsibility of scientists of the time and in Book 5 of his *Confessions*, he criticized them thus: "It seems to me that the scientists were able to think clearly enough to form a clear judgment of the universe, even though they could not penetrate through to its sovereign Lord. That is because such men fall into pride. They accurately predict the eclipse of the sun, then fall into a state of eclipse themselves. They neglect to investigate the source of the intelligence by which they conduct their research. Much of what the natural philosophers and scientists are saying about the universe is true, but they show no interest in a devout search for the Truth who put the universe together. So they fail to find Him or if they do find Him, they do not honour Him as God or give thanks to Him."

More recently, on September 24, 1989, John Paul II gave a talk on science and faith to professors and students of

the University of Pisa, Italy, where the once controversial, now vindicated, Galileo, the professor of mathematics, taught. He began his address by speaking about the links between religion and the Chairs of the science, which make up the university. He said: "People of science are also called upon to practise their own special priesthood. Yes, in a certain sense, every true scientist is a priest. Precisely because they perceive more, and more profoundly, the more is their duty, on one hand to recognize, praise, admire and find God in all the elements of His creation, and, on the other, to make an honest and responsible use of their own ingenuity and the great achievements which spring from it."

And so, all of us doctors are called upon to practice a certain aspect of priesthood. This would certainly include ethical conducts in the practice of medicine, compassion, and of course, charity even to the extent of not charging a patient who is unable to afford your fee.

But, above all, the doctor, in whatever specialty he chooses, must be scientifically humble. As Louis Pasteur, a very religious scientist, once quipped: "A little acquaintance with science distances us from God; greater acquaintance with science brings us closer to Him." Professor Christian Anfinsen of Johns Hopkins University and winner of the 1972 Nobel Prize for chemistry, once wrote: "Only an idiot can be an atheist." He then quoted a favourite quotation from Albert Einstein: "The most beautiful and the most profound emotion we can experience is the sensation of the mystical. It is the sower of true science. That deeply emotional conviction of the presence of a superior reasoning power which is revealed in the incomprehensible universe forms my idea of God."

It is therefore easy to recognize the truly great scientist. He is the one who is humble and believes in God. Indeed, when the question was posed to him: "How should science and the scientist approach origin questions, specifically the origin of the universe and the origin of life?" Professor Ragnar Granit of the University of Helsinki winner of the Noble Prize for his discovery concerning the primary physiological and chemical visual processes in the eye, replied briefly and to the point: "Humbly."

Now, most of you students in this audience have gained entry into medical school under the British system of A' level requirements. Nonetheless, this university has produced many good doctors in the clinical arena, at the general practitioner level and many at the consultant level but I propose to you that had you proceeded from a first degree and with the curricular recommendations of those I have quoted today, many of you would have become or become even better medical scientists. This is my opinion after several years of exposure to national and international medicine. Strive to achieve your full potential.

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