Medical Education: Creating Physicians or Medical Technicians?

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The 20th century witnessed phenomenal growth in scientific medical knowledge and technology, enabling physicians to more accurately diagnose and effectively treat a wide range of diseases. However, these advances led to longer and more complex training periods for physicians and increasing specialization and dependence on the new technology. An adverse outcome of these changes has been the development of many physicians who are less able to communicate with their patients and deal with them in a humanistic and personally caring manner; ie, the development of finely trained medical technologists as opposed to caring physicians. Their behavior and their blind trust in science and technology without understanding the patients in whom illness occurs often leads to making incorrect, incomplete, or inappropriate diagnoses or to unnecessary failures of treatment. It also results in excessive costs, hazardous procedures, and ill will from patients. Unfortunately, such technologically oriented physicians are often the primary role models for students. The best hope for remedying the problem lies in recognizing that it exists, understanding its causes, and modifying medical education accordingly. Providing students with good role models and some rudimentary techniques can lead to significant gains, but sophisticated programs have been designed only in some schools.

Key words: attitude of health personnel; education, medical, undergraduate; physician-patient relations; physician’s role

It is the best of times and the worst of times. Wondrous advances in science and technology have given physicians unprecedented power to accurately diagnose and effectively prevent and treat disease. However, these advances have led to some troubling changes in medical practice and in our medical education system. While we have become much better at treating organs and diseases, we seem less able to treat patients humanely. The question I raise is, “Do we want the doctors we train to be medical technologists or humanistic physicians?”

There have always been some physicians who are rude, arrogant, or who appear to be cold, lacking in empathy, or uncaring, and paternalistic behavior has been standard for many. However, for at least the past generation, patients have become more sophisticated and have been demanding greater empowerment, whereas physicians have become more aware of the need for strong doctor-patient relationships and the value of forming partnerships with their patients to provide optimum care. Nevertheless, non-caring and unhumanistic physician behaviors remain very common, and I believe this is largely caused by the increasing role of modern technology, poor role models for students, and a lack of concern by faculty.

The problem of insufficiently humanistic physician behavior is not a new one. Peabody spoke about it in a landmark article in 1927, which ended with the oft-quoted words, “One of the essential qualities of the clinician is interest in humanity, for the secret to the care of the patient is in caring for the patient” (1). In 1983, Gorlin and Zucker (2) wrote, “Something has gone wrong in the practice of medicine and we all know it. It is ironic that in this era, dominated by technical prowess and rapid biomedical advances, patient and physician each feels increasingly rejected by the other. Clearly, one root of the problem lies in the doctor-patient relationship.” We all know how much our technical prowess and biomedical knowledge have increased in the 18 years since that was written, but the same concern is at least as strong today.

What is a Humanistic Physician?

By “humanistic physicians” I mean physicians who are capable of communicating with patients with courtesy, dignity, and respect, and who not only ascertain a patient’s history of symptoms and signs and relevant past and family medical history, but who determine who that patient is as a person — what their primary concerns about their illness and its effects on their life are, what their concepts of disease and its treatment are, what their attitudes toward physicians and the medical care system are, and their psychological status. Humanistic physicians are also aware of similar issues in themselves; e.g., they will be aware of their attitudes toward patients who do not follow their advice, who eat or drink to excess, who get sexually transmitted diseases, who are hostile, are of dif-
different cultures or socioeconomic groups, who prefer nonscientific therapies, who have incurable diseases, or otherwise evoke negative physician responses.

Perhaps a personal experience will illustrate the issue. A few years ago, I saw a skilled surgeon to have a small skin cyst removed. The procedure took about 15 minutes. That surgeon learned that I am a physician, an internist, but knew nothing more about me. A few months ago, I sustained an injury that required debridement and sutures, a procedure that also took about 15 minutes. When I left that surgeon’s office, he knew that I’m a physician, where I live, the outlines of my entire career, where and what I teach, my views on the status of medical practice today, that I am married, my wife likes to garden, and that we have three children and grandchildren, where they live and what their careers are. Both surgeons are highly skilled, but one is a medical technician and the other is a humanistic physician.

The Problem and Its Consequences

I am not denigrating modern diagnostic and therapeutic information and technology. I am calling for their more sophisticated and individualized use. Failure to treat patients humanistically often results in incomplete or incorrect diagnoses and misdiagnoses, unaccepted, or failed treatment. In teaching hospitals, we commonly see patients interrogated exclusively in terms of their symptoms as the senior physician attempts to define pathology solely in terms of organ system dysfunction and specific diseases, while showing no interest in who the patient is, what his or her concerns are, what their life circumstances are, how they view the etiology and pathogenesis of their disease and the means of treating disease, as if these issues are irrelevant. These issues are not irrelevant either to the diagnostic process or to quality care of the patient.

For example, when a 50-year-old man presents to a physician with severe chest pain, tachycardia, and shortness of breath, it would be folly not to do a careful physical examination and obtain an electrocardiogram and enzyme studies to rule out cardiac ischemia and possible infarction. If the exam and those studies are normal, one may then reasonably keep the patient under observation and repeat the studies at suitable intervals. However, the decision to proceed with hospitalization, catheterization, angiography, and so forth is more difficult. If the physician communicates with the patient in a way that elicits the further history that the patient’s father died of a myocardial infarction at the age of 50 and that today is the patient’s 50th birthday, which he had been anticipating with dread because of his father’s history, one might consider the probability of a psychogenic syndrome (an anniversary conversion reaction) and avoid the more disruptive, costly, and potentially dangerous procedures.

Consider the common problem of a physician receiving a call from a patient complaining of fever and a headache. The possibilities to be considered cover a wide range—from a mild viral infection to bacterial meningitis that can lead to death within a few hours. Yet, the physician must quickly decide whether to advise the patient to take some aspirin and rest at home, or proceed urgently to the nearest hospital emergency room. How does the physician decide? I know of a patient with those symptoms who survived pneumococcal meningitis with no neurological sequelae because her physician knew that she was extremely independent and stoical and would never complain of symptoms unless something serious was occurring.

Disabling back pain is notoriously common among patients covered by some sort of insurance, whereas it is rarely seen among farmers or people with independent businesses, even when the latter involve hard manual labor. Clearly, the character of the patient and the manner in which patients complain are affected by factors other than anatomical abnormalities. Consider what marvelous images magnetic resonance imaging (MRI) provides, and it is easy to understand why we tend to have great confidence in such powerful tools. However, several studies have shown that almost as many people without back pain will be found to have abnormal discs on MRI scans as those with complaints (3). Considering anatomical abnormalities without careful consideration of the patient leads to mistakes. As a result, it is not uncommon for a patient to have unnecessary surgery because of demonstration of a silent disc protrusion or herniation or with such a lesion causing symptoms that would resolve spontaneously. When the pain continues after surgery, the situation is more complex and often then irretrievable.

When it comes to treatment, appropriate recommendations are often not accepted, because the physician fails to learn enough about the patient’s thoughts and attitudes. For example, consider a woman known to have systemic lupus erythematosus who presents with an exacerbation that could benefit from treatment with a corticosteroid. The wise physician will ask the patient if she is familiar with cortisone-like drugs and has any understanding of what they do, because many women have heard that those drugs cause weight gain and rounding of the face and will take the prescription, but not the drug. Other patients may not take their medicines because they have heard of therapeutic misadventures or have concerns about “putting chemicals into their bodies”, unless the physician is aware of those concerns and takes action to reassure the patient. In essence, a physician will get better patient compliance when he knows and understands the patient as well as the disease.

Other major consequences of the problem derive from the attitude of the public towards physicians. Patients tend to remain trusting and fond of their personal physician, but develop negative attitudes toward specialists, hospitals, and the medical care system. This leads to problems, such as delays in seeking treatment, wasted resources in the form of unneeded additional opinions, lawsuits, and lack of support for needed medical resources.

Etiology of the Problem

The design of a medical school curriculum obviously must be guided by one’s views of a physician
and of appropriate physician behavior, and it seems reasonable to assume that what we teach medical students has an impact on the type of physician we produce. We spend much time and effort in selecting students. We are generally able to choose very selectively from a large pool of students who have scored highly on intelligence tests and demonstrated the ability to perform well in a learning environment by achieving scholastic excellence. Equally important, we have examined their abilities to work collaboratively and collegially, and we have sought evidence of caring attitudes towards others and adherence to high standards of integrity and ethics. I believe we do well with our selection process.

The reasons that motivate students to want to become physicians vary; they are complex and not always completely clear, even to the students themselves. All have multiple motives. Some have been encouraged or even pushed toward a career in medicine by their parents, some are attracted to the idea of doing rewarding research, some find the prolonged educational process attractive, and some are attracted to the power and prestige accorded physicians in our society or to the potential financial rewards of successful practice. However, I have found it very, very rare to see a student who has not been strongly motivated by the desire to help others. The “others” may be generalized or focused on specific groups, such as infants, children, women, or an underprivileged group, but a genuine desire to prevent illness and suffering or to cure disease and bring hope and help to others is almost universally and strongly present in entering medical students.

However, something happens in the course of medical education that changes the behavior of many of those students and betrays their innocent yearnings. It takes little observation of resident physicians, teaching faculty, and practicing physicians in their interactions with patients to note instances of rudeness, a lack of sensitivity to patient concerns and suffering, and behavior that can only be described as arrogant or indifferent. Consider, for example, a hospitalized patient who requires a specialty consultation. How often would you see a senior specialist with an attendant group of fellows, residents, and interns approach the patient without introducing themselves, without asking the patient if he expected them or understands why they are there, and proceed to ask the patient questions exclusively about symptoms, examine parts of his body, and then either abruptly leave or have a discussion about the patient among themselves, as if he or she could not see or hear. Is it surprising that patients tend to see physicians as uncaring?

Such attitudes seem especially baffling when one considers that doctors had better patient relationships, more respect, and less criticism from the public at the turn of the century, 100 years ago, when medicine lacked the diagnostic prowess available today and virtually no treatments were effective. Perhaps the difference is that most physicians at that time knew their patients, their patient’s families, their position in society, their personalities, cultural beliefs, and concerns. Perhaps also, the lack of sophisticated diagnostic technology and effective therapies forced physicians to rely more on their relationships with patients.

The change is, in large part, related to the marvelous advances in biological science and medical technology that have taken place in the 20th century, particularly during the past 50 years. Our powerful medical armamentarium has led to changes in the practice of medicine and in how we train medical students, residents, and fellows.

Fifty years ago, we had insulin, but no other drugs to treat patients with diabetes. We had vitamins and sulfa drugs, but there were almost no antibiotics and few vaccines, no effective drugs to treat hypertension, and no knowledge of the role of cholesterol in atherosclerosis. Intensive care units did not exist, nor was there cardiac catheterization, balloon angiography, bypass surgery, computed tomography and MRI, organ transplantation, in vitro fertilization, and successful chemotherapy. The powerful technology that enables us to make more precise diagnoses and to provide more effective therapy too often leads us to overlook the virtues of careful history taking and physical examination, which provide important information unobtainable by any other means. I have seen patients with symptoms that hardly fit any logical pathological pattern admitted to hospital and subjected to extensive high-tech diagnostic study and even intrusive therapy by doctors who have no knowledge of the patient as a person and who even neglect to do thorough physical examinations, because they are so in awe of the new technology. They do not seem to understand that a little time spent getting to know the patient better may be more profitable than ordering more high-tech studies.

In parallel with enormous advances in information, drug products, and technology, there has been a major increase in specialization and subspecialization. It has been jokingly said that specialists study more and more about less and less, until they know everything about nothing. That is a gross exaggeration, but it is true that highly specialized physicians generally have had little experience with organs and diseases outside their area of special interest. It should not be surprising if a physician who trains for 5 to 7 years to become an interventional cardiologist has had little experience with or knowledge of the intricacies of Crohn’s disease. When such a physician consults on a patient with other diseases who has chest pain, he is likely to interrogate the patient with questions exclusively related to the heart with a view towards deciding whether cardiac disease is likely and determining what further studies and treatment of the heart may be required. Furthermore, he is likely to have been trained to behave in an authoritarian manner demonstrating great confidence and certainty. Unfortunately, he is not likely to ask the patient who he is, what he knows of his condition, or what his beliefs and concerns are, because the physician has also probably been trained to believe that his knowledge and skills regarding cardiovascular disease are sufficient to deal with the patient’s problem, regardless of
the patient’s individual characteristics. He believes he needs only to treat the heart and its disease and the patient will be well served. Such specialists achieve high rank in medical schools and serve as major role models for students, house officers, and fellows. This appears to be a major reason for the changes we see in those students.

That type of care can be a prescription for disaster or, at least, suboptimal care. Patients have different ways of communicating. Most specialists will tell you that a high percentage of the patients referred to them have functional complaints. For example, functional disorders represent at least 50% of visits to gastroenterologists (4) and their economic impact is enormous (5). However, a common approach to such patients appears to be to use all the technical diagnostic power available (always expensive and often invasive and potentially hazardous) to rule out organic disease and then send the patient back to the referring physician. This is like saying, “If the patient doesn’t have cardiac (gastrointestinal, endocrine, or some other) disease, there’s nothing for me to do”. In essence, no useful diagnosis is made. Structural diseases have been ruled out, but no effective therapy is recommended.

Possible Solutions

Successful, respected, and well-rewarded specialists, who are the primary teachers and role models for medical students, house officers, and fellows dominate our teaching institutions. Too often, students emulate such role models and appear to patients to be imperious, cold caregivers. Ideally, we would modify the behavior of those professors who fail to demonstrate and teach good patient caring procedures, but that is an unrealistic goal. Instead, we must make special efforts to inculcate appropriate behavior in our students and teach them to do what is right and to recognize, and not emulate, what is inappropriate.

There are many ways to achieve our goal, but it can begin with simple techniques. One that I have found to be helpful begins with groups of students before they have their first encounters with patients. A group of approximately 10 students in a conference setting can be a comfortable place to ask each student to tell the group who he or she is and how they became interested in medicine. I allow each student to speak as long as they like and even ask questions to amplify their narratives, but keep track of the time that they speak. We invariably hear a variety of very interesting and even dramatic stories. I am then in a position to ask the group if they learned anything new and important about their colleagues. The answer is almost always an enthusiastic “Yes!” Generally, I find that the students have spoken for about 20 minutes or an average of about 2 minutes per student. Thus, I am in a position to point out that we have learned vital information in understanding our colleagues in about 2 minutes and should be able to do the same with our patients. I make clear that we will not permit them to see and evaluate patients without learning who they are, and a lack of time is not an acceptable excuse.

Whereas some students relate spontaneously and behave graciously with patients intuitively, others are shy, restrained, or awkward. All, however, can benefit from precise instruction in a variety of techniques that enhance constructive patient interactions. For example, when our students begin to interview patients, we teach them not only how to ask about the present illness, past medical history, and system review questions, but we insist that, at an appropriate point in the interview, they say something like, “I now have a lot of information about your symptoms, but I need to know more about you to take good care of you. Tell me about yourself as a person”. The results are fascinating. Patients almost always provide meaningful information in a minute or two. For example, just as this paper was being written, we saw a patient who had been seriously injured in an auto accident. In slightly more than a minute and a half, she told us that she had married young, had three children now in their forties, was divorced after 20 years, lives alone and has many good friends, is very active in her church, still works (at age 67) to support herself and loves her job working with mentally retarded children, but fears losing the job and income because of this accident. None of the physicians who had been taking care of her for the past three days knew any of this information about her. I must add that none had yet described to her the extent of her injuries or the plans for her management. She had learned of a “crushed pelvis and fractured femur” by overhearing technicians in the X-ray department and her nurses but knew nothing of the fractured ribs that were causing so much pain with each breath or cough and were putting her at risk of pneumonia.

The students must also ask, “Is there anything else you would like to tell me so that I can take good care of you”. These questions, of course, are only a beginning, but it is remarkable how much valuable information is obtained and how favorably it affects the doctor-patient relationship.

Whereas most schools in the USA only give token attention to these issues (6), a few schools have devised sophisticated programs to help students develop the attitudes and skills needed. There is evidence that such training leads to better communication skills and more accurate diagnoses (7). I will refer here to a program I am personally familiar with. In the clinical skills program that precedes the first-year student’s regular attendance on wards and in clinics at MCP Hahnemann University, School of Medicine, we see the students in groups of ten, each with a seasoned physician leader and a 4th year student as a co-teacher or facilitator. We make liberal use of short visits with hospitalized patients and of interviews with “standardized patients”, average people who have been trained to play the role of a patient with a specific set of symptoms and social circumstances. This program was designed first at Brown University by Prof. Dennis Novack (7) and emphasizes a “three function approach”, as described by Cole and Bird (8). Students learn that the interview is designed first to establish an effective doctor-patient relationship; second, to assess the patient’s problems – gather data for diagnosis; and third, to manage the patients prob-
lems – educate the patient regarding his illness and needed therapy and motivate the patient to comply.

Each teaching session is programmed to illustrate another specific objective, for example, how to recognize a patient’s nonverbal communications and to be aware of their own, when and how to express empathy, how to respond to a patient’s emotions, how to legitimate the patient’s concerns, indicate respect for the patient, and develop a therapeutic partnership.

Each of those objectives is broken down into specific steps and techniques that can be taught. For example, a physician’s nonverbal language includes being aware that establishing eye contact and maintaining an open body position and a forward lean of the body and head are means of indicating a serious concern for the patient. Students are taught the value of starting with open-ended questions and progressing to closed-ended ones. They learn to recheck their data, to recognize a patient’s emotional reactions, and to respond to them appropriately. They are taught to deal with sensitive issues, such as sexual behavior, patients with major disabilities, angry patients, or the possibility or likelihood of dying and death. Personal growth is fostered by helping students to recognize their own anxieties and sensitivities and social and cultural differences with some patients.

Throughout the year-long course, the attending physician and the assisting senior student demonstrate the expected behaviors and serve as role models, not only in their interactions with patients, but with the students themselves. They not only teach specific skills, but they show an interest in the students as individuals and help them cope with the vicissitudes of being medical students. The students experience the fact that such a humanistic approach to interpersonal relationships and to patient care leads to better and more complete diagnoses, more effective treatment, and much more physician and patient satisfaction and gratification.

Such a program is relatively easy to develop, very gratifying to implement, and helps train caring, humane physicians.

References