



REVIEW

Practicing Otorhinolaryngology in modern times – ‘The conflict between the art and the science’

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Abstract

In the modern times, the practice of medicine has become more a science than art because the focus is more on using advanced diagnostic and treatment modalities and practising evidence based medicine. The psychological condition of the patient is not paid attention to. However, from ancient times, the art and science of medicine have both been proved to be equally important to relieve human suffering. This article delves into the nuances of practising modern medicine today with equal emphasis on both the art and the science of medicine.

Keywords: otorhinolaryngology, medicine, art, science, technology

Medicine is the science of caring for sick patients and includes the diagnosis of disease, prognosis, prevention, treatment, palliation and promotion of health. The history of medicine dates back to thousands of years, evolving from the prehistoric and ancient times to the present day. The art of medicine has been practiced since ancient times; however, the science of medicine is comparatively recent. In the ancient past when science and technology were non-existent, the art of medicine was given emphasis. Treatment that produced no physical effect on the body could make a patient feel better when the patient believed in its efficacy (placebo effect). Although the debate over whether medicine is an art or a science is never ending, both art and science are equally important in clinical practice. The alleviation of pain and suffering has been the goal of medicine since ancient times. Technological, medical, and scientific improvements have improved many aspects of health care in the last century and have helped conquer several diseases, thereby improving the quality of life of people. The benefits of science and technology have been seen across all specialties of medicine.

Since ancient times, the art of medicine has been stressed as much as the science of medicine. Thiruvalluvar, the great Tamil poet and philosopher of the 4th century BCE, described how medicine should be practiced:

நோய்நாடி நோய்முதல் நாடி அதுதணிக்கும்

வாய்நாடி வாய்ப்பச் செயல் (குறள் 948)

Precisely diagnose the disease, seek the cause of the disease, then seek the methods of ameliorating the disease, and finally render the remedy in a way that is physically and psychologically acceptable to the patient.

One can see the emphasis on both the science and art of medicine in this Kural.

The Greek physician Hippocrates, the ‘father of modern medicine’ was the first to lay the foundation for a rational approach to practicing the art of medicine. He described the ‘Hippocratic oath,’ which is held sacred by physicians to this day. In the earliest ancient Greek texts, medicine has been

described as a “*techne*” (know-how) conveying elements of science, skill, art, and also of artisanal craft. The word patient is from the Latin “*patientem*,” meaning sufferer and the word physician is from the Greek “*phusis*” or nature. It is the duty of the physician involved in clinical work to study the nature of illness, recovery, and humanity.

The goal of medicine is always to relieve human suffering. Hippocrates mentioned that ‘Warmth, sympathy, and understanding may outweigh the surgeon’s knife or the chemist’s drug’; however, this may get neglected in current ENT practice. The practice of otolaryngology should comprise both compassion and evidence, so that we may heal the patients with whose care we are entrusted. Paracelsus, who was a Swiss physician and a pioneer in several aspects of the medical revolution in the 14th century, rightly stated, “True medicine only arises from the creative knowledge of the last and deeper powers of the whole universe; only he who grasps the innermost nature of man can cure him in earnest.”

Many breakthrough treatments, advances in research, and medical devices have had a tremendous impact on the world of medicine. Today, technological advancements have enabled improved treatment of a wide range of diseases and improved global health care. The field of otorhinolaryngology is no exception. Due to advances in science and technology, cochlear implants and auditory brainstem implants can help a person born with profound hearing loss hear. The introduction of endoscopes, microscopes, advanced investigative modalities, powered instrumentation, lasers, coblation, surgical navigation, robotic surgery, etc. have transformed the way otolaryngology is practiced today.

Evidence-based medicine aims to develop protocols for disease management based on systematic reviews and meta-analysis. After evidence-based medicine was established, the art and science of medicine had to be linked. Health care is based on technological advancements. From electronic medical records, telemedicine, three-dimensional printing, algorithms, and sensors, technology has changed medical practice. However, with the emphasis on evidence-based medicine, the “art,” the humanistic components of medicine, has increasingly come under threat. Theodore Fox, a British physician and *The Lancet*’s editor-in-chief for many years, said, “The patient may be safer with a physician who is naturally wise than with one who is artificially learned.” The practice of clinical medicine is both science and art.

Several impediments to practicing the art of medicine exist. The commercialization of health care has been based on the science to the utter neglect of the art of medicine as it benefits the care-providing corporate facilities. Modern medicine involves health maintenance organizations, pre-authorization, claim denials, consumerism, bureaucracy, and hospital administrators telling doctors how to practice the art of medicine. The corporatization of health care in modern times has caused a lack of creative thinking at the bedside and resulted in physician burnout across all specialties of

medicine. Doctors who consider their profession as just another job and not as a calling and who see patients as an arm’s length transaction, giving more importance to their private time rather than caring for their patients have settled for less when compared to the great medical icons in history. Doctors should always consider the body, mind, and spirit while treating their patients. An impersonal computer can dispense the science of medicine, but only a caring physician can practice the art of medicine while using the scientific knowledge and skills acquired over several years.

In the art of medicine, physicians become diagnostic and therapeutic tools that use the knowledge and abilities of medicine. The art of medicine includes the knowledge required for diagnosis and healing as well as the ability to apply the knowledge to the individual. There is a vast difference between disease and illness; only the physician who practices the art can discern the difference. Disease is a pathoanatomical or pathophysiological entity that manifests in symptoms experienced by the patient and observed by the physician (1). Illness is the patient’s perception of the disease and has an impact on their physical, psychological, social and economic wellbeing. The physician should be concerned not only about the patient’s disease but should have a holistic approach toward their illness.

Sir William Osler, a renowned 19th century Canadian physician, was the first to emphasize on the importance of bedside clinical training for medical students. His words, “The good physician treats the disease; the great physician treats the patient who has the disease,” is of great relevance in modern times. Sir William Osler stated that medicine arose out of the primal sympathy of man with man, out of the desire to help those in sorrow, need, and sickness. His famous quote “The practice of medicine is an art not a trade; a calling not a business; a calling in which your heart will be exercised equally with your head” must be taught to every medical student. Sir William Osler noted that: “The practice of medicine is an art, based on science” and that “The old art cannot possibly be replaced by, but must be absorbed in, the new science”.

The diagnosis and the treatment of a disease often depend on multiple, variable, and unpredictable factors. The natural course of identical diseases varies from patient to patient; hence, good communication skills, empathy, and openness form the key to a good doctor–patient relationship, which is crucial to practice the art of medicine. The physician’s concern for the patient’s welfare is as important as the treatment options given to the patient.

Time and again, the art and science of medicine have proved to be complementary to each other. The art of medicine deals with the complete range of doctor–patient relationships. The patient’s interest, concern, or welfare comes first, and the multiplicity of diagnostic instruments and treatment alternatives are secondary to the patient’s wellbeing. An exponential growth of technical competence and of the ensuing effectiveness of care has

been paradoxically paralleled by a decrease in trust amongst patients, due to the growing lack of empathy between physicians and patients. There is an increasing realization that the social, psychological, and behavioral dimensions of illness should be considered in addition to the physical dimension. A doctor's bedside manner in comforting the afflicted patient is as important as a doctor's actual treatment. "Treat the patient, not just the disease," should be a mantra for all physicians to practice.

Panda (2) views medicine as both an art and a science, stating, "We all know this, but the art/science ratio has changed dramatically over time. The medical pendulum is swinging from art to science, and in my opinion, the finest doctor is one who, equipped with scientific information, exercises superb clinical judgment. The practice of medicine requires a great deal of compassion and understanding."

The doctor-patient relationship has proved to be invaluable in practicing medicine. The doctor-patient relationship is universal across all cultures and has been appreciated since antiquity.

Doctor-patient communication

The patient's trust is essential for a successful diagnosis and outcome and a good doctor-patient relationship creates confidence. The ability to use the spoken language to obtain the history from the patient, get the patient's co-operation, and provide information to the patient is crucial to the art of medicine. The importance of verbal communication is equally matched by the non-verbal aspects of communication, which the patient may not be aware of, but the astute physician learns to detect and interpret them. As part of their art, medical practitioners should actively develop the doctor-patient relationship, balancing empathic intimacy and objectivity. These aspects of the doctor-patient relationship should not be neglected in modern medical practice.

Medical ethics

Medical ethics helps us decide how to act in the real world. It takes into account all aspects of an action that must be taken by the physician – factual evidence, social, and legal aspects and it must be part of mainstream medical decisions. It includes the professional behavior of doctors, relationship between doctors, and doctor-patient relationship. It also encompasses the acceptability of advertising, introduction of new medical interventions such as genetics, continuation of medical intervention, etc. Reasoning and emotions should be part of ethical decisions and these decisions must be universally applicable and in the patient's interest. Respect for autonomy is paramount

and the patient, guided by the clinician, should be able to make the right decision regarding medical intervention. Respect for informed autonomous choice of a patient in medical treatment is necessary and the patient's welfare is the most important factor in medical practice. Ultimately, the core of medical ethics is the implied understanding that the practice of ethics should strengthen the doctor-patient relationship.

Artificial intelligence and the art of medicine

Artificial intelligence (AI) is emerging as an important aid in modern clinical practice. Despite fears that AI may become a threat to medicine, it is unlikely to replace and take the jobs of physicians or monopolize medicine. AI can automate administrative tasks and help complete monotonous assignments. It can free up time for medical professionals to practice medicine. The art of medicine needs not only empathy from physicians but also time, which is at a premium in today's milieu of increasing electronic documentation and increasing pressure from both administrators and payers. Advanced technologies like AI in medicine have the potential to release professionals from this rut.

The importance of the art of medicine is that the doctor has to deal with a patient's body, mind, and soul. Hippocrates said "It is more important to know what sort of person has a disease than to know what sort of disease a person has," and this is still relevant in today's world of medicine. Compassion, empathy, and communication will always be at the core of caring for patients.

Science has made impressive advances in the past century. A plethora of discoveries and medical advances have changed the face of medicine beyond all recognition. In virtually every discipline of medicine, new and highly effective management modalities are available. The application of medical technologies has led to a decrease in bedside clinical medicine and deterioration in doctor-patient relationships. The art and science of medicine are like the two sides of a coin and medicine will always be an art based on science. Medical professionals can care for their patients better using the advanced technologies available today. Medicine is not only a science but also a therapeutic art. Integrity, compassion, respect, service, concern for the patient, empathy, and wisdom are vital to practice the art of medicine. In the final analysis, the good doctor cures 50% of patients, further ameliorates an additional 25% but can certainly comfort all 100%.

To succeed, every budding otorhinolaryngologist needs vital tools such as knowledge, skills, empathy, persistence,

belief in oneself, and perseverance and industry (hard work). The importance of practicing the art of medicine is evident when the otolaryngologist treats a patient with vertigo or migraine headache as counseling and empathy play an equally important part as the medication prescribed to treat the ailment. Otolaryngologists deal with diverse conditions afflicting the ENT and head & neck region ranging from the trivial to life-threatening. In all situations, practicing the science together with the art of medicine has been shown to improve the patient's experience of the condition.

Sir Robert Hutchison, a renowned Scottish physician who authored 'Clinical Methods', which is the Bible for bedside medicine for medical students very rightly, said:

“From inability to let well alone; from too much zeal for the new and contempt for what is old; from putting knowledge before wisdom, science before art, and cleverness before common sense; from treating patients as cases; and from making the cure of the

disease more grievous than the endurance of the same, Good Lord, deliver us.”

Thus, the practice of otorhinolaryngology should always be a vocation and not an industry.

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