

Clinical medicine – Is it a dying art ?

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SAITM Medical Journal 2016; **01**: 1-3

Introduction

The practice of clinical medicine dates back to antiquity. In 1761 Josef Leopold Auenbrugger discovered percussion as a diagnostic tool after having observed his father use this technique to determine the level of wine in casks in the cellar of his father's hotel (1). In 1819 Rene Laënnec discovered the stethoscope for auscultation (2). The latter part of the last century had seen an unprecedented explosion of technology which has overflowed into the new millennium with an increased thrust. The ever expanding plethora of diagnostics applied in medicine has tended to overwhelm the clinician's role as a diagnostician. Similarly technological advances have dented the clinical management decision making process. Application of scoring systems and computer generated answers are in vogue both for diagnosis and treatment. It is against such a background that we need to question critically the need for a clinician and whether the training of medical students and junior doctors should be to generate clinicians or futuristic doctors who would function like technicians.

The art of clinical medicine

A patient is a living human being with feelings, a personality and a mentality woven around a state of spirituality apart for a corporeal body. The integration of all these different entities is whom we call a patient with all its manifest uniqueness. Quality care for these patients necessarily requires a holistic approach addressing all these individual attributes. How well a mere technical approach could comprehend adequately all these diverse aspects of patient care is hard to conceive.

The clinician reconciles all these aspects which add uniqueness to the true art of medicine transcending a mere science. It is the practice of this art that makes a clinician see a patient in its entirety and not merely as another case. Kindness and empathy exudes from him which are not mere words but genuine feelings emerging from the heart and pervading not only to the patient but the environment in which the clinician is working. A clinician approaches a patient with a greeting smiling face. He will grasp the patient's palm with his right hand while feeling the pulse with the left hand and simultaneously establish eye contact which is instantaneous and natural to the true clinician. This initial approach and the technique of checking the pulse is often sufficient

to penetrate the subconscious and ease the distress of a patient. This we call the healing touch as it facilitates the healing process owing to the confidence generated and easing the patient's silent inner mental distress. At the same time this technique would facilitate the experienced clinician to cognize the overall general condition of the patient within minutes. This is in stark contrast to the approach of a technically oriented doctor who will assess the patient who is another "case" from the foot end of the bed and peruse in detail relevant and irrelevant data stacked in the case notes and make highly scientific decisions by analyzing the case records and investigations without even shifting the gaze towards the patient and will then move on to the next bed occupied by yet another "case". In some settings all these are done in an office seated around a table and not at the bedside of the patient. One may ponder how to grasp the feelings of a patient in such a setting and the decisions made are essentially mathematical deductions. The care meted out under such circumstances necessarily becomes dominated by a professional and a highly technical approach in stark contrast to the working of a clinician where human touch dominates the management process.

Training to be a clinician

Training to be a clinician should start from undergraduates. The undergraduate crossing the barrier of preclinical bar examinations should be sensitized at the very outset to the challenges, diversity and richness of clinical medicine. The undergraduate should be able to open one's heart and mind to discover for oneself the fascinating art of clinical medicine. It is essential to change the mindset of a generation who had grown up in an era of technological exposure from early childhood. Against this background it is an arduous, yet feasible task in breaking the shackles and showing the right path in the training of a clinician.

In the training of a clinician one learns and cultivates the art of gathering information from all senses including smells. Developing the powers of observation are essential and a high priority area to be a good clinician. The way a patient carries oneself, the gait, postures held, movements made, facial expressions and demeanor are a few examples of observational importance that can yield extremely useful diagnostic clues. Such observations could also facilitate the individualization of management plans.

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An intelligent analysis and rational deductions arrived from these observations lead to a fascinating path of diagnostic artistry. Similarly the clinician learns to gather more information from palpation, percussion, auscultation and smells. Synthesizing these findings with key data elicited in the history and a sound clinical acumen serves to pinpoint the diagnosis. A good clinician is very judicious in the selection of investigations. Properly selected investigations serves to confirm the clinical impressions and plan further management.

Evidence based clinical medicine

Practice of modern medicine is based on evidence. Proponents of this concept have moved to extremes and attempted to make clinical medicine evidence based and make it more scientific. For instance calculations are made to identify the reliability and validity of physical signs. In the process the very fabric of this hallowed art is shattered making it only a science and not an art. It is essential to realize that the art and science of the practice of medicine are two distinct components to be intelligently applied and integrated in the delivery of quality care. An example of the practice of evidence based clinical medicine is given below for the respiratory system (3):

Reliable physical signs (k 0.6-1)

- Chest movements
- Clubbing
- Vocal fremitus
- Dullness
- Breath sound intensity
- Crepitations
- Vocal resonance diminished
- Wheezes

Low reliability (k 0-0.6)

- Cyanosis
- Position of trachea
- Hyper resonance
- Cardiac dullness
- Respiratory distress
- Bronchial breathing
- Vocal resonance increased
- Prolonged expiratory phase
- Pleural rub

Similarly likelihood ratios are calculated using formulae, thus

$$LR = \frac{\text{Probability of finding in patients with disease}}{\text{Probability of same finding in patients without disease}}$$

The likelihood ratio calculated in this way is used to assess the value of performing a diagnostic test, the sensitivity and specificity of a test and to determine whether a test result usefully changes the probability that a disease state exists.

However, even in this era of evidence based practice of clinical medicine certain unique assets of a good history and clinical examination, which form the basic core of clinical medicine, are recognized. These include availability, comprehensiveness, economy, safety, powerful combinations, and diagnostic accuracy when coupled with a few basic investigations, inclusion of intangibles, relationship building, health maintenance and unique findings (4). Studies designed to determine the contribution of history, clinical examination and laboratory tests in arriving at a diagnosis have supported the concept that most diagnoses are made from the history (5).

The experienced clinician knows instinctively what aspect in the history, examination or a basic investigation to weigh on to clinch the diagnosis and initiate an individualized therapeutic intervention rather than playing with figures, scoring scales, and calculations using formulae in busy overcrowded clinical settings. It is the practical utility of this mastered art that would enable the rapid delivery of care of a human nature. As an example a patient presenting with severe left sided chest pain would be inferred as due to pleurisy by an astute clinician who will note that pain is restricting the breathing movements. He will confirm these initial impressions by focused auscultation of the precise location of the pain expecting to find a pleural rub. This is the hypothetic-deductive approach practiced by experienced clinicians who have mastered this wonderful art. He will then order a CXR to detect a patch of consolidation to confirm the clinical diagnosis. On the contrary on another occasion a patient presenting with the same symptom of severe left sided chest pain will be inferred as due to an acute ischemic cardiac event from the way the pain is described, the subtle ties of facial expression, the observed clenching of the fist, and the freedom of chest movements. He will visualize the generation of a fourth heart sound by resistance to ventricular filling owing to reduced compliance of the hypothesized ischemic myocardium. Hence the focused examination would be to detect a fourth heart sound rather than a pleural rub and request an ECG rather than a CXR to confirm the clinical impressions.

Modern medicine should not fail to identify that a clinical diagnostic approach to be quite distinct from an algorithmic, statistical, mechanical diagnostic method which dominates the practice of modern evidence based medicine. Studies have shown that the latter approach in general is superior to the former approach. But this is not always the case. Astute clinicians have the ability and intuitive judgement to identify what is important and ignore what is not

important. Any attempt to integrate the two approaches can pollute the true art of clinical medicine. And legal controls should not lead to a paradigm shift towards an exclusive scientific method of practice if the noble art of clinical medicine is to be preserved.

Reviving the art of clinical medicine

We live in an era where patient expectations are high and demanding. The threat of law suits haunting doctors tend to undermine the relationship between doctors and patients which is built on trust, concern and care. There is an increased tendency to practice defensive medicine and a consequent barrage of investigations been ordered to play safe. All these add to the cost of care straining the health budget which is already bursting at its seam. However the monetary gains delight the industry. The industry encourages this approach by recourse to subtle techniques and creates a vicious cycle to the detriment of the health system. In Sri Lanka where free health care is provided in the state health sector this is akin to dumping money to a bottomless pit. In order to reconcile with this situation it is essential to revive the art of clinical medicine. A good clinician will know how best to utilize limited resources for optimal care. A clinician's decision making process is driven with empathy and sound clinical judgement stemming from a mastery of clinical skills.

In order to revive this art both undergraduates and postgraduates need to be taught by experienced clinicians and also be exposed to their bedside skills. In clinical training quality is what matters and not the mere number of patients seen. In the west in particular patients are reluctant to permit access to medical students. A wide variety of alternative techniques are resorted to circumvent this draw back. Thus the use of audio-visual aids, virtual/simulated patients, mannequins, and skills laboratories are in vogue. Whatever the method resorted to in clinical training; the objectives should be to learn the correct techniques of examination, and detect and interpret abnormal physical signs. Training to observe and think is a dominant and integral part of the training of a clinician.

Mastering examination techniques does not require hundreds of patients. It is a function of the mind. The student is taught relevant steps which should be learnt, visualized and thoroughly rehearsed mentally and then practiced even in a normal person to perfect the technique. The teacher demonstrates the techniques and students perform under the close supervision of the teacher. Any flaws are corrected till the technique is perfected.

Abnormal physical signs can be detected by been familiar with what is normal, which is feasible even if such an abnormality has not been encountered

before or without having seen hundreds of "good cases".

Interpretation of abnormal signs is an intelligent application of theory which can be worked out on a drawing board even without a single patient.

The practice of medicine is neither an art nor a science. It is an application of science which requires; apart from sound evidence, a good clinical sense, empathy, intuitive judgment and common sense which are attributes woven into the art of clinical medicine and hence the need to revive this art.

Conclusion

There is no substitute to the true art of clinical medicine in the delivery of quality patient care of a humane nature when practicing in a setting of overwhelming technology. Astute clinicians with immense teaching and clinical experience are an enviable asset to Dr. Neville Fernando Teaching Hospital in Malabe, which is the first and the only private teaching hospital in Sri Lanka. Though the hospital is not crowded with patients it has not hampered the academia in its quest to revive the art of clinical medicine. The purported paucity of patients for clinical teaching has been circumvented by application of innovative teaching methods unique to the conditions and yet feasible to meet the primary goals of clinical training. In this institution students and junior doctors alike derive the opportunity to learn by seeing for themselves first hand at the bedside the clinical diagnostic skills of those who have mastered the art. The conceivable products would be astute clinicians who could revive and sustain the nobility of this dying art of clinical medicine. The training of a clinician should not stop at an undergraduate level. The revival of this dying art necessitates the extension of this concept to postgraduate training. Postgraduates with added experience by learning this noble art could strengthen and develop that elusive clinical sense and human touch which could otherwise tend to erode away in a quagmire of investigations and technology to the attended inevitable detriment of patient care.

References

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