

## Modern Methods in the Field of Medicine

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### ABSTRACT

Education is a dynamic process that has to be refined periodically. Lack of innovative teaching techniques in academics makes medical curricula inadequate in making a significant stride towards the future. The objective of this review is to describe and assess alternative methods of teaching and learning which can be supplementary or alternative to traditional lectures for promoting active student participation and smooth flow of information.

**KEYWORDS:** supply, process, objective, curricula, review, inadequate

During the ancient times, similar medical theories and principles were practiced around the world despite linguistic and cultural differences. These laws and principles adhered to the concept that nature and human are united by the several basic elements, and liquids together with energy circulating within the human body and nature. This model of the nature and human body, despite its seeming simplicity, enabled various diseases to be treated using substances and methods available in the natural environment.

All these terms used in TCM first appeared in ancient oriental philosophy, and have very broad meanings in contrast to the modern scientific terms, characterized by precision and specificity. However, modern medical science has designed various mathematical models to describe the general laws of physiological and pathological processes within the human body and these models resemble the approach applied in TCM. TCM terms and principles look like algebraic equations. Therefore, these general terms enable the doctor to understand the specific condition of his patient and prescribe the correct therapeutic protocol.

Abu Ali Ibn Sina (Avicenna, 980–1037) was a famous doctor in the Middle East [10]. At the very beginning of the first book of *Canon of Medicine*, Avicenna described the four elements as fire, air, water and earth. Moreover, he expounded on the four liquids (humors), including yellow bile, black bile, blood and phlegm, which circulated within the human body. Avicenna also went on to explain the various conditions of the human body—warm, cold, dry and humid and that the energy of the body could be in excess, deficiency or balance.

Besides his detailed description of the arteries and veins, Avicenna identified “energies” or “living forces” and their relationships to the organs. Among the etiological factors for disease, Avicenna noted various types of weather that were related to the seasons. Moreover, he advised that special attention should be paid to the wind that blew from certain directions. He concluded that some diseases were caused by

living conditions, emotions, sleep quality, nature or the taste of food and beverages. Avicenna had deep understanding of different diagnostic methods which resemble the methods used in TCM, including analysis of pulse, urine and stool [10].

The *Canon of Medicine*, written by Avicenna, is a collection of medical knowledge from the Far East, Middle East and Europe, particularly from Greece, which was the reason why Avicenna’s books were used in Europe as a medical canon by doctors for generations [11].

Methods: A review of literature is performed with PubMed and EBSCO using the keywords: "learning" OR "didactic learning" OR "alternative learning" OR "modern learning techniques" AND "medical education". Databases were searched and 500 studies were identified out of which 200 were selected for further screening based on inclusion criteria and exclusion criteria. Articles were surveyed based on their relevance and significance to our study objectives with both qualitative and quantitative studies were examined. Results: Case-based learning, evidence-based medicine, problem-based learning, simulation-based learning, e-learning, peer-assisted learning, observational learning, flipped classroom and team based learning are some of the modern learning methodologies. The various learning methods discussed attend to individual learning differences allowing students to broaden their thinking and professional knowledge by improving logical and critical thinking, clinical reasoning, and time management. Early introduction of integrative approaches develop student competency and leadership equipping students for a smooth transit into the clinical practice. Conclusion: This study highlights the importance and challenges of modern learning systems. With technological advancement and wider implications of medical information, students require innovative skills through inter-professional learning. It is necessary to introduce and implement flexible medical curricula that accommodates distinct modern teaching to effectively balance and bridge the gap between traditional teaching methodologies and modern educational requirements.

To improve healthcare, medical education should be the starting point. Along the path to becoming a doctor, medical students should be made of all the scientific medical modalities that have been applied throughout the generations—in theory and practice. The education should then be finished with the most recent achievements in the field of medical science.

Modern categorization of diseases should be developed into a systemic classification with the important labels like “*sthenic*” (excess) or “*asthenic*” (deficiency) and “hot” or “cold.” This additional information is easily recognizable

after a routine observation and examination of the patient. For example, expiratory dyspnea, or cough, during deep inhalation indicates “excess in the lungs” (*sthenic*), while inspiratory dyspnea, or cough during exhalation, indicates “deficiency in the lungs” (*asthenic*). Experiencing abdominal pain on empty stomach is an indicator of “deficiency of the stomach” (*asthenic*), whereas having abdominal pain after a meal indicates an “excess of the stomach” (*sthenic*). Excess and deficiency should require different therapeutic protocols.

Characteristics of diseases related to “hot” and “cold” syndromes can be easily recognized from the analysis of the patient’s avoidance or preference for the “cold” and “hot” patterns, for example, inclination to cold or hot weather, certain types of food and beverage choices, or fondness for warm or light clothing.

It is highly desirable to develop simple protocols and equipment that can obtain objective criteria from these subjective signs. For instance, the ratio between heart rate and respiration can differentiate hot (> 5) or cold (< 5) syndromes; and the duration of the “individual minute” can help to evaluate the adaptation or conservation of energy in the body.

It would be beneficial to find a scientific explanation for these universal patterns, which may be related to tissue respiration, contents of adenosine triphosphate and efficacy of its usage. But, even without this additional knowledge, doctors can still treat known or even unknown diseases and syndromes using “stimulation” or “sedation,” “warming” or “cooling” methods or medicines accordingly.

**Modern Methods of Clinical Investigation** focuses on strategies for clinical evaluation and their role in uncovering the actual benefits and risks of medical innovation.

Essays explore differences in our current systems for evaluating drugs, medical devices, and clinical procedures; health insurance databases as a tool for assessing treatment outcomes; the role of the medical profession, the Food and Drug Administration, and industry in stimulating the use of evaluative methods; and more.

This book will be of special interest to policymakers, regulators, executives in the medical industry, clinical researchers, and physicians.

Throughout human history, prior to the Middle Ages, doctors and healers gathered and refined the knowledge inherited from previous generations. This growing practice was always considered the “classic modern scientific medicine” of the

time. Despite natural and social disasters, mankind has survived until today, with its population in the rise—an evidence that at no time when medical knowledge was wrong or ineffective.

One can argue that various wild animals also survived even without healthcare, but actually they use their own primitive type of medicine and their surviving depends mostly on the human expansion.

It is rationally acceptable for a physician to comply with the standard protocols of therapy immediately after graduating from medical school. As time progresses, a physician should become an expert using his own unique professional experience. He should become a “good doctor” who knows how to choose a “good method” or “good medicine” in specific cases, regardless of when that method or remedy was discovered. If it is a common cold or flu, a prescription of herbal tea may be sufficient. For treatment of acrophobia, homeopathic *Argentum Nitricum* is one of the best choices. The restless legs syndrome should be treated by acupuncture and herbal medicine. For bronchial asthma attack, infusion of glucose solution could be quite effective. But in the case of organ failure, hormone therapy or transplantation of cells, tissue, or even the whole organ may be required.

A modern physician should remember that the primary goal of medicine has always been the same, now and a thousand years ago: “*I will use treatment to help the sick according to my ability and judgment ...*”

#### Used literature

#### References

- [1] G. Maciocia  
**The foundations of Chinese medicine: a comprehensive text for acupuncturists and herbalists**  
Elsevier Health Sciences, London (2015)
- [2] J. O’Connor, D. Bensky  
**Acupuncture: a comprehensive text**  
Eastland Press, California (1981), pp. 1-34
- [3] S. Xi, Y. Gong  
**Essentials of Chinese materia medica and medical formulas**  
Academic Press, London (2017)
- [4] M. Teppone, R. Avakyan  
**Modern interpretation of traditional Chinese medicine theory**  
Med Acupunct, 21 (3) (2009), pp. 201-206