

Ibn Sīnā's Canon of Medicine: Aspects of Holistic Medicine

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Abstract

Ibn Sīnā describes the purpose of medicine as being to "preserve health and to eradicate disease." This paper explores Ibn Sīnā's work, the *Canon of Medicine*, and concludes that his concepts of health and diseases have allowed him to develop an integrated and holistic view of the patient from an authentically Islamic tradition. Ibn Sīnā considered health to be a dynamic balance between an individual and his/her environment. He describes three levels of health that interact with each other: structural, functional, and spiritual. By focusing on ways to maintain an equilibrium in each of these three interacting levels of health, Ibn Sīnā formulates a system of medicine that attempts to treat patients in a far more encompassing manner than is traditionally practiced today. These and other works demonstrate that the tradition of Islamic medicine can enrich our own practice of medicine.

Keywords: Ibn Sīnā (Avicenna), Islamic medicine, holistic medicine, *Canon of Medicine*.

Abu 'Alī Ibn Sīnā (370 - 428 A.H., 970 - 1037 C.E.) is among the premier Muslim intellectuals in our history. At one time recognized in both the Islamic world and Europe for his controversial ideas and original

scientific contributions,^{1,2,3,4} his works have since been overlooked largely due to an increasingly Western-oriented educational system.

Ibn Sīnā's medical works are more than just a historical curiosity. They consist of elaborate systems of medicine that offer a challenging concept of health and disease. This paper will first examine the scientific context of Ibn Sīnā's work, and then will explore his concept of health and disease. It will be argued that this approach allowed the development of a more holistic practice of medicine than is traditionally practiced today. Furthermore, the paper will demonstrate that Ibn Sīnā was not unique in this respect, but rather "Islamic" medicine itself facilitates such a holistic outlook.

While retrospectively his career in the fifth century A.H. (11th century CE), Ibn Sīnā wrote, "I sought to know medi-

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cine, and so I read the books written on it. Medicine is not one of the difficult sciences, and therefore I excelled in it in a very short time, to the point that distinguished physicians began to read the science of medicine under me."⁵ Over the subsequent years, Ibn Sina authored *The Canon of Medicine* ("al-Qānūn Fil-Ṭibb"), which became the standard medical text for Europe and the Islamic world well into the late 18th century CE. The *Canon* is a five-book encyclopedia that represents the understanding of medicine of that time. This paper deals primarily with the first book because this is where the principles of disease and health are discussed.⁶

Ibn Sina's philosophical works dealt with principles of ontology, or existence, and so it was only natural that he explored in detail the nature of a human being. In his medical works, Ibn Sina delineates three distinct levels through which one can understand a human: the structural level, the functional level, and the spiritual level. These levels are each discussed early in various chapters of the *Canon's* first book.

The structural levels consist primarily of the organ systems and arrangement of various tissues. Ibn Sina subdivides the structural level further. He makes a distinction between superficial structure (for example the skin, hair, genitalia, etc.) and the four primary internal organs: the heart, the brain, the liver, and the reproductive glands. Ibn Sina discussed the anatomy of the body and its inter-relationships at length, recognizing their importance. "The various points (about medicine) are learned from anatomy, the knowledge of which is essential to those engaged in the diagnosis and treatment of internal disease."⁷ Certainly, Ibn Sina's descriptions of anatomy are at times factually inaccurate, and his various classification schemes of internal versus external or primary versus auxiliary are not practical. However, the "structural level" concept is independent of the anatomical truths of a given era.

The functional level is the second level in Ibn Sina's medical scheme. This level deals with how the various components of a body operate. Ibn Sina identifies three functions of a human: physical (ṭabī'iyāt), nervous (naḥsiyyāt), and vital (ḥayawīyyāt). It is through these faculties that humans are able to do the things both essential to survival – for example, to eat and reproduce – and nonessential to survival. These functions are briefly expounded upon in Table 1. Most significant of these functions is the vital function or faculty, which Ibn Sina believes consists of sending the "breath" to all the parts of the body via blood vessels. This breath enters each organ system and is converted to another form of energy. For example, when the breath from the vital force enters the finger, it allows the finger to have the sensation of touch (a nervous function). Without the vital faculty, the finger cannot perform the function of feeling. The concept of the vital functioning and breath is closely intertwined with the concept of the soul.

The soul, or the spiritual level, is the third level of a human, and perhaps the most conceptually challenging. This aspect of a human is just as medically relevant to Ibn Sina as the previous levels. Ibn Sina argues that this metaphysical level of a person manifests itself through the vital faculty and is unique to each individual. The soul is not equivalent to the vital faculty, but is one of its functions. As mentioned previously, the vital faculty has been described by Ibn Sina as being the breath that imbues all of the organs with the energy to function correctly. Ibn Sina relegates to the realm of philosophy, the proof of breath's existence. However, his Islamic inclination is clear during several passages where he directly attributes Allāh with creating the breath and placing it into the left ventricle of the heart.⁸ Ibn Sina writes, "(From the heart,) the breath was to be a rallying point for the faculties of the soul, and in the second place it was to be an emanation into the various members and tissues of the body, whereby these could manifest the functions of those faculties."⁹

The three levels that Ibn Sina describes are all intimately connected. By altering one level, the other levels will inevitably be affected. Such interconnections arise because each of the levels requires the other for any purposefulness. The various organs need the faculties to function, and the faculties, in turn, use the vital force, which comes from the soul. The soul can affect the function and structure, and vice-versa. Neither of the three levels is independent of the other. Ibn Sina did not subscribe to the Platonic dualism that dichotomizes humans into the body and the soul. Rather, Ibn Sina explicitly states that the combination of the soul, structure, and function creates a being that is more than the sum of its parts.¹⁰

It is within the three levels of human structure, function, and soul that Ibn Sina discusses health and disease. Ibn Sina describes the purpose of medicine as "to preserve health and to eradicate disease."¹¹ He defines health as "a dynamic state in which the temperament and structure of the human body are such that all of its functions are carried out in a correct (ṣaḥīḥah) and whole (salīmah) manner."¹² From this statement we can see that Ibn Sina identifies three variables that help determine whether a person is healthy, i.e. in a ṣaḥīḥah and salīmah state. These variables are temperament, structure, and function.

The concept of temperament is based on Ibn Sina's perception of the natural world. In the tradition of the scientists of his age who were heavily influenced by Greek thought, Ibn Sina believed that there were four basic elements that made up the universe: earth, air, water, and fire. The validity of this point, Ibn Sina writes in the *Canon*, "The physician must accept from physics."¹³ He did not believe it was necessary for physicians to get involved in philosophical issues. "These substances are not the same as what is commonly understood to be earth or fire," Ibn Sina writes. "By air we do not mean the air as the element which is pure and simple, but the atmospheric air which

This air is not the pure elemental air, even if that be supposed to have any existence."¹⁴

The four elements have specific qualities that interact in a variety of ways to manifest as four temperaments: heat, cold, moisture, and dryness. The temperament of an object is the sum of the assessed individual amounts of heat, coolness, moisture, and dryness. The temperaments provide the qualitative characteristics of the primary humors: blood, phlegm, bile, and sauda (black bile). These primary humors comprise the secondary humors: intravascular, perivascular, and the intracellular fluids. These humors, with their own temperaments, form the organs and tissue of the human body.

The three levels of human, soul, structure, and function, can be described on the basis of temperament. In this way, Ibn Sīnā describes the structure, and the vital faculty: "Vital force and heart . . . are the hottest things in the body. Next is the blood, which though produced in the liver, because of its contact with the heart, is hotter than the liver . . . Phlegm is the most moist. Next in this order are the blood, solid, and liquid fats, brain, spinal cord, breasts, testicles, lungs, liver . . . Hair is the driest of tissues . . . The coldest thing in the body is phlegm."¹⁵ It is clear that Ibn Sīnā considers structure to be defined by temperament.

Additionally, the level of the soul can be described on the basis of temperament because its primary manifestation is the vital force mentioned in the excerpt above. Additionally, the vital force is described on the basis of temperament in other contexts. For example, "When the vital force moves outward, the interior becomes cold."¹⁶ Similarly, Ibn Sīnā uses temperament to describe function. "Heat serves all physical faculties . . . (Cold) inactivates, anesthetizes, and stops every function but retention . . . (Dryness) tones up movement (of the vital force) which carries out processes of absorption and expulsion."¹⁷

Temperaments are influenced by other factors. Ibn Sīnā has many chapters discussing the various effects of climate, habitat, air, food, and drink upon an individual's temperament. Such effects are quite intuitive because the same qualities used to describe the environment are also used to describe the individual. So, for a person with a "cold temperament," a physician should aim to "simulate the innate heat and give hot type of food which is balanced in moisture and dryness, and massage with hot oil. . . Hot baths should be tried and suitable exercise prescribed."¹⁸ Various pharmacologic agents are also described on the bases of their temperament, and used to counterbalance fluctuations in the body's temperament. Depending upon a drug's perceived distribution, they are used to target imbalances in specific organs or tissues. "Fresh peelings of cucumber and pumpkin, juice of green nightshade, juice of fresh purslane"¹⁹ are among the recommendations to cool and moisten the inflammation of the meninges following meningitis, for example.

The process of aging is explained through changes in a

Table 1. Functions of a human per Ibn Sīnā.

Physical	Dominant	Nutrition Reproduction
	Vegetative	Attraction Retention Transformation
Nervous	Cognition	Expulsion Interior Exterior
	Motions	Multiple
Vital	"Breath"	Primary function

person's temperament.²⁰ Young age is described as containing much innate heat and moisture. The soul is described as being abundantly hot. During the course of time, the heat and moisture of a person gradually dissipates and many of the changes associated with aging occur. For example, there is more constipation due to increasing levels of coolness that increase the function of retention. There is wrinkling of the skin due to decreasing moisture, and increased fatigue with strenuous activities because these require much heat to perform. Ibn Sīnā argues that temperament is also influenced by gender and race, and similarly explains perceived differences on this basis. The inevitability of death is reinforced by this concept, as any person has only a finite source of heat, which, although, it can be conserved, will eventually run out.²¹

The above discussion demonstrates that Ibn Sīnā used medical knowledge of that time and an Islamic understanding to present a systematic concept of health and disease that encompasses many facets of an individual's life. While the knowledge and technology have changed, the principles behind Ibn Sīnā's integrated view of the patient remain. Primarily, Ibn Sīnā's assertion that a human can be described in three interrelated levels – structural, functional, and spiritual – is significant. The four elements and the four temperaments make the relationship of a person's environment and his/her health quite obvious.

The scientific reality now paints a far more complex and detailed understanding of physiology and other basic sciences. The millions of molecules and their countless interactions may obscure the previously obvious relationship between a person and his/her environment. One of the many benefits of studying medical literature by early Muslim physicians is the constant emphasis and reminder of this relationship. Modern medicine has a far more sophisticated analysis of a human body's structure and function. However, it does not in any way account for the spiritual level of a human being. The spiritual level is not currently quantifiable, making a systematic study based on observa-

tion and experimentation impossible. On the other hand, no acknowledgement at all is an implicit rejection of the spiritual level, and with it, the concept of the "ruḥal-Rūh."

Several ethical difficulties arise from modern medicine's failure to account for a spiritual level. These deal primarily with issues of life on earth since the presence of a soul is an indication of life. Some examples of issues that would be affected by a defined spiritual level include euthanasia, terminations of pregnancy, experimentation on humans, organ and tissue donations, and continuation of life support. The introduction of "the soul" to medical discourse is not likely to solve all ethical issues, but rather it may provide a direction of discussion.

The concept of "the soul" has clinical application in addition to ethical application. An understanding of the concept of "soul" may encourage physicians to consider more variables when prescribing treatments or making diagnoses. These variables might include the patient's socioeconomic status, support system, belief system, family demographics, interpersonal dynamics with others, home environment, nutrition, and so on. Such variables become crucial in determining long-term outcomes, patient compliance, and patient satisfaction with his/her care. The extreme position of rejecting all aspects of a "spiritual level" can undoubtedly be tempered without offending the scientific sensibilities to which today's physicians subscribe.

Once nonquantifiable elements such as the "soul" are introduced into the discourse of medicine, the character of medicine would change. The definition of the "soul" in any tradition is inevitably based upon alternate sources. In the realm of Islam, this alternate source of knowledge is "waly" (revelation). With a uniquely Islamic source of knowledge being applied to medicine, the type of medicine practiced becomes uniquely Islamic. This is different than other types of medicine – such as allopathic, homeopathic or osteopathic – by virtue of its definition of the soul. This has more relevance to the philosophical underpinnings of medicine, rather than to its daily practice. In today's political climate, ideology can easily overshadow the art of medicine. It is beyond the scope of this paper to speculate upon the exact nature of the soul in Islamic thought, as Ibn Sīnā would say, this is a task best left to those who are specialists in the field.

Ibn Sīnā's system of medicine is certainly not unique to his era, although his works were the more recognized. Many other scientist-philosophers both before and after him have propagated a similar system of medicine based upon the four elements, the four temperaments and recognizing the importance of a spiritual level, or soul.^{22,23} In the Islamic tradition, the comprehensive perspective of a patient is especially appealing because it emphasizes the role of "Tawḥīd" (oneness).^{24,25} Briefly, "Tawḥīd" is a basic principle of Islamic thought which, among other things, states that the oneness of the Creator is reflected in all aspects of the created. Therefore, a more unified understanding of the

human highlights the unity of the creator for Muslims.

Ibn Sīnā and his Muslim contemporaries were well versed in both religious sciences and nonreligious sciences. Ibn Sīnā memorized the Qur'ān at an early age and wrote commentaries on various chapters. Their tendency to seek unifying explanations and understanding for their respective disciplines reflects this religious training. Indeed, few sections from the *Canon of Medicine* or the other texts cited in this paper are without Islamic reference. The common thread modern Muslim physicians of today can share with their predecessor is the emphasis on "Tawḥīd" and a holistic perspective of the human. To practice Islamic medicine today would mean that the clinician attempts to incorporate the ideals of "Tawḥīd" with his/her own understanding of medicine. More specifically, this paper argues that the acceptance of structural, functional, and spiritual levels of a patient facilitates such a holistic view of the patient.

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