



Ibn Sina's Medical Doctrines



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Ibn Sina (980-1037), generally acclaimed as *al-Shaykh al-Rais*, the 'Chief Master', or *al-Muallim al-Thalith*, 'the Third Teacher', after Aristotle and Farabi. He was a great philosopher, physician, poet and a man of public affairs.

Ibn Sina wrote the encyclopedia of medical knowledge, *Al-Qanun fi al Tibb* (The Canon of Medicine). An attempt to reconcile the doctrines of Galen and Aristotle, this remained as a standard medical work for several centuries in Europe, and was used as a textbook till 1650. There is an Egyptian edition of the Arabic text, besides a Latin edition of 1593; and a good Venetian translation into Latin was published in 1544 and an Arabic edited text with English translation by Hakim °Abdul Hameed of Jamia Hamdard New Delhi in 1995-2000. *Al-Qanun* contains not less than a million words and, like most Arabic books, is elaborately divided and subdivided. Its main division is into five books, of which the First deals with general principles; the Second simple drugs arranged alphabetically; the Third, deals with the head to the feet; the Fourth, with diseases which, though local and partial in their inception, tend to spread to the other parts of the body, such as fevers; and the Fifth, with compound drugs. These descriptions are in fact very inadequate. Book Four discusses not only fevers, but of their critical days, prognosis, tumours and ulcers, dislocation and toxicology.

Its encyclopedic character, systematic arrangement, philosophical concepts, perhaps even its dogmatism, combined with immense reputation of its author in other fields besides medicine, raised *Al-Qanun* to a unique position in the medical literature, so that the

earlier works of Al-Razi and Al-Majusi, despite their undoubted merits, were practically abrogated by it.

Al-Qanun is still regarded in the Indian subcontinent by the followers of old Greek Medicine, or the *Tibb Unani*, as the last appeal in respect of all matters connected with the healing art. The author of *Chahar Maqala* says ‘that if a physician desires to be independent of all other works, he may rest satisfied with the *Qanun*’. Ibn Sina wrote some books in the form of verse. Of his about 225 works, after the great *Al-Qanun*, is the treatise on cardiac drugs, which was translated into Latin, English, French, Russian, Persian and Urdu. Its Persian version of Hakim Ahmadullah was edited in 1996 by the author of this article. Ibn Sina has also described the contagious character of phthises, diagnosed ankylostomiasis, wrote on the effects and treatments of various forms of poisoning; for example, those taking by way of mouth and those from bites of insects and by animals.

The Canon defines Medicine -*Tibb*- as a branch of knowledge, and not as some dogma or superstition. It derives its knowledge of organs and functions from ‘observation and analysis’. It infers causes, symptoms, prevention and treatment of diseases by logical reasoning and explains them rationally to the fullest extent in both space and time. It has certain concepts extracted from the science and philosophy of ancient times.

According to Ibn Sina, Medicine (*Tibb*) is the knowledge of the states of the human body in health and decline in health: its purpose is to preserve health and endeavour to restore it whenever lost. For the following reasons Ibn Sina’s definition should be wholeheartedly accepted: (i) The name *Tab’iat* (physis), which Ibn Sina has given to his medical system, is from *Tab’iyat* (physics) denotes that it is based on physical laws and not on dogma or superstition; (ii) by describing medicine as a branch of knowledge, Ibn Sina presented his medicine as a complete science of integrated theory and practice; (iii) by emphasizing that health and disease are but states of human body and not malicious

influences inflicted by some outside agency, Ibn Sina adopts a more natural view of human ailments; (iv) by including the subject of health, Ibn Sina gives the Graeco Arab medicine a much wider scope than what has so far been available in the Western system; (v) by aiming at the preservation of health, Ibn Sina's medicine is surely well in advance of our time when to neglect of habits, occupation, climate and other social and allied factors, we are still trying to prevent disease through the ordinary methods of municipal hygiene; (vi) by basing his studies on human body, Ibn Sina has given his system a constitutional approach which helps lay proper emphasis on a study of the 'soul'.

At the outset, it should be emphasized that the Graeco-Arab system of medicine is based upon the Pythagorean theory of four proximate qualities—hot, cold, wet and dry—of the elements (*Akran*) and the Hippocratic theory of four humours (*Akhlat*): blood, phlegm, yellow bile and black bile. These qualities felt by human sense of touch affect life in general. The temperaments of persons are accordingly expressed by the words sanguine, phlegmatic, choleric, and melancholic, respectively, according to the preponderance in them of the humours.

The literal translation of the text of Ibn Sina's definition of medicine, however, is verily: medicine (*Tibb*) is the knowledge by which the states of the human body are recognized in respect of what is sound and what is lost from it. In order to preserve health, that which is present and restored, and that which is lost. Ibn Sina's textual words advocate the study by the physician both of the pathological condition and of the physiological state of the person under examination. They imply that in striving to cure the diseased state, a physician should not damage the sound one.

Ibn Sina's medicine is holistic medicine and not confined to the knowledge of any particular branch of it, but refers to the whole knowledge as a total recognition of the condition of a patient. Thus, Ibn Sina's medicine does not allow any treatment, which, while curing the ailment, harms the soundness of the body's condition. On the other

hand, modern medicine interferes with physiologically inherent forces of *viz medicatrix naturae*, that is, of self- preservation.

According to the Arab medicine, the purpose of medicine is to assist natural recuperative power and to eradicate the disease from the human body. It is supposed that the nature of the body, *Tab'iyat*, spontaneously removes the morbid matter through the process of sweating, urination or defecation. This nature is sometimes assisted in the administration of diaphoretic, diuretics or purgatives.

'*Al-^cumur al-Tab'iyah*,' the root of which is the word *Tab'iat* (physical-nature), is considered to be the supreme planner of the body, which is also known as *Al Tab'iyat al-Mudabbirah lil-badan*. *Al-umur al-tab'iyah* comprises seven components responsible for the existence of human body, and the maintenance of health. These are (i) *Al-Arkan* (pillars elements); (ii) *Al-Mizaj* (temperament); (iii) *Al-Akhlāt* (humours-body fluids); (iv) *Al-A'da* (organ-members); (v) *Al-Arwah* (pneuma-vital spirit); (vi) *Al-Quwa* (faculties-powers), and (vii) *Al-Af'al* (functions).

The four Pythagorean qualities or states have been referred to already. It may, nevertheless, be emphasized that these are related to the living beings, including the human body. Their material representatives are the four Empedoclean elements, which are also to be understood as simple or elementary constituents of the human body. These are earth, water, air and fire. Earth represents the solids; water the liquids; air, the gases; and fire, the heat of the body. They should be understood as natural entities unrefined and unanalyzed; not subjected to chemical, mechanical or electrical processes. They are not to be confused with the modern concept of chemical elements, since modern chemistry, physics and atomic constituents were unknown to the ancients. It is important to note that these four elements were formulated as primary constituents of the human body.

Ibn Sina uses two words to name these primary components: *Arkan* (pillars) and *Unsur* (elements). The word *unsure* led to confusion with chemical elements and should now be discarded, retaining the word, *Arkan* only.

Of the four states or the four qualities, two are active, viz. hot and cold; and two passive, moist and dry. The first pair is in the nature of energy, and the second pair belongs to matter. The former two act upon the latter two. Each one of the two pairs is positive, while its counterpart is negative. Hence the two members of each pair are antagonistic to each other; only four combinations of them are possible: (i) hot and moist; (ii) cold and moist; (iii) hot and dry and (iv) cold and dry. These four combinations also belong to the four elements. Thus Air is hot and moist; Fire, hot and dry; Water, cold and moist; and Earth, cold and dry. Further, these four qualities are inherent in the elements, and the four elements act in accordance with these qualities.

When these elements intimately mix with one another and through their intimate minutest particles these qualities act and react upon one another, qualitatively and quantitatively, and the positive modified by the negative, there emerges a uniform body or the compound is called its temperament (*mizaj*). Since the primary qualities of the elements are four, namely, heat, cold, dryness and moisture, the temperament of a newly organized body is a product of these qualities.

Temperament of Drugs: It is also worth remembering that when a medicine, is regarded as an evenly balanced one, it does not mean that it is absolutely compounding, since it is impossible to do so. It does not also mean that it corresponds to the balance in man. It merely means that such a medicine, after being acted upon by the innate heat of the body, produces changes in the normal state of the body and that its pharmacological actions manifest themselves within the limits of the normal human temperament. In other words, when such a medicine is given to a normal person it does not produce any appreciable change, or any imbalance in the body.

When it is stated that a drug is hot or cold, it does not imply that the drug is essentially very hot or very cold, or that it is hotter or colder than the human body; otherwise, there would follow the unwarranted inference mentioned above that an evenly constituted medicine has exactly the same temperament as the human body. By a hot or cold drug, it is meant that such medicine produces a greater degree of heat or cold in the body than what was originally present. It is for this reason that a medicine may be cold for the human being but hot for a scorpion, or a medicine may be hot for man and cold for a snake. As a matter of fact, it also means that the same medicine may be less hot for one person than for another.

According to the humoral theory of Unani medicine, the four humours, viz. blood, phlegm, yellow bile and black bile, are the components of the fluids of the body. They are all contained in the red part of blood; the white phlegm; the yellow bile or choleric, and the black bile or melancholic. Hippocrates asserts: ‘the human body contains blood, phlegm, yellow bile and black bile. These are the things make up its constitution and cause its pain and health. Health is primarily that state in which these constituent substances are in the correct proportions to each other, both in strength and quality, and are well mixed. Pain occurs when one of the substances presents either a deficiency or excess, or is separated in body, and not mixed with the others’.

Islamic physician attaches great importance to diet and digestion both in health and in disease. While prescribing medicine, he stipulates regimen and directs on the foodstuffs to be avoided. Correct diet and digestion are assumed to produce correct balance of humours and maintain progress of health, whereas faulty diet and digestion derange the balance and produce disease. Obviously, the humoral imbalance can be corrected by medication coupled with proper diet and digestion, because improper diet and digestion can aggravate the disease or interfere with the healing effect of medicine.

According to the Hippocratic theory, a disease may be caused by (i) deficiency; (ii) plethora; and (iii) segregation of humours, that is, alteration of the normal qualitative and quantitative humoral composition of the site of disease or pain. Consequently, treatment should aim at the restoration of that normal state.

Faculties (psycho-physical drives) and their functions are complementary to one another. Each faculty gives rise to a specific function, and each function is an expression of its corresponding faculty. There are three faculties in the body and three types of functions arising from them. The faculties are: (i) nervous (*nafsania*); (ii) physical (*taba'iyya*); and (iii) vital (*haiwania*). Many philosophers and most physicians, including Galen and Ibn Sina, believed that each faculty would have its own primary organ as a center that would give rise to all of its functions.

Diseases and their descriptions are broadly recognized as being one of the notable aspects of the Unani system. The classification of diseases is of two kinds—simple and complex. Simple diseases are the various disturbances of temperament and structure. Complex diseases are those in which two or more abnormalities combine to form a single disease. The former are of three types: (i) diseases of temperament; (ii) those of structure; (iii) of continuity. A disease is thus referred to as belonging to one or the other of these three groups. Diseases of temperament (*Sue-i Mizaj*), which is 16- four simple and four, compound and with or without complicating morbid matter.

Diseases of structure (*Sue-i Tarkeeb*) affect the form, size, number and position of organs. Diseases of continuity-injuries, wounds and ulcers, dislocations and fractures. A complex disease does not mean the simultaneous occurrence, by chance, of several diseases in one person, but the presence of a number of abnormal conditions in the form of a single disease; for example, a swelling. Boil is a variety of swelling which shows all the three disorders: humoral abnormality, structural disturbance and loss of continuity.

General causes: Human body has three states viz. health, disease and the intermediate state. The three states have three sets of causes – predisposing (*sabiqa*), constitutional (*waasila*) and external (*badia*). A cause does not always begin to operate at once. In-fact there are three conditions, which must be fulfilled:

- a. The agent must be powerful;
- b. The body should be suitably predisposed (susceptibility);
- c. There should be sufficiently prolonged contact between the agent and the body (incubation period).

Six Essential Factors: It may be emphasized that the factors responsible for the maintenance or bringing about changes in the states of body may be either essential or non-essential. The essential factors are those which influence the body throughout life and are six in number: (i) atmospheric air; (ii) food and drink; (iii) rest and activity of body; (iv) psychological activity; (v) sleep and wakefulness; (vi) elimination and retention. The effects of these six essential factors have been described in the Unani classical texts in detail.

Medicines have four grades of potency: drugs of the first grade, or those, which in specified doses, do not produce any appreciable effect on the body. For instance, heat or cold produced by them is not felt at all unless the drug is taken repeatedly or in large doses. Those of the second grade are a little more potent than the former, but are neither so potent as to produce any visible damage in the functions of the body. It is only when administered repeatedly and in larger doses that they produce any visible damage or disturbance of normal functions. Drugs of the third grade in specified doses produce per se a notable disturbance of normal functions of the body but not to the extent of producing disease or death, unless taken repeatedly or in larger doses than normal. The fourth grade ones is those, which produce damage or destruction of the body. They are poisonous drugs, which act by their characteristic qualities. A substance, which is fatal by its specific nature, is a true poison.

The signs, which assist in the diagnoses of temperament, are given under ten headings as follows: (i) feel of the body; (ii) muscularity and adiposity; (iii) hair; (iv) complexion; (v) physique; (vi) receptivity of organs; (vii) sleep and wakefulness; (viii) functional state of organs; (ix) excretions; and (x) psychological activity.

Pulse Examination: Ibn Sina profess that to judge the nature of the functional disturbance of the human system empirically; it would be essential to examine the pulse of a patient. This judgment is based on the personality and experience of the individual physician. Pulse is a movement of expansion and contraction in the receptacles of the vital force (heart and arteries). The purpose of this movement is to condition the vital force with light air. Although the subject of pulse can be discussed from the point of view of (i) the general principles governing the pulse; and (ii) the type of pulse in each and every disease, we present here only the general principles which govern the pulse.

Each pulse-beat consists of its two periods of movements and two of its rest, because each beat has one period of expansion as well as one of contraction. It is also necessary that between the two opposite types of movements, there should be a period of rest. It is, therefore, obvious that each pulse-beat before the next has two periods of movements and two of its rest. Ibn Sina has laid down ten features for examining the pulse and its variations as follows: size, strength, speed, consistency, (elasticity), fullness, temperature, rate frequency, constancy, regularity, rhythm. It should be noted that pulse has a rhythm similar to that of music. In music the notes are related to one another both in their pitch and time intervals. The case of the pulse also is similar, because its beats are related to one another in strength and time intervals.

Ibn Sina has described pulses in great detail under several headings such as normal pulse, factors governing the pulse, effects of intrinsic factors, sex and age, temperament,

seasons, regions and countries, food and drink, sleep and wakefulness, exercise, baths, pregnancy, pain, swelling, emotions and of factors inimical to the body.

Examination of urine of a patient is one of the important diagnostic methods of Unani medicine. The points to be noted about the urine are colour, density, turbidity, transparency, sediment, quantity, odour and froth.

For a thorough examination of a patient, the inspection of his stool or faecal matter is also very important. Substantial literature on these three subjects is available, especially on the pulse.

Treatment is carried out by (a) general management and diet; (b) simple and compound drugs; and (c) operative procedures.

The choice of drugs for treatment is governed by three rules: (i) drug such as hot, cold, moist or dry; (ii) quality of drug in terms of its weight and potency, that is strengths of its hot or cold quality; (iii) time of administration. The treatment of disease is ‘allopathic’ (*bil did*). The drug is contrary to the nature and qualitative pattern of the disease, whereas health is preserved by (*bil shakal*) a concept of similarity. It may be noted that the latter has been applied by Hahnemann to the treatment of diseases in homeopathy.

The knowledge of anatomical relations is helpful in selecting the route of administration for the drugs and the mode of elimination of the morbid matter. Elimination plays a very significant role in the treatment of Unani especially in the case of chronic diseases.

Unani and Modern Medicine: In the words of Dr. O. Cameron Gruner, an English translator of Canon of Medicine, “Modern medicine is based on the conception of the universe as a conglomeration, of dead matter out of which, by some unexplainable process, life may become evolved in form. To Ibn Sina, the whole of the universe is the

manifestation of a universal principle of life, acting through the instrumentality of forms. Or, again, in modern medicine, the forms are the source of life, to Ibn Sina; they are the product of life. Space itself is an aspect of the one life”.

There are four main conceptions belonging to the Unani medicine, but not recognized by modern medicine. These conceptions are related to (a) the nature of human being as a whole; (b) the constitution; (c) the breath; (d) the elements. Philosophy in the Graeco-Arabian sense, however, means the knowledge as a whole.