

Chapter 6

PHARMACOGNOSY IN VARIOUS SYSTEMS OF MEDICINE

TRADITIONAL AND ALTERNATIVE SYSTEM OF MEDICINES

AYURVEDA

The word Ayurveda is composed of two components viz. 'Ayush' means life and 'Veda' means science hence Ayurveda is the 'Science Of Life'. The origin of this ancient science dates back to vedic period about 5000 years ago, Brahma, the creator, was the originator of this system who passed it on to the Ashwini kumars (Physician of God) who in turn imparted it to the Rishis from where it was promoted among the people through generation. The main objective of Ayurveda is maintenance and promotion of positive health and cure of disease through medicine, dietary restrictions and regulated life style

The basic principles of Ayurveda involves two theories, one is *Panchamahabhuta* theory and the other is the *Tridosha* theory. According to Ayurvedic philosophy all the living and non living matters are made up of five basic elements in various proportions, they are Prithvi (Earth), Jala (Water), Teja (Fire), Vayu (Air) and Aakash (Ether). Even the human body is made up of these elements known collectively as the Panchamahabhutas. According to Ayurveda again all the physiological functions of the body are governed by three biological units viz. Vata, Pitta and Kafa each of which in turn is made up of the Mahabhutas. Physiologically these three doshas are responsible for various specific functions.

VATA (Air), transmits sense impression to the mind and responses to various places of the body, maintains the integrity of body and proper functioning of its various constituent elements. The sensory organs of touch and sound depends upon vata. It stimulates agni and produces joy.

PITA (Bile), is responsible for all digestive and metabolic activities.

KAFA (Phlegm), provides the static energy (strength) for holding body tissues together. It also provides lubricants at various point of friction.

When these doshas are in normal state of functioning it is health and when they lose their equilibrium and get vitiated by various internal and external factors they produce various types of diseases (Vyaadhi) in human body. Hence Ayurvedic treatment of any disease is aimed at restoring the equilibrium of the doshas. Ayurveda is mainly classified into eight branches which specialize in different fields of medicine viz. Kaya chikitsa (Internal medicine), Shalya Tantra (Surgery), Shalaky Tantra (Otorhinolaryngology), Kaumarbhrtya (Paediatrics), Rasayana (Rejuvenating therapy), Vajikarana (Aphrodisiac therapy), A-gada Tantra (Toxicology) and Bhut-Vidya (Psychiatry). Of these Rasayana and Vajikarana deals with preservation and promotion of health and vigour. The remaining branches deals with disease. (The detailed study of Ayurveda can be done from the chapter Ayurvedic Dosage Forms).

CHINESE SYSTEM OF MEDICINE

Traditional Chinese system of medicine was developed from the ideas recorded between 200 B.C and A.D 100 from the *Yellow Emperor's Classic of Internal medicine* (Huang Di Nei Jung). This text is based on detailed observations of nature and a deep understanding of the way that all life is subjected to natural laws. In traditional Chinese medicine living in harmony with these principles is the key to good health and longevity.

Traditional Chinese medicine has two quite different systems – the *Yin* and *Yang* theory and the five elements similar to Indian tradition. They developed quite separately in China and the five elements system was only accepted and fully incorporated into Chinese medicine during the Song dynasty (A.D 960-1279). According to traditional Chinese system of medicine everything in universe is composed of *Yin* and *Yang*—words that were first used to denote the dark and light side of valley. Everything has *Yin* and *Yang* aspects or complementary opposites—such as day and night, up and down, wet and dry. Every *Yin* or *Yang* category can itself also be subdivided—so that while the front of body is *Yin* relative to the back which is *Yang*, the abdomen is *Yin* relative to the chest which is *Yang*. The five elements theory associates constituents of the natural world—wood, fire, earth, metal and water. Each element gives rise to the next in a perpetual fashion. The five elements have a central role in Chinese herbal medicine in the grouping of taste of herbs and parts of the body.

In traditional Chinese medicine causes of illness depends upon the patterns of disharmony which are expression of imbalance between *Yin* and *Yang*. The health results depends upon a deficiency or excess of either *Yin* or *Yang*. For example cold is not just the result of virus but a sign that the body is not adapting to external factors such as wind-heart, wind-cold or heat. Similarly a high temperature indicates too much *Yang* and shivering is the result of an excess of *Yin*. Therefore according to this theory a harmony is to be restored between *Yin* and *Yang* both within the patient's body and between the patient and the world at large.

Influence of Traditional Chinese medicine in Japan and Korea — Japan and Korea have been strongly influenced by ideas of traditional Chinese medicine practices. Kampoh, traditional Japanese medicine traces its origin back to the 5th century A.D when Buddhist monks from Korea introduced their healing arts largely derived from Chinese medicine into Japan. Direct Chinese influence on Japanese medicine which was practiced for the most parts by monks continued for 1000 years. The concepts of Kampoh is currently taught at Toyama University in Honsu. Korean herbal medicine is very similar to Chinese medicine and almost all the Chinese herbs are used in Korea.

Even today traditional Chinese medicine is the valid medical system in China and available to the Chinese on an equal footing with conventional western medicine.

UNANI SYSTEM OF MEDICINE

Unani system of medicine is also known as Islamic medicine, Loniah medicine, Oriental medicine and Arab medicine. This system was originated in Greece and has been influenced by African, Persian and Egyptian medicine. It was introduced in India by the Arabs around 10th century A.D, with the spread of Islamic civilization. Now unanipathy has become a part of Indian system of medicine and India is one of the leading countries so far as its practice is concerned. It is very much similar to *Ayurveda*. Hippocrates and Aristotle made a valuable contribution for this system.

Unani system of medicine is based on two theories namely the Hippocratic theory of four humours and the Phythagorean theory of four proximate qualities. The four humours or fluids which exists within the body are Dam (blood), Balgham (phlegm), Safra (yellow bile or choler) and Sauda (black bile or melancholy). Each humour has its own temperament - blood is hot and moist, phlegm is cold and moist, yellow bile is hot and dry and black bile is cold and dry. The ideal person bears all four in equal proportions. However in most of the people one or more humours predominate giving rise to a particular character. For instance excess choler produces choleric -type person who is likely to be short tempered, sallow, ambitious and vengeful. The four proximate qualities are the states of living human body like hot, cold, dry and moist. They are represented as earth, water, air and fire. According to Unani if the four main humours and four proximate qualities are in state of mutual equilibrium, one is considered healthy. This system was influenced by Arabian physicians. They laid down seven working principles (Umur-e-Tabia) and included elements like organs, spirits, temperaments, life, energy, action and humours. According to them these seven principles are responsible for health and disease.)

Unani system of medicine treats the cause of disease rather than its symptoms. The thorough history of patient is noted and he is subjected for pulse, stool and urine examination. This system observes the influence of surroundings and ecological conditions such as air, food, drinks, body movement and repose, psychic movement and repose, sleep and wake fulness and excretion and retention on the sate of health. This influence causes a dominance of one of the four humours in every human body. Unani believes that it is the dominance which gives a man his individual habit and complexion i.e his temperament. In this system the diseases are teated as follows-

- (i) Hajbil Tadbeer (Regimental therapy)- It includes venesection, diaphoresis, diuresis, turkish bath, massage, cauterisation, purging, emesis and exercise.
- (ii) Hajbil Ghiza (Dietotherapy)- It deals to treat certain ailments by administration of specific diets or by regulating the quantity and quality of food.
- (iii) Hajbil Dava (Pharmacotherapy)- It deals with the use of naturally occuring drugs mostly herbal drugs.

Some drugs of animal and mineral origin are also used. Single drugs or their combination in raw form are preferred over compound formulations.

The traditional healer who practices the Unani system is called as Hakim. Hakims not only cures bodily disease but also acts as an ethical instructor. Unanipathy has shown remarkable results in curing diseases like Arthritis, Leucoderma, Jaundice, Bronchial asthma, Filariasis and several other acute and chronic disease where other systems do not give the desired level of positive response. The Unani system is a secular system in character and is popular among the masses.

SIDDHA SYSTEM OF MEDICINE

Siddha system of medicine is one of the oldest system of medicines in India. It owes its origin to the Dravidian culture which is of pre-vedic period. The Siddha system of medicine is prevalent in the Southern parts of India, Srilanka, Malaysia and Singapore where Dravidian civilization flourished. According to tradition the origin of Siddha system of medicine is attributed to the great Siddha Agasthya. The Tamils who are inhabiting the

Southern Peninsula of the sub-continent of India have an impressive and ^{वन्दनीय} venerable past. They undertook a systematic study of nature and its elements and from what they were able to grasp, they had developed a highly systematized medicine which is now known as Siddha system. It is well founded on basic principles of nature and its elements offer a careful and thorough study of human system. The term Siddha means achievements and Siddhars (Tamil word) is derived from its root 'chit' means perfection in life or heavenly bliss. It generally refers to eight kinds of supernatural powers attainable to man. The person who had achieved such miraculous powers in life were known as Siddhars. In the annals of the ancient Siddha system of medicine, the first medicinal plant mentioned as well as found a place in ancient Tamil literature is Margosa or Neem. This has been used by Tamils from time immemorial as a deterrent for Small pox and other infectious disease.

The principles and doctrine of this system have a close similarity to Ayurveda. Like ayurveda, this system believes that all objects in the universe including human body are composed of five basic elements namely earth, water, fire, air and ether (sky). The food which the human body takes and drugs it uses are all made of these five elements. As in Ayurveda, this system also considers the human body as a conglomeration of three humours, seven basic tissues and the waste products of the body such as faeces, urine and sweat. The three humours are *Vatham*, *Pitham* and *Karpam*.

Vatham- It's characteristics are lightness, dryness, coldness and motility. It is formed by sky and air and controls the nervous action that constitute movement, activity, sensation etc. It predominates in first one third of life.

Pitham- It is formed by fire and controls the metabolic activity of the body, digestion, warmth, lusture, intellect etc. It predominates in the second one third of life.

Karpam- It's characteristics are firmness, smoothness, heaviness and viscosity. It is formed by earth and water and controls the stability of the body such as strength, potency and smooth working of joints. It predominates in the last one third of life.

The seven basic tissues (called as dhatus) are *Rasa* (lymph), *Kurudhi* (blood), *Tasai* (muscle), *Kozhuppu* (adipose tissue), *Elumbu* (bone), *Majjai* (marrow) and *Sukkilam and Artavam* (male and female hormones). The food is considered to be basic building material of human body which gets processed into humours, body tissues and waste products. The equilibrium of humours is considered as a health and disturbance or imbalance leads to disease.

The Siddha system has developed rich and unique treasure of drug knowledge in which use of metals and minerals is very much advocated. The drug classification is briefly discussed below-

There are 25 varieties of water soluble inorganic compounds called as UPPU. These are different types of alkalies and salts.

There are 64 varieties of mineral drugs that do not dissolve in water but emit vapours when put in fire. Thirty two of these are natural and remaining are artificial.

There are seven drugs that do not dissolve in water but emit vapour on heating.

The system has classified separately classes of metals and alloys which melt when heated and solidifies on cooling. These include items like gold, silver, copper, tin, lead and iron. These are incinerated by special processes and used in medicine

There is a group of drug that exhibit sublimation on heating and includes mercury and

its different forms like mercury metal, red sulphide of mercury, mercury chloride, mercury subchloride and red oxide of mercury.

Sulphur, which is insoluble in water finds a crucial place in Siddha materia medica along with mercury for use in therapeutics and in maintenance of health.

In addition to these there are drugs obtained from animal sources.

The diagnosis of disease involves identifying its causes. Identification of causative factors is through the examination of pulse, urine, eyes, study of voice, colour of body, tongue and the status of the digestive system. The system has worked out detail procedures of urine examination which includes study of its colour, smell, density, quantity and oil drop spreading pattern. It is holistic in approach and the diagnosis involves the study of person as a whole as well as his disease. The Siddha system is capable of treating all types of disease other than emergency cases. Practitioners have claimed that Siddha medicines are effective in reducing the highly debilitating problems that manifest themselves among patients of AIDS. More research into the efficacy of these medicines is presently in progress.

HOMOEOPATHY

Homoeopathic system of medicine was developed by the German physician and chemist Samuel Hahnemann (1755-1843) in eighteenth century. He proposed that the cause of disease may also be its remedy and above all it does not produce any harmful effects. The word Homoeopathy is derived from Greek words *homoios* meaning like and *pathos* meaning treatment. (Hahnemann forwarded the laws of similars i.e. like can be cured by like (similae *similibus curentur*). This is the fundamental principle of Homoeopathy and with this concept he began to experiment on himself and he started with cinchona. He observed, infact, that cinchona produced a fever similar to that of malaria although it was well known that the drug was used to combat the disease. With the help of colleagues and friends he succeeded in getting relevant results from the wide range of plant, animal and mineral extracts and he published all these results in the text of homoeopathy called as 'The Organon of Medicine'.

In homoeopathy the drug treatment depends upon the symptoms as described by the patient. This is based on the concept of Proving and Prover. The healthy person is called as Prover who takes the different dose of drug extract and the symptoms produced are noted which is called as Proving. The Prover maintains a precise and accurate record of physical, mental and emotional changes produced due to drug extract. In this way the same drug extract is induced to the patient and symptoms are recorded. Consequently the symptoms of Prover and patient are compared.

The drugs used in homoeopathy are extracted in the form of mother tincture which is further diluted in terms of centesimal or decimal potencies. If one drop of mother tincture is added to 99 drops of inert solvent such as alcohol or water then it is denoted by the symbol of 1c. If one drop from the 1c is added to further 99 drops of solvent then it is denoted as 2c. Similarly, typically potencies of 6c, 12c, 30c, 200c and 1000c can be prepared. Alternatively decimal potencies in the dilution series of 1 in 10 are prepared by adding 1 part of mother tincture to 9 parts of diluent. These are denoted by the symbol D2, D30 etc. However in homoeopathic system of medicine each dilution is claimed to increase the healing power of drugs.

AROMATHERAPY

Aromatherapy is regarded as specialized branch of phytotherapy, concerns the use of essential oils for their healing properties. It is an ancient healing art which was used by our ancestors. Egyptians used the essential oils for embalming and from the evidence of paintings it is clear that they were also seen as vital offerings to the gods. In vedic literature; Rigveda in India dating before 2000B.C list of about 700 substances are mentioned such as camphor, sandal wood, cinnamom, myrrh etc. Similar literature is available in African and Asian countries.

The term Aromatherapy was coined in 1928 by Rene-maurice Gattefosse, a French chemist working in his family's perfumery business. He became fascinated with the therapeutic possibilities of the oils after discovering by accident that Lavender oil was able to heal and prevent scarring of his severe burn. Valnet developed the ideas of Gattefosse and he used these techniques in the treatment and he published his work in the book entitled 'Aromatherapie'. However the extension of these techniques to a wider concept of well being is credited to Maury, through her book 'The Secret of Life and Youth'.

Aromatherapy provides treatment through the stimulation of the sense of smell using pungent materials. The various types of essential oils are extracted from plant sources and topically applied both in local and whole body massage. This stimulates the healing process of the body by increased blood flow in the skin and at the same time the pungent aromas stimulate the 'limbic' system or emotional centre of brain. In addition to massage, aromatherapy can also be effected by using essential oils in aromatic baths and through inhalation. Aromatherapy is used to treat the skin problems, rheumatism, acne, poor circulation of blood and nervine disorders like stress, insomnia, headache etc. It is also used to heal the wounds. The different types of essential oils used are Lavender, Sandal wood, Fennel, Rosemary, Ginger, Jasmine, Clove, Citronella and Calamus oils etc.

SUGGESTED READINGS

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