Phcog Rev.: Review Article Unani System of Medicine

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INTRODUCTION

The Unani physician believes that the healthy state of the human body is maintained by a power known as *Tabiyat* or *Quwwat-e-Mudabbira* (medicatrix naturae), gifted to it from its creator. The concept of *Tabiyat* is much vaster than the concept of immunity system of body. It controls, regulates and restores the physiological mechanisms of the body and helps in potentiating the immunity of the body and its resistance against various ailments. Suppression of this gifted power leads to disease. Therefore, the duty of the physician is to use such methods/treatments that encourage the body's own innate healing response (*Tabiyat*). This can be achieved by stimulating the *Hararat-e-Ghariziya* (Vital force of body), which is decreased in a diseased person making him vulnerable to environmental and pathological challenges.

HISTORY

Although, Unani Medicine existed much before the time of Hippocrate. But Hippocrates (460-377 BC) was the first person who freed medicine from the realm of superstition and magic, gave it the status of Science and presented the basic theoretical framework of Unani Medicine. Thereafter, considerable contribution was made by different Greek scholars. Another great scholar of Unani Medicine was Galen (131-210 AD) who stabilised the foundation of this system. As Greek and then Roman civilisation declined, Greek medical texts survived in the Islamic courts of the medieval Near East. In the eighth and ninth centuries AD, many Greek texts were translated into Arab forming the basis of Unani Medicine. Some Islamic physicians like Al-Razi (Rhazes) (850-925 AD) and Ibn Sina (Avicenna) (980-1037 AD) Al Zahravi (Albucasis) the surgeon and Ibn-Nafis etc. contributed immensely to the system. In India, Unani system of medicine was introduced by Arabs, and soon it took firm roots in the soil. When Mongols ravaged Persian and Central Asian cities like Shiraz, Tabrez and Geelan, scholars and physicians of Unani Medicine fled to India. The physicians who came to India from foreign countries also took advantage and derived benefits from indigenous or local system of medicine i.e. Ayurveda and this tradition has been continuing ever since that time right upto the times of Hakeem Ajmal Khan (Physician of the Nation) and Hakeem Abdul Hameed.

CONCEPTS

Unani System of Medicine the human body is considered as a single unit, made of seven components known as *Umoor-e-Tabiya*. These seven components are *Arkan* (Elements), *Mizaj* (Temperament), *Akhlaat* (Humours), *Arwaah* (Life force), *Aaza* (Organs), *Quwa* (Faculties),

Afa'al (Functions). According to Unani philosophy, the body is made up of the four basic elements i.e. Earth, Air, Water and Fire which have different temperaments i.e. Cold, Hot, Wet and Dry respectively. After mixing and interaction of four elements a new compound having new Mizaj (temperament) comes into existence i.e. Hot Wet, Hot Dry, Cold Wet, Cold Dry. The body has the simple and compound organs, which receive their nourishment through four Akhlaat (Humours) i.e. Dam (Blood), Balgham (Phlegm), Safra (Yellow Bile) and Sauda (Black Bile). Each humour has its own temperamentblood is hot and moist, phlegm is cold and moist, yellow bile is hot and dry and black bile is cold and dry. Every person attains a temperament according to the preponderance of the humours in his/her body and it represents the person's healthy state. The temperament of a person may be sanguine, phlegmatic, choleric or melancholic. Unani physician believes that health is a state of body in which there is equilibrium in the humours and functions of the body. To maintain the correct humoral balance there is a power of self-preservation or adjustment called Quwwat-e-Mudabbira (medicatrix naturae) in the body. When this power weakens, the equilibrium of the humours is disturbed quantitatively or qualitatively or both and physiological functions of the body are deranged due to the abnormal temperament of affected organ or system resulting in a disease. Therefore, the aim of Unani physician is to find out the cause of the underlying disruption of humours, so that it can be corrected and disease can be cured. Imbalance of humours may be due to external factors such as an injury, incorrect diet, environmental factors etc. or internal factors such as improper digestion or both. Signs of humoral diseases are as follows

Ghalba-e-Khoon (Sanguis Humour)

When there is excess of *Dam* (Blood) in the body the colour of skin appears red, veins appear more prominent, pulse seems to be full and urine becomes high coloured. Patient complains of breathlessness, headache and scenes of blood in his/her dream.

Ghalba-e-Balgham (Phlegm Humour)

In the case of excess of *Balgham* (Phlegm) in the body, skin becomes whitish and cold, pulse becomes slow and deep, urine becomes thick and low coloured. Patient complains of forgetfulness, loss of appetite, increased sleep, laziness and scenes of water in his/her dream.

Ghalba-e-Safra (Choler Humour)

Choler humour results in yellowness of the skin, swifter pulse than ordinary and high coloured urine. Patient appears irritated without any apparent cause and complains of headache, disturbed sleep, bitterness in throat and scenes of fire, lighting, anger, fighting etc. in his/her dream.

Ghalba-e-Sauda (Melancholer Humour)

When there is excess of *Sauda* (Black bile) in the body the skin appears rough, pulse becomes weak, urine becomes thin, patient complains of loss of appetite and sourness in throat. Patient remains busy with foolish imaginations and appears fearful without any cause.

Imbalance of humours tends to occur four ways

Riqqat-e-Khilt (Thinning of humour): The consistency of humour becomes thinner.

Ghilzat-e-Khilt (Thickening of humour): The consistency of humour becomes thicker.

Ghalba-e-Khilt (Plethora) The humour becomes over active.

Afunat-e-Khilt (Cacochyma) The humour gets putrefied.

TREATMENT

The diagnostic parameters of the Unani system of medicine are the rate, strength, width and depth of the pulse, and the colour, odor, amount of urine and stool. In addition, the deposits in the urine sample are also observed. After confirming the cause of the disease, the Unani physician starts the treatment by recommending the *Aghziya* (Diets) or *Advia* (Drugs) that have temperament opposite to the prevailing abnormal temperamental condition of the affected organ/system. It is important to note that each and every Unani diet or drug has its own temperament known as *Mizaje-Ghiza* or *Mizaj-e-Dawa*. The various treatments recommended by Unani physicians are *Ilaj-bil-Ghiza* (Dietotherapy), *Ilaj-bit-Tadbeer* (Regimental Therapy), *Ilaj-bid-Dawa* (Pharmacotherapy) and *Ilaj-bil-Yad* (Surgery).

Ila-bil-Ghiza (Dietotherapy) aims at treating certain ailments by controlling the intake of food and regulating the quality of the food.

Ilaj-bit-Tadbeer (Regimental Therapy) includes methods such as venesection, cupping, diaphoresis, diuresis, bath, massage, cauterization, purging, emesis, exercise and leeching among others.

Ilaj-bid-Dawa (Pharmacotherapy) includes naturally occurring drugs, derived from plants, animals and minerals and used singly and in combination.

Selection of suitable method of treatment depends upon the degree of shift from the normal healthy condition. Dietotherapy is advised when the shift is of lesser degree from the normal healthy condition, but if the shift is of greater degree and cannot be corrected by dietotherapy alone then pharmacotherapy is advised and drugs having temperament opposite than the prevailing diseased condition are selected. Sometimes, regimental therapy and surgery are also advised along with dietotherapy and pharmacotherapy.

1. Ilaj-bil-Ghiza (Dietotherapy)

If the treatment is possible by diet only then the drugs should never be used. Most of the diseases can be cured by administration of specific diets or by regulating the quantity and quality of the food, for example cold water is better for the person possessing hot temperament while bad for the person having cold and wet temperament. If there is excessive thirst which is an indication of ill temperament of

hot type, then diet having cold temperament such as *Khurfa* (*Portulaca oleracea*) should be used but if a patient is complaining of cough (Su'al) due to cold, then these cold diets shall aggravate the condition and hot diet will be beneficial for the patient.

In addition to nutritional properties several foods are capable of pharmacological actions e.g. *Chuqandar (Beta vulgaris)* is used as laxative. Moreover, weakness of a particular organ of human body can be cured by administering the same organ of an animal e.g. such as *Yakhni* (salty extract of meat) of the goat's kidney is advised in the patients of chronic renal failure.

2. Ilaj-bid-Dawa (Pharmacotherapy)

If the shift is of greater degree from normal condition and dietotherapy alone is not sufficient then pharmacotherapy is advised in addition to the dietotherapy. These drugs may be derived from plants, minerals or animals. Unani physicians have mentioned some principles related with pharmacotherapy, which are as follows:

Mizaj-e-Advia (Drug Temperament)

According to Unani medicine, every drug has its own temperament due to its specific constituents. The temperament of drugs is classified into five viz., hot, cold, dry, wet and sometimes neutral. A drug may be hot and dry, hot and wet, cold and dry or cold and wet. Drugs used in a particular disease should have temperament opposite to the prevailing temperament of the target organ responsible for the disease.

Darjaat-e-Advia (Potency of Drugs)

These four temperaments may be classified in four grades first, second, third and fourth. First grade has lowest potency and fourth grade has highest potency e.g. latex of *Papaver somniferum* is cold 4° and dry4°, while the fruit of this plant known as *Post-e-Khashkhaash* is cold 2° and dry 2°. The selection of potency of drug depends upon the severity of disease. If the disease is severe then the drugs having higher potency are selected.

3. Regimental Therapy

Unani Physicians attempts to use simple physical means to cure a disease. But for some specific and complicated diseases, special techniques are prescribed. These may be used in adjuvant to Dietotherapy and Pharmacotherapy. Some of commonly used Regimental therapies are as follows:

Riyazat (Exercise) Any type of exercise (hard, moderate or light) produces different effect in the body. The moderate exercise increases *Hararat-e-Ghariziya* (Vital force of body), helps to eliminate the waste products of body through urine, stool and sweat etc. It makes the organs stronger and increases the appetite.

Dalak (Massage) Any method of pressure on or friction against, or stroking, kneading, rubbing, tapping, pounding, vibrating or stimulating of the external soft parts of the body with the hands or other objects like rough cloth with or without rubbing oils, creams, lotions, ointments or other similar preparations used in this practice. unani medicine describes detailed types of massage e.g. hard massage, soft massage, prolonged massage or moderate massage.

Massage therapy improves functioning of circulatory, lymphatic, muscular, skeletal and nervous systems and may improve the rate of recovery of body from injury or illness. Massages relax muscles, increase circulation and remove metabolic waste products. Massage therapy may be useful in several symptoms and diseases like anxiety, tension, depression, insomnia, stress, backache, headache, muscular pain and some forms of chronic pain. Hard friction or massage is deobstruent and makes the body firm, soft massage relaxes the body, prolonged massage reduces the fat of the body and enhances weight gain in premature infants.

Takmeed (Fomentation)

It is a warm covering to a part of the body to relieve pain and inflammation. Diathermy should always be restricted to the level of tolerance. Hot fomentation treatments can be used in a variety of acute conditions including chest colds, muscle spasms, gallstones, dysmenorrhoea, insomnia and backache etc.

Tareeq (Sweating or Diaphoresis)

Diaphoresis is a medical term for profuse sweating. It can be normal (physiological) brought on by physical activity, emotional response or high environmental temperature or a symptom of an underlying disease (pathological).

Sweat therapy simply mean the use of heat and humidity to cause the body to perspire freely. The method used for sweat therapy varies depending on body temperament. Unani physician have described therapeutic methods of diaphoresis, in which excessive sweating is produced. It plays an important role in expulsion of waste product through skin especially if kidneys are not functioning properly.

Several drugs are there, when used internally or externally may cause profound sweating e.g. Lahsan (Allium sativum), Muli (Raphanus sativus), Tambaku (Nicotiana tabacum) and Beesh (Aconitum napellus) etc.

Idrar-e-Baul (Diuresis)

It is the production of an unusually large amount of urine. It is an important tool for evacuation of waste products from the body. There are many drugs which are used for this purpose e.g. *Kharpaza* (*Cucumis melo*), *Kasni* (*Cichorium intybus*), *Ghafis* (*Gentiana dahurica*) and *Kasoos* (*Cuscuta reflexa*) etc. The method is used to excrete poisonous matters, waste products and excess of humours through urine and to purify blood. It is also helpful in the treatment of cardiac, hepatic and renal diseases.

Hammam (Turkish Bath)

It is a steam room where facilities are available for a bath followed by shower and massage. It improves general health and also proves helpful in treating various diseases. It reduces the viscosity of the humours and improves health of the debilitated individuals. It improve metabolism, increase innate heat of the body and excrete waste products through skin

Ishaal (Purgation)

The whole body or intestines are cleansed of accumulated toxins through the use of laxatives and purgatives by this method. Mild, moderate and strong laxatives may be used depending upon the prevailing condition. Unani system possesses various medicine which are used for purgation e.g.

Turbud (Operaculina terpethum), Ghariqoon (Agaricus alba), Saqmonia (Convolvulus scammonia), Aftimoon (Cuscuta epithymum) and oil of Badam (Prunus amygdalus) etc. It is used to achieve detoxicating effect, to resolve the body matter and to treat chronic constipation.

Huqna (Enema Therapy)

Enema Therapy is a method used for the removal of the superfluities from the intestines. Herbal infusions, medicated oils or other natural substances are used to cleanse the colon and large intestine. Unani medicine has a variety of natural medicines, which can be used for this purpose e.g. Saline water, Oil of *Arand (Ricinus communis*) etc. This is one of the best methods for elimination of vitiated humours and waste material from intestines. This may be used for promotion of health. It is used to relieve constipation particularly in the case of intestinal atony and also used for nutritive purposes.

Qai (Emesis)

It is the reflex act of ejecting the contents of stomach through the mouth. The main purpose of vomiting is to eliminate toxic substances from the stomach. Many drugs can be used for this purpose e.g. *Turb* (*Raphanus indicus*), *Kharbaq* (*Oroxylum indicum*) etc.

Fasd (Venesection)

Fasd (Venesection) is a surgical process in which a blood vessel specially vein is cut open by a surgical knife to shed excessive or impure humours. Excessive or abnormal humours are removed in the same proportion as present in the blood vessel. It is used to maintain normal volume of blood in people who are predisposed to develop the disease of excess blood, to check Kasrat-e-Tams (Menorrhagia) and Ruaf (Epistaxis) and to cure splenic disorders, Bawaseer-e-Damvi (Haemorrhoids), Warm-e-Khusiya (Orchitis), Iltihaab-e-Rahem (Metritis) and Iltehab-e-Kabid (Hepatitis).

Hijamat (Cupping)

It is a method used for local evacuation or diversion of morbid humours in which a horn is attached to the surface of the skin of the diseased part through negative pressure created by vacuum. The vacuum is created by the introduction of heat or suction. Now, this horn is replaced by a glass cup, hence the procedure is known as cupping.

Cupping is of two types *Hijamat Bilshurt* (wet cupping) i.e. cupping with blood letting and *Hijamat Bilashurt* (dry cupping) i.e. cupping without blood letting. It is useful in the treatment of heaviness of head, asthma, dyspnoea, migraine, headache, haemorrhoids, amenorrhoea, sciatica, gout and arthritis etc. Cupping is done on different sites of the body to cure various diseases, e.g. cupping is done at the back of neck for heaviness of eyes, forehead and inflammatory conditions of the eyes.

Taleeq (Leech Therapy)

It is a unique method of removal of Mawaad-e-Fasida (bad matters) from the body. Leeching is better than cupping in drawing the blood from deeper tissues. It is used to cure Sa'fa (baldness), Quba (ringworm), Saaleel (moles), Kalaf (freckles) and Daa-ul-Feel (filariasis) etc.

Kai (Cauterization)

It is an effective method for the treatment of several conditions e.g. destructive lesions, removal of putrefactive

matter and stoppage of bleeding etc. Unani physicians have preferred *Mikwa* (Cauterant) made of gold. It is also used to cure warts and moles etc.

Ilaj-bil-Yad (Surgery)

Unani physicians described several methods of surgery in detail. The surgical intervention is done when all the methods of treatment have been proved inadequate.

COMMON POLYHEBAL UNANI FORMULATIONS

Intrifal Ustukhuddus

Actions: Purifies the impurities of cerebral region, strengthens the intestines and digestive system

Indications:

Constipation, persistent cold, premature greying of hair due to chronic cold, sinusitis

Dosage and Administration: 5-10g with 60ml of water at bedtime

Itrifal Zamani

Actions: Purifies the intestines

Indications: Constipation, melancholia and allied mental ailments, headache, cold, colic pains

Dosage and Administration: 5-10g to be taken daily before going to sleep with either $60\,\text{ml}$ of water or $25\,\text{ml}$ of milk

Itrifal Sanai

Actions: Nervine tonic

Indications: Constipation, melancholia, hemicranial migraine Dosage and Administration: 5-10g with 60ml of water at bedtime

Itrifal Shahtara

Actions: Emollient, depurative Indications: Syphilis, skin disorders

Dosage and Administration: 5-10g with 60ml of water at bedtime

Itrifal Saghir

Actions: Analgesic, memory enhancer

Indications: Mental ailments, headaches, piles

Dosage and Administration: 10g with 60ml of water at bedtime

Itrifal Kishneezi

Actions: Brain tonic, stomachic, antiphlegmatic

Indications: Constipation, piles, cold, sinusitis, neuralgic pains, eyes, ear and nose aches

Dosage and Administration: 10g at bedtime with water

Itrifal Muqil Actions: Aprient

Indications: Bleeding piles and chronic dyspepsia Dosage and Administration: 5-10g with 60ml of water

Itrifal Mulayyin

Actions: Carminative, aperient

Indications: Chronic constipation, ordinary constipation, chronic dyspepsia, migraine, ailments associated with cold Dosage and Administration: 10g at bed-time with 60ml of water

Banadiq-Ul-Bazur

Actions: Diuretic

Indications:Nephritis, inflammation of visceras and urinary tract

Dosage and Administration: Two tables each in the morning and evening with (a) 126ml of *Arq-e-Gaozaban* and (b) 20 ml of *sharbat-e-bazuri*

Jawarish Amla Sada

Actions:Stomachic, cerebral and cardiac tonic, appetiser, alterative and refrigerant

Dosage and Administrations: 5-10g in the morning with water

Jawarish Anarain

Actions: Liver tonic, stomachic, refrigerant, antiphlegmatic

Indications: Biliousness

Dosage and Administration: 5--10~g in the morning or as required

Jawarish Basbasa

Actions: Carminative, digestive

Indications: Obesity of the stomach, flatulence, colic Dosage and Administration: 5g in the morning or after meals twice daily

Jawarish Jalinus

Actions: Digestive, appetiser

Indications: Weakness of bowel, stomach, and urinary organs, phlegmatic cough, piles, premature greying of hairs, dysnensia

Dosage and Administration: 5-10g in the morning and for

dyspepsia 10g twice a day Jawarish Zar'uni Sada

Actions: Cerebral, liver and urinary tract tonic, digestive

Indications: Flaccidity and excessive urination

Dosage and Administration: 5-10g in the morning or night

Jawarish Zanjabeel

Actions: Digestive, appetiser, antiphlegmatic

Indications: Dyspepsia, flatulence, all diseases associated

with the accumulation of the phlegm

Dosage and Administration: 5g twice after meals

Jawarish Tabashir

Actions: Astringent, stomachic

Indications: Diarrhoea due to bile, vertigo, nausea and

vomiting

Dosage and administration: 5-10g twice daily

Jawarish Kamuni

Actions: Stomachic, digestive, carminative

Indications: Flatulence, hiccups, dyspepsia and indigestion Dosage and Administration: 5-10 g twice after meals

Jawarish Mastagi Sada

Actions: Stomachic, liver tonic,

Indications: Excessive salivation, diarrhoea
Dosage and Administration: 5-10g twice after meals

Jawahar Mohra

Actions: Tonic for the vital organs, heart, brain, and liver,

restorative, memory and intelligence enhancer Indications: Palpitation, epilepsy, cardiac arrhythmia Dosage and Administration: 40-75mg with 5g of *Dawaul misk*

motadil jawaharwali or with pure honey

Habb-E- Azraqi

Actions: Nervine tonic

Indications: Facial paralysis, paralysis, gout
Dosage and Administration: 1-2 pill with water

Habb-E- Asgand

Indications: Rheumatism, gout, lumbago

Dosage and Administration: Two tables at night with 125 ml of

water

Habb-E- Jadwar

Actions: Aphrodisiac, astringent, cerebral tonic

Indications:

Cough, chronic catarrh, weakness of vital organs, sexual debility, spermatorrhoea, also assists in the giving up of the opium-eating habit

Dosage and Administration: 1-2 pills in the morning or at night with 5g of Arq-e- Gaozaban Ambari or 25ml of milk

Habb-E- Hamal

Indications:

For women whose menstruation is regular but are still childless owing to some internal defect

Dosage and Administration: One pill at a time in the morning and evening with milk after the termination of the monthly course for three days after which copulation should take place. The use of the pills should be repeated for 2-3 months

Habb-E- Khaas

Actions:

Nervine tonic, aphrodisiac, cerebral and cardiac tonic,

Appetiser, Stomachic, tonic for old persons

Dosage and Administration: One pill in the morning with 25 ml of milk

Habb-E- Shafa

Indications: Bronchitis, asthma, persistent cough and cold Dosage and Administration: One pill each time in the morning and evening

Habb-E- Kabid Naushadri

Actions: Digestive, appetizing, carminative Indications: Hepatitis, enlargement of liver

Dosage and Administration: Two pills at a time after meals

Habb-E- Nishat

Actions: Aphrodisiac, sexual tonic Indications: Premature ejaculation

Dosage and Administration: Two pills two hours after the digestion of food and 1 $1\!\!\!/ 2$ -2 hours before coitus with 250 ml

of milk

KHAMIRA ABRESHAM HAKIM ARSHADWALA

Actions: Cardiac, cerebral, and liver tonic, anti-fibrillant and

Indications: Weakness of vital organs specially heart

Dosage and Administration: 5 g with 250 ml of milk in the morning

Khamira Gaozaban Sada

Actions: Cardiac and cerebral tonic, tranquillizing, antimelancholic, eye tonic

Dosage and Administration: 10 g wrapped in silver or gold foil in the morning

Khamira Gaozaban Ambari

Actions: Cardiac and cerebral tonic, tranquillizing, eye tonic Indications: Useful for those engaged in mental work

Dosage and Administration: 5-10 g in the morning or at night

Dawa-Ul-Kurkum Kabir

Actions: Tonic for liver spleen and kidney Indications: Ailments of liver and spleen, ascites

Dosage and Administration: 5g in the morning

Sufuf-E- Asal-Us-Sus

Indications:

Spermatorrhoea, blenorrhoea, gonorrhoea, urethrorrhoea, premature ejaculation

Dosage and Administration: 5g with lukewarm milk (25ml)

Sufuf-E-Bars

Indications: Vitiligo

Dosage and Administration: 5g after soaking in 125 ml of

water. To be taken after decantation

Sufuf-E-Dama

Indications: Asthma and phlegmatic cough

Dosage and administration: 1g with warm water or 10g laooq-

e-Sapistan to be taken orally by licking

Sharbat-E- Bazuri Motadil

Actions: Diuretic, liver refrigerant, febrifuge

Indications: Fevers associated with ailments of the liver Dosage and Administration: 50 ml with 125 ml of an

appropriate aqua of water

Ma'jun Sa'lab

Actions: Aphrodisiac, semenagogue

Indications: Spermatorrhoea, decreased viscosity of the

seminal fluid

Dosage and Administration: 5 g in the morning with 250 ml of

milk

MA'JUN HAJR-UL-YAHUD

Actions: Lithotriptic

Indications: Crystals of the kidney and urinary bladder

Dosage and Administration: 5 g after meal once in a day

followed by 50 ml of sharbat-e-bazuri

Ma'jun Dabeedul-Ward

Actions: Liver tonic and stomachic

Indications: Hepatitis

Dosage and Administration: $7\ g$ in the morning with water

Ma'jun Filasfa

Actions: Nervine, aphrodisiac, semenagogue, kidney tonic

Indications: Rheumatic and arthritic complaints

Dosage and Administration: 5-10g in the morning or at

bedtime with 250 ml of milk

Ma'jun Nankhwah

Indications: Digestive, carminative

Dosage and Administration: 5g at a time twice a day after

meals

REFERENCES

- Wasti N, "Tibbul-ul-Arab" Urdu Translation of Arabian Medicine, (Saqaf-e-Islamia, Lahore, 1990).
- Jurjani A H, "Zakhira Khwarzam Shahi" Urdu Translation, (Matba Nami Munshi Naval Kishore, Lucknow, 1870).
- Khan M A, "Muheet-e-Azam", (Matba Nizami, Kanpur, 1869).
- Gruner O C, "The Canon of Medicine" English Translation, (Luzac &Co., London, 1930).
- 5. Hamdani S M K, "Usool-e-Tib", (Leetho Clour Printers, Aligarh, 1980).
- Khan M A, "Ikseer-e-Azam", (Naval Kishore Press, Lucknow, 1956).
- Ibn-e-Sina, "Al-Qanoon-Fit-Tib", English Translation, (Jamia Hamdard, Printing Press, Delhi, 1927).
- 8. Ibn-e-Rushd, "Kitabul Kulliyat", Urdu Translation, (C.C.R.U.M., New Delhi, 1980).
- Said M, "Hamdard Pharmacopoeia of Eastern Medicine", (Sri Satguru Publications, Delhi, 1997).