The Unani system of medicine: does it have a scientific basis?

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ARTICLE

Natural methods of healing stretch back to antiquity and many current pharmaceutical agents owe their existence to research on plant products. In this overview, Ahmedi Syeda, Sanjiv Rughooputh and Pamela Greenwell consider the use of such methods in a range of conditions and seek to clarify a scientific basis for apparent efficacy.

Unani system of medicine

– does it have a scientific basis?

The Unani system of medicine is claimed to be an effective management protocol for the treatment of stroke using herbal remedies. Although effective, the method does not require invasive intervention nor has it any side effects.

Researchers at the University of Westminster, London, have embarked on a project to scientifically validate this stroke remedy. However, such herbal treatments are often considered to be non-scientific and represent 'quack' medicine. So, is there evidence that Unani medicine works?

A brief history of Unani medicine

The natural means of healing now known as Unani medicine can be traced back to ancient Greece (Unan) where physicians such as Hippocrates are credited with its introduction. Aristotle, Galen, Ibn Betar, Zakarya Razes and Avicenna developed it further and the Arabs later introduced Unani medicine to the Indian subcontinent.

Unani medicine is based on the theory that a perfect balance of elements (arkan), humours (akhlat) and temperament (mizaj) keeps both mind and body healthy. A self-preserving force (quwwat-e-mudabbira) maintains the correct humoural balance and it is the failure of this balance that is thought to result in disease.

The four body humours are blood (dum), phlegm (balgham), yellow bile (safra) and black bile (saoda). A person's behavioural pattern or temperament (mizaj) is expressed by the preponderance of a particular humour. There are seven forces of nature (umoor-e-tibiiya) that control the body and three forces (arwah) that control the vital organs.[1]

Diagnosis and treatment in Unani medicine

Diagnosis in Unani medicine is based on the recognition of signs of imbalance of the humours. Emphasis is given to diagnosing disorders primarily through the pulse (nabz), although urine and stool tests are also performed.

Forms of treatment are varied and include regimental therapy (ilajbit-tadbeer) dietotherapy (ilajbil-ghiza), pharmacotherapy (ilajbid-dawa) and surgery (jarahat). Treatment is based mainly on dietary control and the use of single or polyherbal medicines to regain humoural balance.[2]

Management of stroke using Unani medicine

Once a diagnosis of stroke is established, the principles of Unani treatment are to ripen the excess of humoural substance by the use of a honey-based medicine (ma-ul-asal), followed by an extract of a core group of eight to 10 herbs (munzij) carefully tailored to the individual.

Once ripened, the excess humour is eliminated by the use of herbal diuretics, and the humours are restored to their optimal temperament by the use of medicine (tabreed), which, when used sequentially with the previous regimen, treats the patient and the weakness completely in 45–90 days.

Scientific analysis of Unani medicine

Unani medicine has met with scepticism in the developed world and is even losing favour in India where Western drugs are now regarded as more effective alternatives. Sadly, this threatens to bring to an end a medical system that has lasted for more than 2000 years. The demise of traditional medicine would, in particular, affect the poor in India, as Unani medicine is a much less expensive therapy than the use of Western drugs.

One of the major problems facing Unani medicine is scientific validation. Although many papers have been written, most are published in Indian journals and therefore they have not been exposed to external scrutiny. This has bred scepticism about its claims. Recently, however, several papers in peer-reviewed journals have demonstrated that not only is Unani medicine useful but its efficacy can be explained scientifically.

Unani medicine in disease

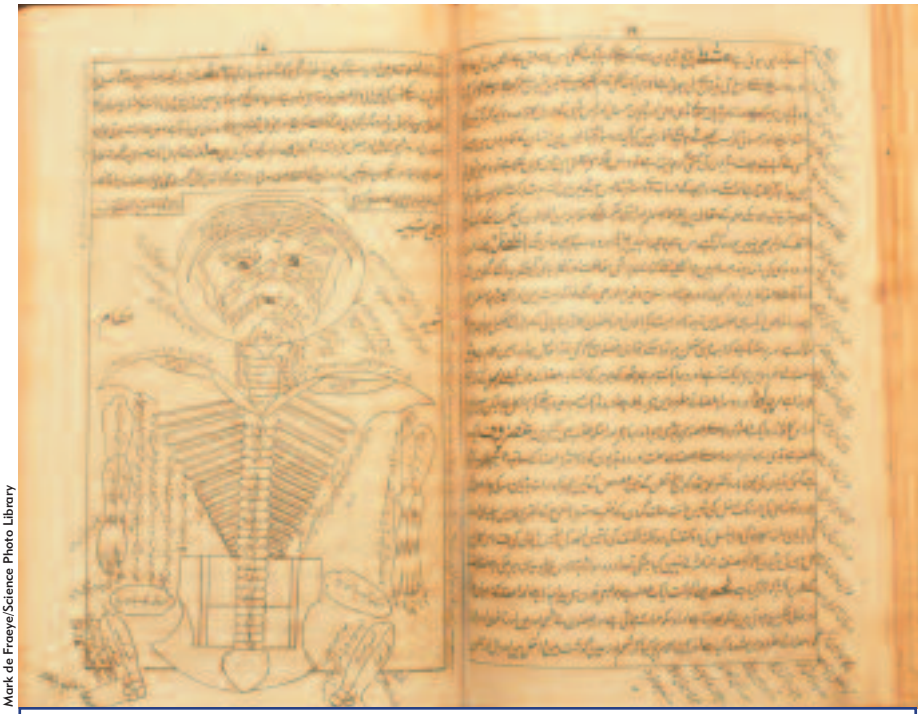
Diabetes

Emblica officinalis has been used as a herbal remedy to treat cataract in diabetics. Suryanarayana *et al.*[3] demonstrated that tannoids extracted from this plant inhibit aldose reductase, which is known to be involved in the secondary complications of diabetes such as cataract.

Various plants have now been shown to affect glycaemia.[4-7] Fenugreek leaves have also been shown to affect hyperglycaemia, hypoinsulinaemia and glycosylated haemoglobin levels in diabetic rats. Key metabolic enzymes were affected and the effect appeared to be similar to the that of the drug glibenclamide.[8] In 2003, Virdi *et al.* demonstrated anti-hyperglycaemic effects with three extracts of the bitter gourd *Momordica charantia*.[9] The aqueous extract of the unripe fruit reduced fasting blood glucose by 48%, which is equivalent to the figures obtained with glibenclamide.

Brain disorders

Bacopa monniera has been used as a mild sedative, for memory enhancement, treatment of epilepsy and insomnia.



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Unani medical textbook written in Arabic script and depicting the human skeletal system, photograph at the Nizamia General Unani Hospital, Hyderabad, India.

This herb has been shown to have free-radical scavenging capacity and it is suggested that it is useful in conditions in which free radicals play a role.[10] Galantamine, which is isolated from a number of plants used in traditional medicine, including *Lycoris radiata*, has been shown to act as an anticholinesterase and is now licensed for use in the UK for the treatment of Alzheimer's disease.[11]

Atherogenesis

CapsHT2, a polyherbal preparation that comprises *Comminphora mukul, Allium sativum, Plumbago indica, Semecarpus anacardium, Hemidesmus indicus, Terminalia arjuna, Tinospora codifolia, Withania somnifera* and *Ocimum sanctum,* has antiatherogenic effects. Mary *et al*. demonstrated a scavenging of superoxide and hydroxyl radicals, inhibition of ADP-induced platelet aggregation, anti-inflammatory and hypolipidaemic effects.[12] This illustrates the therapeutic use of the formulations against vascular intimal damage and atherogenesis.

Antioxidant activity has also been described for the plants *Sida cordifolia, Evolvulus alsinoides* and *Cynodon dactylon*.[13] Furthermore, *Terminalia arjuna* has been used in patients with angina pectoris, congestive heart failure and left ventricular mass. Positive effects were seen in patients with angina and coronary heart failure.[14]

Ischaemia

Calcined gold preparations are used in Unani medicine as treatments for global and focal ischaemia.[15] Ischaemic brain damage in experimental rats was halted and the animals restored to near normal function following dosing with Kushta Tila Kalan, suggesting that gold preparations have an important therapeutic role.

Ulcerative colitis

Polyherbal remedies, for example, comprised of *Aegle marmeloes*, *Coriandrum sativum*, *Cyperus rotundus* and *Vetiveria zinzanioids*, have been used in animal models of inflammatory bowel disease.[16] This formulation produced results comparable to those obtained with prednisolone in the experimental model.

Real alternatives

It is clear from a search of the current literature that a wide range of plants has the capacity to treat diseases. Indeed, Unani medicine would seem to offer a real alternative to Western pharmaceuticals in certain circumstances.

Further scientific validation will allow safe use of these products and lead to the development of new drugs. Many current pharmaceutical agents owe their existence to research on plant products, and future exploration of the basis of ethnic herbal remedies will, without doubt, highlight new and exciting therapeutic agents. ■

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