# Contents

**CHAPTER APPENDICES**

# 2 Principles of herbal medicine

*Sue Evans*

## BRIEF HISTORY OF WESTERN HERBAL MEDICINE

The use of plants as medicines predates humans on the planet, as birds and animals have been observed to use plants in ways that benefit their health and treat disease.[1,2] With regard to our own species, there is evidence that medicinal plants, including those used today, have been highly valued since prehistoric times.[3,4]

Given their widespread and continuous use, medicinal plants have been called 'the birthright of mankind'. They belong in the kitchen as much as in the clinic or laboratory, as they continue to play a role with household medicine providing immediate care for minor ills. Older generations, including those who do not see themselves as knowledgeable about the use of medicinal plants, may use plant-based remedies for dealing with day-to-day health problems, such as ginger root for nausea or a spicy hot lemon drink for colds.[5]

In addition, medicinal plants continue to be used across the world as a stand-alone therapy or as part of naturopathic treatment.

### Hippocratic writings and humoral medicine

Early documentation of Western herbal medicine (WHM) is found in the 60 treatises that comprise the Hippocratic Corpus. These are the works of the followers of the Greek healer Hippocrates of Cos, and were written over a period of about 700 years between the fifth (or early fourth) century BCE and the second century CE. They contain references to 380 plant species and their uses in 3100 different conditions.[6] Many of the plants documented in these works are well known today. They include garlic and fennel, oregano and elder, pomegranate and chaste tree, among others.

The origins of humoral medicine, central to Western medical thought until the Age of Enlightenment (18th century), are also found in these writings. Humoral medicine is based on the idea that the four elements — earth, water, fire and air — are the basis of all existence and are expressed in four humours — melancholic, phlegmatic, choleric and sanguine — each of which is related to a particular season and has its own qualities (see Table 2.1).

In this system, individual personality traits were understood to be related to specific humours (see Box 2.1 for an early description of these traits), and disease was seen as largely due to an imbalance of the humours. Consequently, the actions of medicinal plants were understood as assisting in rebalancing the humours. This is also the origin of plants being described as heating, cooling, moistening and drying.

### Middle Ages and the spice trade

Throughout the Middle Ages medicinal plants were fundamental to medical care, both among the social and medical elites, and within the monasteries and nunneries which provided primary healthcare to their communities. Medieval herbals document the detail of plant use.[7] At this time some medicinal plants were cultivated and traded locally, and others were imported.[8] The most valuable of the imported plants were the spices.

Spice plants have been traded for medicinal, culinary and ritual uses since biblical times, their Asian origins shrouded in mystery for centuries. When ingested, they promote a sense of warmth. This was a particularly important quality in the cold winters of northern Europe and these plants were understood in humoral terms to counter the problems of the phlegmatic (damp) humour. Spices were traded over vast distances overland via long supply chains. They changed hands (and increased in price) many times between, for example, the islands of Banda and Run, now part of Indonesia (source of nutmeg and clove), Sri Lanka (source of cinnamon) and India (source of black pepper).

The long supply chains of these valuable commodities were controlled by Muslim traders. The high level of distrust between Christians and Muslims in the Middle Ages motivated European leaders to find ways to disrupt the Muslim domination of this lucrative market. This was one of the factors behind the instigation in the 15th to 17th centuries of maritime journeys which became known as the voyages of exploration. Individuals including Vasco da Gama, Christopher Columbus and Ferdinand Magellan led these expeditions. Of particular interest in the context of the history of Western herbal medicine is that these journeys not only were seeking alternative supply routes for spices, but their brief was also to seek out other medicinal plants that might be useful in Europe.[9–11]

**TABLE 2.1 Humoral theory and related phenomena**

| **Humour** | Sanguine | Choleric | Melancholic | Phlegmatic |
|---|---|---|---|---|
| **Substance** | Blood | Yellow bile | Black bile | Phlegm |
| **Quality** | Hot and moist | Hot and dry | Cold and dry | Cold and moist |
| **Season** | Spring | Summer | Autumn | Winter |
| **Element** | Air | Fire | Earth | Water |

Source: Trickey Enterprises (Victoria) Pty Ltd. The humoral theory, p. 8. Women, hormones and the menstrual cycle. 3rd ed. Melbourne.

## BOX 2.1 The Regimen Sanitatis Salernitanum (a Salernitan regimen of health)

Poem by unknown author of 12th or 13th century.

*Fat and jolly of nature are those of sanguine humor.*
*They always want to hear rumors,*
*Venus and Bacchus delight them, as well as good food and laughter;*
*They are joyful and desirous of speaking kind words.*
*These people are skillful for all subjects and quite apt;*
*For whatever cause, anger cannot lightly rouse them. They are*
*Generous, loving, joyful, merry, of ruddy complexion,*
*Singing, solidly lean, rather daring, and friendly.*
*Next is the choleric humor, which is known to be impulsive:*
*This kind of man desires to surpass all others.*
*On the one hand he learns easily, he eats much and grows quickly;*
*One the other hand, he is magnanimous, generous, a great enthusiast.*
*He is hairy, deceitful, irritable, lavish, bold,*
*Astute, slender, of dry nature, and of yellowish complexion.*
*There remains the sad substance of the black melancholic temperament,*
*Which makes men wicked, gloomy, and taciturn.*
*These men are given to studies, and little sleep.*
*They work persistently toward a goal; they are insecure.*
*They are envious, sad, avaricious, tight-fisted,*
*Capable of deceit, timid, and of muddy complexion.*

(Note: The phlegmatic temperament is not mentioned in this poem.)

Matterer JL. A boke of gode cookery — regimen sanitatis salernitanum. 2001. Available from: www.godecookery.com/regimen/regimn14.htm

These expeditions led to widespread European colonisation of the Americas, and parts of Asia, Africa and Oceania. The 'New World' of the Americas provided a pharmacopoeia of medicinal plants new to the Europeans. Information about these discoveries was widely disseminated; for example, in 1577 an English translation of a Spanish herbal, Monardes' *Joyfull News from the Newe World*, became available.[12,13]

## Culpeper

The trade in imported medicinal plants — and the prices they commanded — drew criticism from some herbalists who were sceptical of the need for new and expensive commodities. Throughout the writings of that most enduring of English herbal figures, Nicholas Culpeper (1616–54),[14] such criticism is evident. Abandoning his medical studies at Cambridge, Culpeper became apprenticed to an apothecary and fought for Cromwell in the English Civil War. He was committed to empowering his patients by sharing knowledge about local (English) medicinal plants. From his practice in central London he dismissed the use of new imported plants, arguing that they were being promoted in order to 'line the pockets' of the medical elites. In his view, local plants were not only easily available and cheap, but they were more than adequate to address local health problems. In his opinion 'a Man may preserve his Body in Health, or cure himself when sick, with such things only as grow in England, they being most fit for English constitutions'.[15] He had a colourful, productive and relatively short life, and although he died at the age of 38, his herbals have remained popular through the centuries.

The classification system that he popularised, ascribing qualities or 'degrees' of heating, cooling, moistening or drying, was based on humoral medicine and is described in Table 2.2. Although these concepts are no longer used to describe disease, some aspects remain useful in a modern understanding of herbal medicine. For example, spices are still considered hot, bitters and sedatives cooling, mucilages moistening and astringents drying.[15]

## Western herbal medicine in the colonies

Colonisation led to an exchange of medicinal plants between Europe and its colonies. In the case of North America this process was clearly two-way. European

**TABLE 2.2 Temperaments of herbal medicines**

| Hot | Examples of actions | Dry | Examples of actions |
|---|---|---|---|
| 1st degree | To enhance sweating | 1st degree | To strengthen |
| 2nd degree | To open pores; clear obstructions | 2nd degree | To bind |
| 3rd degree | To inflame, cause fevers | 3rd degree | To stop fluxes |
| 4th degree | To cause inflammation, blisters (externally) | 4th degree | To dry up radical moisture |
| **Cold** | **Examples of actions** | **Moist** | **Examples of actions** |
| 1st degree | To cool | 1st degree | To ease coughs |
| 2nd degree | To abate fevers; refresh the spirits | 2nd degree | To loosen the belly |
| 3rd degree | To suppress perspiration | 3rd degree | To make whole body watery and phlegmatic |
| 4th degree | To stupefy the senses and ease pain | 4th degree | Not possible |

Source: Culpeper N. Culpeper's complete herbal. Ware, Herts: Wordsworth; 1653/1995.

medicinal plants were brought to the New World with the English colonists and cultivated by them in their 'dooryard gardens' of food and medicine. Indigenous medicinal plants were incorporated into this herbal tradition, albeit after some initial reluctance. This cross-fertilisation between European and native American medicinal plants provided the basis for the 19th century botanic medicine movements.[16]

A similar transfer of medicinal plant knowledge between Indigenous and non-Indigenous peoples in Australia is not evident. There are records of European medicinal plants being among the plants transported from England to Australia with the First Fleet and subsequent supply ships. In addition, a medicinal plant garden was established in the Rocks area of Sydney to 'provide the needs of Sydney General Hospital' within weeks of the arrival of the first Europeans. Some early medical practitioners showed an interest in local medicinal plants, and collected information about their use.[17] However, this interest did not result in the widespread use of indigenous plants as medicines, and very few Australian native plants will be found in the dispensaries of Australian practitioners today.

Rather the North American experience and use of plants indigenous to that continent is reflected in the development of the botanical medicine movements of the 18th and 19th centuries. It is this knowledge which was exported throughout the English-speaking world and consequently these plants are well represented in the dispensaries of contemporary practitioners of WHM.[18]

## Thomsonianism

The early botanic medicine movement originated with the work of Samuel Thomson, who bridged the domestic and professional uses of herbal medicine, and promoted the use of local (North American) plants over imported ones.

Thomson developed a system of medicine based on herbal formulations to treat common health problems. He patented this system in 1813 and developed a highly successful business selling a year's worth of medical supplies to a family for $20. He also established a network of 'chapters' or support groups, where individuals could share the practical application of his ideas and medicines. In the pioneering society that was the US of the time, this approach to healthcare proved to be enormously successful in a situation where 'regular' medical treatment was not well regarded or trusted, and was often unavailable or unaffordable.

Thomson's system of medicine had clear links with humoral medicine, and could be followed by anyone, regardless of their level of education. His rationale for healing was based on stimulating the individual's vital force. He promoted a very simple idea that illness was largely to do with an excess of 'cold' which could be countered through the application of heat. This was achieved by the use of steam baths and the ingestion of 'heating' plants, especially cayenne. He also used emetics in order to 'cleanse' the body before treatment.

In the years following, these simple ideas were developed further by the physiomedicalists and Eclectics. Figures such as Alva Curtis and Wooster Beach in the US and Albert Coffin in the UK were influential in herbal medicine both politically and philosophically during the 19th century. They were among the leaders of a large group of herbal practitioners who provided medical care in the US and UK. These practitioners documented their work, including many case histories, in books and professional journals. This work remains a rich resource of clinical data available to herbal historians and scholars on the use of medicinal plant preparations in the treatment of a wide range of conditions, many of them serious and acute.

One of the continuing ideas expressed in these works is the importance of treating the vital force which regulates the body. Obstruction of the vital force was thought to cause cellular, organ or system dysfunction. Symptoms of disease were explained as expressions of the body's attempts to resolve problems facing the vital force. The greatest obstruction to it was the accumulation of metabolic wastes associated with poor elimination. The emphasis of treatment was on assisting the body to rid

itself of this 'toxic encumbrance', primarily through promoting diaphoresis (sweating), emesis and enemas ('purging and puking'). While the techniques may have changed, the emphasis on organ dysfunction and on toxicity as a potential contributing factor in disease can be seen in contemporary herbal practice (see Ch 1).

The botanic medicine movements of the 19th century flourished in what has been described as a period of 'free trade in physic', or 'medical sectarianism' where herbalists, homeopaths and 'regular' ('allopathic') practitioners and others practised freely. However, from the 1850s this freedom of practice began to be challenged, as allopathic practitioners and their supporters began to introduce legislation to advantage them over those who practised herbal medicine and homeopathy.[16,18–21]

These attempts to professionalise medicine took place over half a century and were eventually highly successful. They resulted in the medical profession developing 'one of the most privileged, autonomous positions in the marketplace in the contemporary Anglo-American context'.[20] As a consequence of this privilege, other approaches to medicine, including herbal medicine, became marginalised. Interestingly, it was in this climate that the new discipline, naturopathy, was developed at the dawn of the 20th century.

This marginalisation was challenged in the 1960s and 1970s with the development of the counter-culture. The re-emergence of herbal medicine at this time was and continues to be consumer-led and has occurred despite the initial opposition of both the state and the medical profession.[20,22] Commercial interests have been quick to recognise the opportunities this new field offered, as the burgeoning markets in over-the-counter remedies attest.

## MODERN PRACTICE

Modern Australian herbal medicine, similar to its European and North American counterparts, is largely founded on the Anglo-Thomsonian model as described above and the philosophies of Hippocrates and his successors. Humoral theory, doctrine of signatures, planetary influences and vital force are all aspects of herbal medicine that have influenced its past practices and the ways in which practitioners have traditionally understood the activity of these plants.

However, in recent decades WHM has become more and more firmly rooted in biomedical disease concepts that are based on scientific principles and research. These principles can be seen when reading influential books by authors such as Simon Mills, Kerry Bone, Rudolf Fritz Weiss, and others.

Many traditional concepts are not accepted by, and may be incompatible with, contemporary scientific understandings. At the same time, public popularity of herbal medicine arises from a perception that herbalists offer 'something different'.[23] Consequently, WHM is in a philosophical dilemma. On the one hand, we are indebted to our ancestral herbal forefathers for our distinctive approach which is being demanded by the public. On the other hand, we try to fit our knowledge and practice into the prevailing scientific worldview.

The way out of the dilemma has been to adopt a biopsychosocial system which is based on current scientific knowledge and rationale, while also considering holistic aspects including the social, environmental, spiritual, psychological, cultural and economic aspects of a person.

The following principles are founded on the action-based method and principles advocated by a number of key figures within WHM.

## CURRENT WESTERN HERBAL MEDICINE — PHILOSOPHICAL PRINCIPLES

Western herbal medicine is based on the concept that a normal human body is free of disease and capable of resisting disease and maintaining homeostasis.

In the physiomedical tradition the following three principles are fundamental and are still in place today:

1. A belief in a vital force that underlies all living organisms. It is this force that unifies all living organisms and is responsible for restoration and preservation of health.
2. A holistic philosophical framework that believes in treating individuals within the wider framework of their emotional, social, economic, spiritual and cultural aspects.
3. The principle of 'do no harm' — specifically the use of non-toxic medicines.

### Individualised and holistic treatment

These naturopathic approaches are based on a belief that every person is unique; thus diagnosis and treatment of ailments is always individualised. No-one is ever in perfect health and each person has their own individual limitations on their potential for good health. Or, to put it another way, each person has areas of weakness that require support to enable them (or, more particularly, their organs) to function optimally within their limits. The task of the herbalist is to assess and enable each person's potential. Diagnosis is based on assessment of the individual's vitality and their level of toxic encumbrance.

This model for understanding health and disease has similarities with other traditional health systems which also classify people into constitutional types and which understand disease states as springing from excesses or deficiencies of substances considered elemental within these traditions. Traditional Chinese medicine, for example, includes concepts such as *qi* (vitality), *yin* and *yang*, and five elements of wood, fire, earth, metal and water. The Indian Ayurvedic tradition describes *prana* (energy), and three constitutional types of *kapha* (water and earth), *pitta* (fire and water) and *vata* (air). Causes and classification of diseases, qualities of different foods and herbal medicines, and broader cosmology are all explained by complex interactions of these elements, influences and forces. Diagnosis and holistic treatments are individualised within these frameworks.

Individualisation of diagnosis and holistic treatment are also central to contemporary approaches to Western herbal medicine. Treating people, rather than diseases, and assessing the cause of health problems in a way that incorporates the whole picture of a person, are key aspects of the naturopathic paradigm. It is useful to have classificatory models, such as theories of the elements, to understand temperaments of both people and herbs. Such frameworks enable practitioners to distinguish between possible treatments, and promote accurate and appropriate prescribing of herbal medicines.

Contemporary Western herbalism still aims primarily to stimulate vitality. This is achieved through addressing four key aspects essential to healthy functioning: enhancing digestion and assimilation of nutrients, encouraging elimination of metabolic wastes, ensuring adequate circulation (of blood to provide nutrients to all cells, and lymph to carry away wastes), and enervating nerve supply. Addressing these fundamental physiological functions enhances vitality by providing an environment that maximises the body's innate healing capacity. Treatment regimens are individualised, holistic and natural (herbs, foods, fasting, rest, sweating, massage, exercise) and without side effects. Ideally, attention is focused on correcting functional disturbances before they cause more structural change and deteriorate into chronic problems.

## TRADITION AND SCIENCE

The enduring nature of herbal practice demonstrates its ability to adapt to change. Any tradition needs to maintain contemporary relevance in order to survive. Herbals from different historical periods demonstrate how herbalists reflect contemporary understandings of health and disease in their descriptions of the medicinal actions of the herbs. The concepts they use in their descriptions demonstrate these understandings. Box 2.2 details the challenges of the transmission of traditional knowledge.

A challenge for maintaining contemporary relevance is to decide which aspects of a tradition are central to the tradition and should be retained, and which aspects should be reinterpreted or discarded.

These challenges face the 21st century practitioners of WHM. The way that Western societies understand the world around them is firmly based in the scientific method. Therefore an adaptation required of contemporary herbalists is to reassess and reinterpret traditional understandings in light of current science.

### BOX 2.2 Herbals

A herbal is a book which describes the uses of individual medicinal plants. Herbals document the uses of herbs in particular eras. 'Reading the old herbals' has been the major source of transmission of herbal knowledge in WHM and they are a major source of what is generally understood by herbalists to be 'traditional knowledge'. Herbals are often associated with a particular person, for example *Culpeper's Complete Herbal* by Nicholas Culpeper.

However, herbals are informed by practical use and they need to be read in their own specific historical context. They contain a lot of assumed knowledge. Some of this is knowledge which was general knowledge at that time — for example, Culpeper does not include a description of barberry (*Berberis vulgaris*) in his herbal because '*This shrub is so well known by every boy or girl that has attained to the age of seven years, that it needs no description*'. While this knowledge may have been common in 17th century London, few children or adults among his current readers have such knowledge.

This means that the interpretation of herbals from specific historical periods requires specialist understanding — ideally from those who have not only an understanding of the period in question, but also a detailed understanding of the ways that herbalists use plants. The historian Anne Van Ardsdall suggests that we think about herbals as abbreviated texts, or notes for practitioners that must be read with the understanding that they are built upon years of apprenticeship. As she says:

> *The texts make sense because an unwritten text can be assumed to lie between each line of written text: that unwritten text is the voice of the teacher and the memory of the apprentice healer, neither of which we can hear.*
>
> Van Arsdall 2014

Another historian, John Riddle, gives an example of the mistakes and omissions that can occur when researchers depend only on the written record, without an understanding of the assumed knowledge of the underpinning practice. In his research on the historical use of contraceptives, he found many references to the use of the seeds of Queen Anne's lace (*Daucus carota*) for this purpose in some cultures. However, it was only after many years of historical research, and after a conversation with a herbalist, that he learned that the seeds should be crushed, This brings home the limitations of the written record. For if the seeds were swallowed whole,

> *they go through the alimentary canal without absorption, or, in other words, 'they go right through you' … Nothing in the historical sources specified this critical piece of information. Experienced herbalists may know instinctively to crush the seeds. It makes me all the more aware that medical writings themselves were not sufficient to explain the continuous use of natural products over many centuries. By and large the information about these drugs has been transmitted orally.*

Culpeper N. Culpeper's complete herbal. Ware, Herts: Wordsworth; 1653/1995; Riddle J. Eve's herbs: a history of contraception and abortion in the West. Cambridge, Mass: Harvard University Press; 1997; Van Arsdall A. Evaluating the content of medieval herbals. In Francia S, Stobart A, editors. Critical approaches to the history of Western herbal medicine. London: Bloomsbury; 2014.