

Building a Formula - Selection Criteria and Dosing Strategies

Introduction

Building a formula, determining the correct herbs and the correct proportions, as well as the dosing strategy, is the pinnacle of the art of herbalism. It is the place and time when much of the hard core science we struggle to learn becomes useless and we are forced to rely on experience, intuition and tradition. It can be all too easy to get stuck using the same limited repertoire of herbal agents because these are what you are familiar and comfortable with. Alternatively, there is always a risk that we use new and novel herbs or herbal combinations, not tested out over time and learned by empirical observation, in an attempt to be different or to keep up with trends. There are many different factors to be considered when choosing what herbs to include in a formula and there are another set of considerations when choosing the optimal dosage for the individual.

Know The Patient

“It is more important to know what kind of person has a disease than to know what kind of disease a person has” Hippocrates

First you must be clear in your own mind what kind of ailment you are dealing with. Regardless of the fact that in most countries you are not allowed to make a diagnosis, it is still essential that you have carried out a complete case history, physical examinations where appropriate and in whatever analytical modalities to which you have been trained (western medical model, Chinese or Ayurvedic tongue and pulse assessment, iridology etc) and have come up with an adequate assessment of the state of health of the individual.

You can call this a *tissue state assessment*, a *clinical health assessment*, a *health analysis* or any other name except 'diagnosis'. The important thing is that you know what is the physiological and physical root of the problem.

You should be able to reach this state of knowledge drawing on the many hours of studying you have done and by comparing the client to the many 'normal' people you have examined. This is the art of *differential diagnosis* or *differential assessment* and is where you determine that this particular cough needs stimulating expectorants whereas another may need soothing anti-tussives. It is beyond the scope of this book to teach these techniques, and each practitioner will have their own modalities to factor into the equation, but I stress that it is one of the most important parts of our work as herbal practitioners.

If you cannot determine for sure what is the problem then you have 2 options:

- 1) You can base your treatment on the most probable cause of the problem while continuing to monitor the client with the possibility of altering your assessment and treatment plan as needed.
- 2) You can refer the client on to another practitioner for further tests and examinations which you cannot do yourself.

If you choose option 1 then you run a potential risk of missing something dangerous and possibly doing the client a disservice (in the worst case scenario you could cause grave harm to the patient by not recognizing a serious illness). If you choose option 2 then you run the risk of losing your client who may well decide to take treatment from the person who finds out what is the problem.

This seems like a no - win situation but really it isn't. It is, in fact, an opportunity for you to put into practice many of the principles you have been studying. The challenge of the Clinical Herbalist is to learn how to choose option #1 and make it work .

In allopathic medicine before the diagnosis is decided upon a *differential diagnosis* is made. Essentially this lists all the possible diseases that could be affecting the patient and sorts them into an order of most likely to least likely. This process involves knowing the signs and symptoms of many diseases and knowing the significance of each of these. The doctor then usually chooses that condition or disease that fits the most accurately with the patients particular signs and symptoms and treats accordingly. But if the situation does not improve within the expected time frame then the doctor will re-assess and make a new diagnosis as necessary.

Even though you are not allowed to use the word 'diagnosis' there is nothing to stop you from making a differential analysis and using your list of probabilities to choose the most likely cause of the illness.

An Example of Differential Analysis in Action

A woman of 45 years complains of heavy periods (menorrhagia) with some irregularity and pain with bleeding (dysmenorrhoea). She has been taking an oestrogen supplement for 2 years as a treatment for menopausal problems. During the case history you determine that the irregularity takes the form of intermenstrual bleeding (metrorrhagia), that the heavy flow has come on in the last 3 years and appears to be worsening, that there is some pain on intercourse (dyspareunia) and that she has no children (nulliparous).

Now make a list (mentally or on paper) of all the possibilities:

Menorrhagia:

fibroids
endometriosis
uterine cancer
hypertension
hormonal imbalance

Metrorrhagia

fibroids
mittelschmerz
endometriosis
cervical erosion
cervical cancer
cervical polyps

Dyspareunia:

fibroids
endometriosis
cervical dysplasia
anatomical abnormality
psychological disturbance
uterine or cervical cancer
ovarian cyst

Dysmenorrhoea:

fibroids
endometriosis
endometritis
hormonal disturbance
uterine or cervical neoplasm
anatomical abnormality

Now you can work out the probability of each symptom being caused by the different suspected illnesses. The list above was not made up in any particular order, just as things came to mind but you can see certain patterns emerging. Fibroids comes up repeatedly as do endometriosis and neoplasms.

Apart from the problems described earlier the client appears to be in reasonably good health. There is no loss of weight, in fact the woman is really a little overweight. The appetite is good, there are no sleeping problems and pain only at the times already mentioned. Thus it is unlikely that she has cancer because if it was advanced enough to cause menstrual problems then there would also be systemic effects, even though you must remember that the oestrogen supplement is going to significantly increase her chances of developing uterine cancer. Endometriosis is a real possibility especially as the woman is nulliparous but she is actually rather on the old side to be developing it now. Also the menstrual irregularity of endometriosis more usually takes the form of irregular cycles rather than metrorrhagia.

Fibroids is the most likely explanation in this case, given the age of the woman and the fact that the growth of fibroids is accelerated by high oestrogen levels. It may be that she had some small growths for many years that could have interfered with her capacity to carry a child, and only with the onset of oestrogen supplementation did they grow large enough to cause obvious distress.

You may be able to confirm your suspicions by other modalities. For example, if the woman is tending to be overweight, especially with a preponderance of fat in the abdominal area, then she may be indicating a *kapha* or water imbalance in that area which would predispose to stagnation and congestion. On taking her pulses you may notice a weakness in the liver, large intestine or kidney meridians, all indicating a reduced ability to eliminate toxins, so aggravating congestion and sluggishness. If you use iridology you will probably see markings in the eyes indicating uterus or ovary problems. Having reached a conclusion as to what you believe to be the problem, you may then decide to have further tests done e.g. in this case a gynecologist could do an internal bimanual examination and may be able to feel the growths, or an ultra sound would show them up. However you may feel secure enough in your assessment to commence treatment. If so then don't forget your differential analysis, you may need to refer to it again if your treatment protocol is not effective.

Pathological Correction Versus Physiological Support

In holistic medicine the practitioner starts with the premise that the normally functioning body is free from disease, capable of resisting disease and capable of healing from disease. Based on this belief, the major focus of holistic medicine is on supporting and enhancing this inherent ability of the body to heal itself. Physiological support, it is thought, will bring about a deeper and more profound healing than interfering directly in the healing process itself. Holistic and natural health practitioner believe in first supporting the physiology to enhance optimal metabolic functioning. Only when this is insufficient will pathological correction be applied.

An example of this is seen in the treatment of colds and flu. The allopathic physician will recommend aspirin to bring down the fever, a decongestant to dry up the mucus membranes and an anti-tussive to reduce coughing. The holistic practitioner, in contrast, will recommend a warm bath and a diaphoretic (sweat promoting) tea to bring up the fever and break the sweat which will allow natural cooling. This temperature spike will enhance white blood cell activity against the invading microbe, and will reduce the microbes virulence. Additionally, the holistic practitioner will use inhaled essential oils to deliver antibiotic properties directly to the mucus membranes and open the passages, as well as Plantain and Goldenrod to thin the mucus and make it easier to clear. Mucus production is an important form of primary

defence in the body and should be encouraged not suppressed. Coughing is also part of the primary defence system and, again, and will be

promoted with gentle soothing expectorants. If frequent cold and flu are a pattern, the allopathic physician will continue to prescribe antibiotics which suppress the immune response, and flu vaccinations. The holistic practitioner, on the other hand, will address aspects of the diet and life style as well as using herbs and nutrients to boost immune response. Enhancing the natural defence mechanisms of the body may obviate the need for stronger, symptomatic medicines.

In clinical practice one of the most useful techniques is to elucidate the actual sequence of disease, what Kerry Bone MNIMH has called the “causal chain” of disease. He suggests that all disease comprises 3 basic parts: pre-disposing causes, excitatory causes and sustaining causes. Pre-disposing causes that weaken resistance to disease include such things as diet, stress factors & stress management, environment and attitudes, genetics & constitution. They can be managed or minimized through nutritional and lifestyle changes that can be taught and learned. Herbs used to provide physiological support include adaptogens, tonics, bitters, circulatory stimulants and nervines. Excitatory causes are responsible for triggering the onset of disease symptoms. They include microbes and pathogens, physical and emotional / psychic trauma and toxins. They require a more interventionist type of therapy or pathological correction process. Herbs used to provide pathological support include anti-vials, anti-bacterials, anti-fungals, anti-protozoal, anti-inflammatory, anti-tussive and anti-spasmodic. Finally, sustaining causes are those which impair resolution of disease such as chronic, sub-clinical infections, inflammation and so on. They require long term strategies combining physiological support with pathological correction.

For the person with Fibromyalgia, for example, one part of the causal chain might be explained thus:

A high stress situation causes increased intake of caffeine and stimulates the adrenal glands → this impairs sleep → the immune system becomes compromised and release of Growth Hormone is reduced → GH induced muscle repair is impaired → micro-trauma to the muscle causes pain, spasms and eventual formation of tender points → pain causes impaired sleep → commencement of a vicious cycle.

Knowing the causal chain enables the formula to be more precisely personalized. In this example physiological support could be used strengthen the eliminative and circulatory systems and pathological correction could be used to dull awareness of pain. Remember that it usually more effective to give more quantity of a single herb than small amounts of many different things. 5 or 6 herbs in significant quantities (which vary with each herb) is usually the most effective number - it gives you room for all the herbal actions you need and yet doesn't confuse the body with too many chemical combinations all at once.

Traditional Chinese Medicine bases the structure of the formula on the principle of government. Thus there is an Emperor that determines the overall approach, various Ministers that support and carry out the wishes of the Emperor, Assistants who create the agenda for government and set the political climate and tone, and Servants who carry out the actual work. In the context of the herbal formula this means that the herbs are ‘layered’ or each considered in juxtaposition to the other parts of the formula as well as for their own merit. The Chinese art of compounding, or making herbal formulas, is impressive and their energetic principles may be applied to western herbs as well. Similarly, western herbal medicine draws threads from Ayurveda and many other indigenous herbal traditions.

The traditional and time - honored approach suggests that a formula should have within it:

- * 2 or 3 parts specifically active against the particular components of the condition.
- * 1 part soothing and relaxing to the affected area or to the nerves in general.
- * 1 part nourishing & strengthening or tonic to the affected area or to the body in general.
- * 1 part eliminative / alterative / depurative.

The Physiomedical model, as described in contemporary terms by Matthew Wood is:

- * keep the four channels of elimination open (colon, kidney, lungs skin)
- * cleanse the interior and support anabolism
- * free impediments to the circulation.

There is no right or wrong when making a customized formula - there is only the question of whether it is effective for the individual. By careful analysis of the condition and careful assessment of the herbs, and by regular monitoring of progress, you will know if you are on the right track.

CHOOSING THE HERBS

Having determined the cause of the problem to the best of your ability, you then need to choose the herbal agents best suited to treating the condition. Before thinking of the individual herbs, though, there are several general considerations to be factored into the equation.

Availability

There is no point in writing up a formula full of exotic herbs which the patient won't be able to find readily. Even some herbs that are not really exotic may be locally unavailable. For example, when I practiced in Scotland one of my favorite herbs in a tea for women's health was *Lamium album* (White dead nettle), a prolific hedgerow plant in the UK. However, I cannot find it from any supplier in north America so I do not prescribe it in this form any more. There are some herbalists who only use those plants which grow in their immediate vicinity but I feel this limits us unnecessarily. Ginger may be a tropical plant but it is easy to buy in any supermarket so why not use it when appropriate? Another aspect to this issue is what herbs you happen to have in stock at any given time. Most practitioners prefer to fill the prescription themselves because that way you retain control over the quality and are sure that the patient leaves with exactly what you wanted them to have. So you should check your own inventory before writing a prescription, or tell the patient where else they can purchase certain products you don't have. Be sure if they go elsewhere to have a prescription filled that it is not altered or adjusted in any way by a well meaning store clerk.

Affordability

This ties in to some extent with availability - if you prescribe hard to find herbs they will be more expensive. The cost is a major concern for many patients and keeping it within reach is clearly essential if they are going to be able to take enough of the herbs for a sufficient duration of time to have the desired effect. You may need to adjust your prescription to suit their budget, for example prescribing teas as a cheaper option than tinctures. Beware, though, of assuming people can't afford good health care. Many people are quite happy to spend good money on their health and they appreciate the extra cost of high quality herbal products. Another aspect to this issue is the cost to the practitioner of maintaining a large and varied dispensary. If you have a very busy practice this might be possible, but you cannot tie up all your capital in stock unless it turns over fast so if you have only a small practice then you will have to choose the key herbs you need and forgo some of the lesser used ones. This will limit you a bit but you won't break the bank.

Ecological / environmental concerns

One of the great dangers of the modern renaissance of herbal medicine is the over harvesting of certain plant populations. This is exacerbated by the vagaries of fashion whereby a certain herb will be promoted excessively and often inappropriately. A good example of this is *Hydrastis canadensis* (Goldenseal), an American woodland plant, which is endangered in the wild and is very hard to cultivate. It is so popular in the mainstream today that it even appears in a conditioner made in New Zealand! A responsible herbalist will avoid the use of endangered plants and seek appropriate substitutes wherever possible.

Compliance

Herbal medicine often tastes unpleasant and even very intelligent people will often find themselves making excuses for not taking that which they have shelled out good money for. Children in particular often don't like the herbs. You may choose to use a 'corrigan' or flavouring agent such as glycerin, licorice or peppermint to make the medicine more palatable. If you are trained in aromatherapy you may also choose to use a drop or two of certain essential oils such as fennel, cinnamon or spearmint. If you are not using bitters which must be tasted to be effective, then you may suggest diluting the tincture in apple juice rather than water or adding a drop or two of a fruit juice concentrate with the water. It is sometimes worth considering

the frequency of the dosing as well. Inevitably it is preferred to take the medicine at regular and frequent intervals (eg. three times daily) because it keeps the blood sugar more stable, but better to take it all at once just one time daily than to give up and not take it at all. It is also important to keep it simple. As a herbalist you may really enjoy brewing decoctions but does your patient have time in the morning before dashing off to work? Think about all the ways you can make it easier for them without compromising the efficacy of the treatment.

Synergy

Some herbs combine well together such as *Rumex crispus* (Yellow dock) and *Arctium lappa* (Burdock) while other may clash such as *Panax ginseng* (Korean ginseng) with any strongly astringent herbs. This may be based on an energetic or constitutional understanding of the herbs or may be based in the science of pharmacokinetics (the uptake, metabolism and excretion of medicaments). The pharmacokinetics of herbs is very poorly researched and we are forced at this time to rely mostly on empirical knowledge and tradition for our understanding of plant synergies.

THE ACTIONS BASED APPROACH

Having considered the general parameters described above, you are now ready to actually choose the herbs for your formula. At this point you need to be clear whether you are working within a western model emphasizing physiology and pharmacology or within an energetic model emphasizing constitution and subtle energy principles. It can get very confusing and contradictory to attempt to mix and match too many modalities or systematic approaches so for the purposes of this discussion we will focus on the western model but this is not to discount the importance and validity of other modalities.

Normalisers and Effectors

Some herbs may be chosen for their specific biochemical impact on a certain aspect of physiology, whether induced by single known chemicals or through an action of the whole plant. These herbs are considered the effectors in the formula, included to achieve a certain known result on a certain symptom or system malfunction. They are applied in the context of pathological correction. Examples could include the bioflavonoids of *Ginkgo biloba* (Ginkgo) which act as cerebral circulatory stimulants or the tannins of *Filipendula ulmaris* (Meadowsweet) which act as astringents to the upper digestive tract.

Other herbs are chosen for a more generic effect, regulating, balancing and normalizing widespread physiological actions. They are used to achieve physiological support and are sometimes called tonics. They tend to be gentle and require to be used long term. Examples include *Rubus idaeus* (Red raspberry) acting in the female reproductive organs and *Crataegus oxyanthoides* (Hawthorn) acting in the cardiac system.

A herbal formula may include both of these categories of herbs. Generally speaking, the more acute the problem the greater is the need for effectors and the weaker the constitution of the patient the more normalisers they need.

Differential assessment of herbs

This is purely action based, somewhat reductionistic but still effective and sometimes useful at least as a starting point in making your therapeutic choices. Even while you are taking the case history you may get 'flashes' on what the client requires. Jot these down on a separate sheet of paper as you go along. When you have made your health assessment then begin to write down a list of herbs that might be appropriate based on the actions you wish to use.

Differential assessment of herbs for treating fibroids

In this case you would use *astringents* to dry or shrivel up the growth, and you would choose those with a tendency to act in the area affected (ie. the pelvic cavity); you would use *pelvic decongestants* to remove any blockages and obstructions in the area; you would use *circulatory stimulants* to bring fresh leucocytes to the area and to flood the area with oxygen which relieves spasms and you would use *uterine tonics* to strengthen and nourish the area and to improve the quality of the membranes and tissues.

Astringents:

Capsella bursa-pastoris
Rubus idaeus
Alchemilla vulgaris
Geranium maculatum/robertianum

Circulatory stimulants:

Zingiber off.
Zanthoxylum americanum
Capsicum minimum
Achillea millefolium

Pelvic decongestants:

Collinsonia canadensis
Lamium album
Achillea millefolium

Uterine tonics:

Cimicifuga racemosa
Caulophyllum thalictroides
Mitchella repens
Lamium album
Hydrastis canadensis

For this particular case you might choose:

Capsella bursa-pastoris for it's powerful astringency.

Lamium album as both a decongestant and a tonic.

Achillea millefolium as a circulatory stimulant, a warming and drying herb, a normaliser of all bleeding and as a regulator of the female cycle.

Cimicifuga racemosa and *Mitchella repens* as important uterine tonics.

Alchemilla vulgaris as a mucous membrane tonic

Had you wished to prescribe Collinsonia instead of Lamium or Zingiber as well as Achillea or any of a hundred different permutations they could all have been equally correct if the choice you make is rooted in an honest conviction that this combination is the very best one for the client at this moment. The final choice may be made by intuition but you cannot safely give your intuition free rein until you first have mastered all the theory about health, ill-health and herbs.

A frequently asked question is "how long will the treatment take?". The person who asks this must first be made aware of the fact that you cannot ever guarantee a cure, you can only express the probability that herbs can help. In the years which I have been practicing as a herbalist I have never come across a person for whom the herbs could not offer at least some relief, maybe not as much as they would hope for, but better than nothing and often much better than the other alternatives on offer. It is impossible to give any general rule as to how long a person may need to take herbs, it is a totally individual thing. In general, though, the longer a person has had a disease the longer it will take to get rid of, and the more acute the condition the more rapidly will the herbs work. Children and small or frail people often react more quickly to herbs than do larger people. A useful rule of thumb is that, provided the client is following all instructions correctly and has made any lifestyle modifications required, then you would expect to see some change within 2 to 3 weeks and significant improvement within 2 to 3 months.

After your first consultation you would normally have the client return within 2 or 3 weeks for a second assessment, and thereafter at 4 or 6 week intervals. For acute conditions you may wish to see the client more frequently and for conditions which are very chronic and are obviously going to take a long time to treat then less frequent visits might be alright. Again, treat each case as unique and judge accordingly.

DOSING STRATEGIES FOR CHILDREN

There are several different formulas that are useful when considering the correct dose of herbal remedy to give to a child. Perhaps the simplest is the chart which can be easily adapted to suit either tinctures or teas. Two other formulas are given below:

Young's Formula

$\frac{\text{Age in years}}{\text{Age plus 12}} = \text{portion of adult dose}$

Thus a 6 year old child would be: $\frac{6}{6 + 12} = \frac{6}{18} = \frac{1}{3}$ of adult dose

Dillings Formula

Age in years = portion of adult dose
20

Thus a 6 year old child would be: $\frac{6}{20} = \frac{3}{10}$ of adult dose

ADJUSTING DOSES FOR THE AGE OF THE PATIENT

When the adult dose is one teacupful:

< one year old	2 teaspoonsful
1 - 3 years	3 teaspoonsful
3 - 6 years	1 tablespoonful
6 - 9 years	2 tablespoonsful
9 - 12 years	3 tablespoonsful
12 - 15 years	4 tablespoonsful
15 - 18 years	5 tablespoonsful
> 18 years	adult dose

When the adult dose is one teaspoonful or 60 drops:

< 3 months	2 drops
3 - 6 months	3 drops
6 - 9 months	4 drops
9 - 12 months	5 drops
12 - 18 months	7 drops
18 - 24 months	8 drops
2 - 3 years	10 drops
3 - 4 years	12 drops
4 - 6 years	15 drops
6 - 9 years	24 drops
9 - 12 years	30 drops
12 - 15 years	38 drops
15 - 18 years	45 drops
> 18 years	adult dose