

HERBAL MEDICINE : Report of a Study on Thai Traditional Technology Under the Auspices of UNESCO

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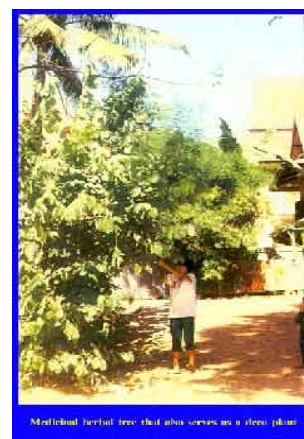
Diseases have always been a constant problem plaguing mankind from time immemorial. Primitive man, and to a certain extent modern man, turned to black magic and supernatural power for remedies. It is real providence that the curative properties of some herbs had been discovered and exploited early in human history. Over the years the knowledge of herbal medicine has grown. In modern times, a wide range of herbs have been sought for their healing effects and used more and more,

while the resort to black magic has been in a steady decline.

The earliest record of the practice of herbal medicine in Thailand appears in the writing of the Sukhothai period (thirteenth century A.D.) known as "The Trilogy of Phra Ruang." Ancient Thais who had studied the curative properties of herbs recorded their findings and the results of their work in accordion-pleated books and palm leaves. No less than 10,000 volumes of such work have now been discovered and examined. They undoubtedly constitute one of the most precious cultural aspects of Thailand.

Herbal medicine has long been practised by Thai people in all regions. In spite of this, there had been very little interaction among Thai traditional medical men. It is not very surprising to find that many regions have developed their own systems of nomenclature, techniques and idiosyncrasy. For instance, the same species of herb may be known by different names in different districts. By the same token, a certain herbal name may mean one thing in one district but something completely different in another. Court officials who were charged to gather medicinal herbs carried red truncheons that symbolized court authority. The Traditional medical men stuck "chalaew" (a Wicker work consisting of wicker splints woven into the shape of the Star of David atop another wicker splint) over their medicinal earthenware pots.

It is most likely that early men learned about the healing values of some herbs by observing habits of animals. It is well-known that some carnivoras eat particular plants to cure certain ailments. The principle of even the plants were probably tried, and the good results were passed on to succeeding generations. In the Eastern world, India and China are credited as being among the first to come up with traditional medical texts prescribing herbal



medicines for numerous sicknesses. Particularly well-known in Thailand is the text alleged to come down from Bikkhu Jivaka Komarabhadda, a court physician during the time of Lord Buddha. Most traditional medical texts in Thailand appear to have their origin in foreign as well as indigenous sources. One of the most famous traditional medical texts in Thailand was inscribed on the walls surrounding the main temple of Wat Prajetupon Vimolmangkalaram near the Royal Grand Palace. The writing was actually carried out during the reign of King Rama III of the House of Chakri.

Thailand abounds with medicinal herbs many of which have been successfully employed to cure the Thais of a wide range of sicknesses. Some herbs with mild medicinal values such as ginger, lemon grass, and bitter lemon are skillfully incorporated into traditional cuisine. Other medicinal herbs can be used as decorative plants.

The importance of herbal medicine has been increasingly recognized by the public, and international as well as national organizations. Systematic research is being carried out by several local laboratories with the purpose of supplementing modern medicine.

Preparation of herbal medicines is indeed a traditional technology involving various stages of work from identifying raw medicinal herbs to storing finished products.

Picking, Curing and Processing of Medicinal Herbs

Growth stages and seasons when medicinal herbs are to be picked must be carefully decided. The following considerations are usually taken:

- Roots should be dug up during the period from mid-winter to the end of the hot season, i.e. from October to April. This is the time of the year when the water content of the roots is at a minimum.
- Stems and leaves should be picked when the plants are in full growth.
- Flowers should be picked when they are either in full bloom or about to bloom.
- Berries and seeds should be picked when they are fully ripe.

After picking, medicinal herbs must be thoroughly rinsed in clean water, and if necessary, scraped to remove all traces of dirt. Roots are normally steamed while berries are treated with hot water. Large roots and stems are cut into thin slices and left to dry in the sun or in thoroughly ventilated shade when the aroma is to be preserved. Some raw medicinal herbs particularly the roots and the berries, can be very poisonous and this is why they must be heat treated before they can be used.

Most medicinal herbs after curing are kept in ventilated areas and away from the sun. Herbs that are susceptible to fungus attack are exposed to the sun at regular intervals. Starchy roots which attract insects are stored in a covered containers.

Liquid extract squeezed out from raw herbs cannot be stored over a long period of time. Some herbs are ground to powder for storing and later use.

Equipment used in Processing of Medicinal Herbs

Sharp knives, chopping boards, wicker baskets, wooden trays, packing paper, fine and heavy scales are among the common equipment used in the processing of medicinal herbs. In addition, mortar and pestle, stone rollers (male and female), and steel crucibles are used to pulverize dried slices of medicinal herbs. Mixing is usually done in small ceramic cups or earthenware cover lids. After wet and sticky mixing, pellets or pills are formed manually.





Classification of Medicinal Herbs

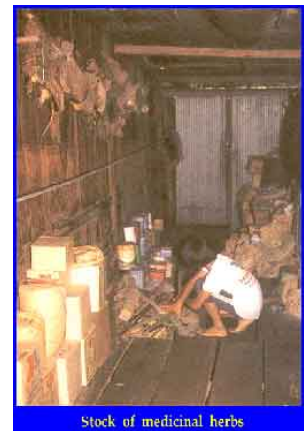
Thai herbal medicines are often classified according to their flavours. Each flavour is associated with its peculiar curative properties.

Rough classification gives rise to three categories of herbal medicine i.e.

- Mentholated or cool flavoured herbs are used to prepare antidotes and panace for various types of poisoning.
- Pungent herbs are used to prepare fast-acting medicines.
- Mild herbs are used to prepare medicines for patients who cannot tolerate the taste of pungent medicines.

Fine-grained classification results in ten categories of herbal medicines i.e.

- Tardy medicines are used externally to nurse wounds and taken internally to cure bowel disorders.
- Sweet medicines are taken to alleviate physical exhaustion, coughing, asthmatic attacks, throat irritation and so on.
- Sickly tasting medicines are prescribed to lessen toxic effects of insect and animal bites and bums.
- Bitter medicines cure jaundice, blood poisoning, allergy and the like.
- Chilli-hot medicines are good for gastric trouble in the large intestines, and to facilitate digestion.
- Rich tasting medicines are taken to strengthen tendons, to relieve arthritic pain and aches feelings.
- Mentholated medicines are recommended for physical exhaustion and quenching thirst.
- Salty medicines are for skin complaints, stomach disorders, ulcers, etc.
- Bland flavoured medicines are known for stimulating kidney action and lowering fever associated with gland inflammation.



Additives

Quite often traditional medicines are reinforced by mixing with animal organs such as horn, canines, ivory, bone, hair, tail, blood, shells, etc. Other types of additives are inorganic matter such as salt, copper, sulphate, sulphur, etc.



Medicinal ingredients

All ingredients that will go into medicines are piled separately in a tray. Final examination is made by the traditional medicine man to ensure that all components dictated by the text or the memory of the text are correctly prepared before they are mixed. After mixing, the mixture is ready for processing.

Processing of Medicinal Herbs

Medicinal herbs with or without additives are processed in two ways : grinding and boiling.

Dried medicinal herbs are usually tough and hard. Crushing and grinding must be vigorously effected before they can be reduced to powder. Traditional medical men prefer to use large mortars and pestles to pulverize dry medicinal herbs. After a certain degree of fineness has been achieved, the coarse product is transferred to a stone slab and rolled with a stone rolling pin to obtain even finer powder. At this stage a sieve may be used to obtain a powder of an even fineness. The residue left on the sieve is brought back to the stone slab again and the same procedure repeated. A little water or honey is gradually added to the fine powder so that the mixture can be formed into pellets and pills.

Medicinal liquid can be extracted from medicinal herbs by simply boiling herbs in an earthenware pot. It is important that the pot is not covered by a lid while the mixture is boiling. This is to guard against boiling over with loss of important medicinal ingredients. The advantage of the earthenware pot is that it is not subject to rusting as is the case with a metallic container. Earthenware pots also retain heat better than metal ones. Boiling is usually carried out for a few hours each day and repeated for several days.

There is no definite formula concerning the order of adding ingredients to the boiling pot. The only regular practice is that the amount of the water should be enough to submerge the contents in the pot.



Herbs are carefully weighed before processing.



Ingredients of medicinal herbs being ground or boiling

Earthenware pot for boiling medicinal herbs

Forming

Traditionally the forming of sticky herbal medicines is done manually. The most often encountered form is that of a small pellet. Medicinal pellets are dried in the sun before they are stored for later distribution. Dried medicinal pellets are often coated with gold leaf to help the pills preserve their potency. Honey syrup added to the powder enables the pills retain their form as well as providing flavour to the pills. Among some of the well known honey based herbal pellets is "ya loog glon", type of elixir taken to increase the appetite as well as to facilitate digestive action of the patient.



Medicinal pellets and extruding tools

Packing

It was not a practice among the traditional medicine men to store or pack liquid medicines. As soon as the patient has no need for the medicinal liquid, the whole pot including its contents is discarded. Storing liquid medicines in a jar with a removable lid is of course a later invention. Medicinal powder and pellets are normally stored in a glass jar with an air-tight cover.

Administering of Herbal Medicines

There are several ways in which herbal medicines can be administered to a patient. If the patient is in a helpless state and cannot manage even drinking, a sniff of herbal powder is applied to his nasal cavity. The patient can also be annointed with medicinal liquid and then properly massaged. A patient who can drink is given a liquid medicine either prepared from dissolved powder or taken from an earthenware pot described earlier. It is not recommended that patients swallow pills or pellets with water but rather they are told to take a solution of dissolved pills. The action of herbal medicines according to the traditional text can be modified or strengthened by an additive solute. For instance, about five hundred varieties of herbal medicine against heartburn when mixed with vinegar or hot water increase in potency; with ginger water then cure gastric trouble; with alcohol there is a raised blood circulation. For elderly persons jasmine water is prescribed as a standard solute.



Ceramic cups for mixing herbal powder

In preparing and administering herbal medicines to patients attention is given to seasonal changes, the time of the year, the time of a day, the patients' ages and constitution. Miscalculation of the patient's age or misapplication of a solute lessens the effectiveness of the medicines. Aging medicines are to be avoided. Pellets retain medical properties longer than other forms. Herbal powder when snuffed is considered a very potent medicine.

The different degrees of potency require the knowledge of traditional medical men to administer the medicinal herbs according to their potency.

Distribution of Herbal Medicines

Systematic prescription of herbal medicines is not widely practised in Thailand. Herbal medicines together with the description of their curative properties can be given to healthy people with the understanding that they can use them when they happen to fall sick. Tradition has it that some medicines are inspired by the spirit and should be given to people free of charge. Herbal medicines good for cancer and paralysis are included in this category. The only return for the medicine given away is in the form of a promise to be made by the patient

if he is cured, merit making will be performed and dedicated to the spirit and the master of the traditional medicine man. Traditionally, herbal medicines if sold can only be for token prices.

The costs of finished herbal medicine are cheap. Thai traditional medical men prepare and sell herbal medicines at their own homes. Advertisement and claim even in a hinted form are almost unknown. Quite often, the patients have to seek out traditional medical men who live in obscurity in order to obtain their medicines.



Herbal Medicines in a Modern Context

Herbal medicines have always played an important role in the lives of the people in the rural areas where modern medicine has only recently been introduced. It is not uncommon to come across persons who testify to the effect that herbal medicines have cured them of the diseases for which modern medicine has failed. Some of these claims have allegedly been confirmed by modern research.

A wide variety of herbal plants have been cultivated in the laboratories of several local universities. Local herbs have attracted visitors from many parts of the world into the nooks and crannies of Thailand in search of exotic herbs. All these developments reflect the global interest in Thai herbal medicines.

It should surprise no one that commercialism should invade the world of herbal medicines. Local industry has come up with herbal cosmetics and toiletries such as herbal shampoo, herbal soap and herbal beauty cream. The processing of medicinal herbs has been mechanized. Electric grinding machines replace stone mortar and pestle. Extrusion machines and dies are used to produce pellets and pills. Some herbal medicines are advertised in newspapers, on radio and television.

In spite of some unfavourable factors, the future of herbal medicines in Thailand appear to be well secured. According to the research findings of the Faculty of Pharmacy of Chulalongkorn University, there are no fewer than three hundred species of herbal plants that have positive pharmaceutical applications. Most importantly, herbal medicines are cheap and can be manufactured locally.

