

Production of crude Drugs in Unani System of Medicine

Ahmad Husain¹, G.D. Sofi², Raman Dang³, Shobha Rani R.H.⁴, Mueen Ahmed KK⁵

¹H.A.H. Unani Medical college and Hospital, Dewas, M.P. India. ²National Institute of Unani Medicine Kottegepalya Bangalore. ^{3,4,5}Al-Ameen College of pharmacy Bangalore.

ABSTRACT

The crude drugs are being use since ADAM & EVE'S era. Descorides (100 A.D.), who is founder of Unani Pharnmacognosy (Ilmul Advia), He defined many ethics for production of crude drugs in Unani System of Medicine (USM), later many scholars of USM revealed the various methods. The crude drugs on reaching the pharmaceutical manufacturing line will have to pass through various stages, all of which influence the nature and amount of active constituents present. Its environmental conditions, cultivations, collections, drying and storage are the various aspects in usage of drugs.

Key words: Unani system of medicine, environmental condition, cultivation.

INTRODUCTION

In this modern age, people use everything in standard quality and that things would be more beneficial for their health, and least toxic/injurious to their health. Like water, it should be soft, purified, without contamination of bacteria, protozoa, and virus and even no excessive minerals and salts. Like this when human beings reside in a house, the atmosphere should not polluted and contaminated.

If we need to cure a patient, then we have to apply two main methods:

1. Diagnosis of a disease.
2. Treatment of a disease.

In Unani system of medicine, we are healing the patient by following three methods:

1. Elaj Bil Tadbeer/Regimental therapy
2. Elaj Bil Aghzia wal Advia/Diet and Drug Therapy.
3. Elaj Bil Yad/Surgery.¹

Production of crude drugs in Unani System of Medicine, which comprises the methods of production of drugs and diets, which can used for treatment of patients. Veteran Unani Hakeems mentioned the criteria to produce a drug or diet that would be beneficial for human beings. if a Hakeem

diagnose the patient and prescribe a single or compound drug formulations but the drug production could not be done properly, then that drug will not cure that disease, because that drug will not potential and his active ingredient will lesser or no active ingredient. Moreover, may be that drugs effect will be injurious instead of cure. So every Hakeem mentioned the criteria and methods to produce the drugs, but unlikely in this modern age both the Hakeem and pharmaceutical companies are not following the rules and methods of Unani reference Hakeem to control the quality of Unani drugs for better response and quality management.

ENVIRONMENTAL CONDITIONS

1. Metabolites affected by temperature, rainfall, length of day (including the quality of light) and altitude. Such effects have been studied by growing particular plants in different climatic areas and observing variations.
2. Temperature is a major factor controlling the development and metabolism of plants. Although each species has become adapted to its own natural environment, plants are frequently able to exist in a considerable range of environment.
3. Certain drugs now obtained almost exclusively from cultivated plants. These include cardamoms, Indian hemp, ginger, peppermint and spearmint for oil production. Other includes Ceylon cinnamon, linseed, fennel, cinchona and opium. In other cases, both wild and cultivated plants are used. some plants have been cultivated sometimes immemorial (opium poppy and coca). Others are now grown because supplies of the

Address for correspondence:
E-mail: drahmadhusain@gmail.com

DOI: ****

wild plants are insufficient to meet the demand are because owing to sparse distribution or inaccessibility, collection is difficult. Cultivation is essential in the case of the drugs Indian hemp & opium, which are subject to government control and recently for those plants in danger of over exploitation. In many cases, cultivation is advisable because of the improved quality of the drugs, which it is possible to produce. The improvement may be due to following...

- i. The power to confine collections to species, varieties or hybrids which have desired phytochemical characters (e.g. Aconite, Cinnamom, Cinchona)
- ii. The better development of the plants owing to improve conditions of the soil, pruning and the control of the insects, pests, fungi etc.
- iii. The better facilities for treatment after collection are drying at a correct temperature in the cases of digitalis, colchicum, belladonna and valerian and peeling of cinnamon and ginger.

For success in cultivation, it is necessary to study the conditions under which the plant flourishes in the wild state and reproduce the conditions are improving on them. Small changes in ecology can affect plant products.^{2,3}

COLLECTION

Drugs are of vegetable (botanical), mineral and animal origin.⁴

Vegetable drugs

The vegetable drugs comprises of leaves, roots, seeds, branches, flowers, fruits, gums and all other plant parts.

- a. **Leaves:** They should be pluck when they have attained their full size. They should be maintaining their form and color and their potency should not have diminished. Moreover, fallen and scattered leaves should not be taken.
- b. **Branches:** they should take when they have reached perfection and have not started drying or crooking.
- c. **Flowers:** they should be plucked when they have reached full bloom but have not dried up or fallen down.
- d. **Fruits:** it is essential that they should be plucked when fully matured but before they fall down.

Overall, it is essential that the drugs to be procured should be fresh and seeds should have formed with in them, their roots should not be deformed or crooked, they should be mature and unshrivelled or broken are of no advantage; better among them are those, which have attained full size and weight. Nuts that are shriveled

and broken are of no advantage; better among them are those, which have acquired their full weight. The drugs procured when the weather is clear better than those are, collected when the weather is humid or the rainy season is near. The drugs growing wild are stronger than those are cultivated; the former are generally smaller. The drugs growing on hills or mountains are stronger than those growing on plains are weaker. Drugs collected from forests and places that exposed to the sunrays, are better than those are collected at inappropriate times and from shady places. These guidelines should, however be followed as far as possible depending on the prevailing conditions. All those drugs, which have deep color, definite taste and distinct smell, are stronger. The strength of herbs is weak after three years. However, some drugs are exempted from this rule. E.g. the hellebores (black and white) which maintain their strength longer.⁵

- e. **Seeds:** They should be procured when their substance has condensed and their rawness and moisture have disappeared.
- f. **Gums:** They should be collected when coagulated but they grow not so much hard that they begin to be frittered away. Most of the gums, especially the farbium lose their strength after three years. The potency or strength of drugs depends upon its excellence. If it is difficult to get fresh drug of full strength, the older and weak may be taken in twice the amount of the fresh drug irrespective of its class.
- g. **Roots:** They should be extracted when the trees have shed their leaves.

Animal drugs

They should be chosen from the young animals trapped during the rabi (spring season), should be of complete body and properly built, with all organs intact and discarding all such parts which after slaughtering and purifying are normal discarded. Animals that have died of some disease should not consider. These are the general principals which a physician ought to know with regard to simple drugs.⁶

Mineral drugs

Among the mineral drugs, the best are those, which are extracted from reputed mines; for example, green vitriol of Qabrus (Cyprus) and vitriol of Kirman, and those, which are free from adulteration. It is essential that the drug to be selected should be possessed its specific physical structure and maintaining its characteristics color and taste.

DRYING

If enzymatic action is to be encouraged, slow drying at a moderate temperature is necessary. Examples of this will be finding under 'Orriss Rhizome' Vanilla pods, Coca seeds

and Gentian root. If enzymatic action is not desired, drying should take place as soon as possible after collection. Drug containing volatile oils are liable to lose their aroma if not dried or if the oils are not distilled from them immediately and all moist drugs are liable to develop mould. For these reasons, drying apparatus and distillation plants should situate as near to the growing plants. This has further advantage that freightage is much reduced, as many fresh drugs contain a considerable amount (60-90%) of water. The duration of the drying process varies from a few hours to many weeks, and in the case of open-air drying, depends very largely on the weather. In suitable climates, open-air drying is used for such drugs as clove, colocynth, cardamom and cinnamon. Even in warm and dry climates, arrangements have been made for getting the drug under the cover of sheds or tarpaulins at night or during wet weather. For drying in sheds the drugs may be suspended in bundles from the roof, threaded on strings as in the case of Chinese rhubarb, or more commonly placed on trays made of sacking of tinned wire-netting. Papers spread on a wooden framework are used, particularly for fruits form, which it is desired to collect the seeds.⁷

STORAGE

The large-scale storage of drugs is a considerable undertaking. Except in a few cases, such as cascara bark, long storage, although often unavoidable, is not to be recommended. Drugs such as Indian hemp and sarsaparilla deteriorate even when carefully stored. It has also been reported that the content of taxol in *Taxus baccata* leaves and extracts stored in a freezer and out of direct sunlight produce no adverse deterioration. Assuming that herbal drugs are going to be used medicinally, the same care will be taken regarding their storage and packaging as with any other medicine. There are not many indications to be found in the pharmacopoeia as to how drugs should be stored. Important factors to which attention should be paid in regard to the storage of drugs

and to how they should be kept. e.g. By patients, include light, temperature, humidity, degree of comminuting. Nearly all drugs require protection against light and this is specifically directed; this requirement arises, on the one hand, from the circumstance that leaf, flower, and herb drugs rapidly fade in light and become poor looking and, on the other hand, light accelerates numerous chemical processes, which may bring about degradation of or changes in the constituents of the drug.⁸

CONCLUSION

In perspective of above described methods we came to conclude that environmental conditions, temperature, cultivated and wild plants, collection, drying, and their storage conditions have been influencing a lot in their quality control and to stabilize the active ingredients.

Production of crude drugs is a need of this modern age in Unani System of Medicine on the basis of modern parameters to promote U.S.M.

REFERENCES

1. Hamdani K. (2001) *Tahaffuz-e-Advia in Usoole Tib*, 2nd Edition, National Council of Promotion of Urdu Language, New Delhi, p 37-38.
2. Grainger. N (2001) *Herbal Drugs And Phytopharmaceuticals*, 2nd edition, Med Pharm Scientific Publishers, Stuttgart.
3. Evans W.C. (1992), *Pharmacognosy*, 15th edition, SAUNDERS publishers, Eblinburg, London, p 61-66.
4. Khan M. Azam. Moheet-e-Azam. 1st ed. Nizami Publisher Kanpur India; 1934.
5. Alrazi A.B.M. bin Zakaria. *Alhavi Fit Tibb*. Darul Kutub Ilmiah, Bairut, Lebanon, 1971, vol 22, pp 07-26.
6. Majoosi A.I.A. (YNM) *Kamilussanah*, Munshi Naval Kishore, 2nd volume, p 194-195.
7. Ibn-e-Sina. Abu.A. Al. H. Bin Abdullah. *Al-Qanun Fil-Tibb*. 1st ed. 2nd vol. Jmia Hamdard New Delhi India; 1998. p 28-30.
8. N. Ghani. *Khazainul Advia*. 1st ed. Idarae Darushifa, New Delhi, India pp 25-105.

