



## Dilemma of Ayurvedic Herbal Medicines/Food Supplements

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### Abstract

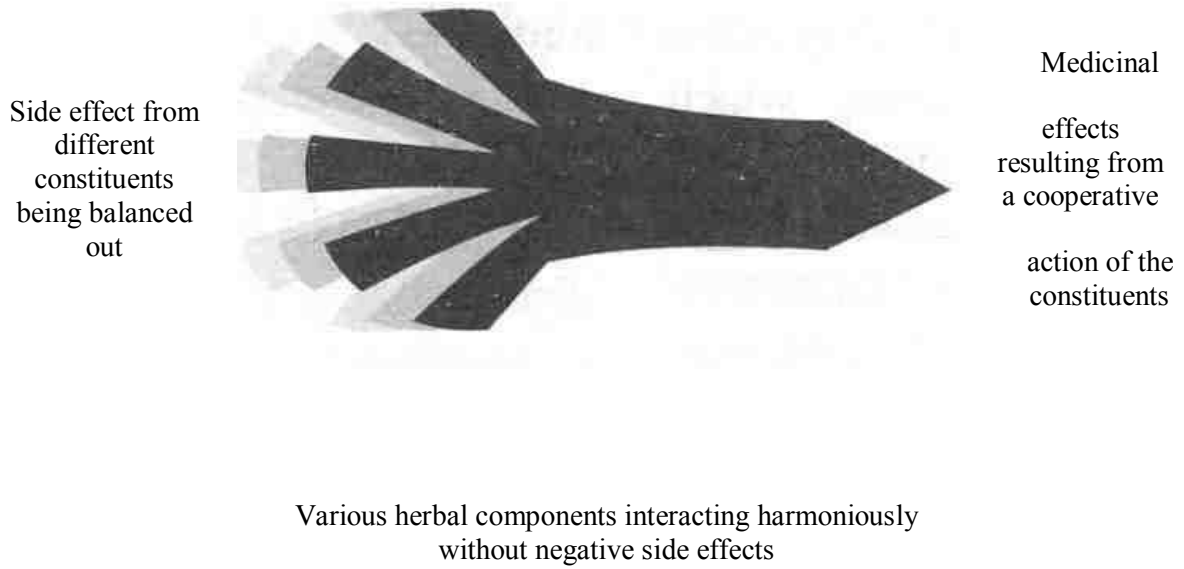
In the present day situation of medical treatments and healthcare, the classification/selection of essential medicines has become most difficult. When there were no ventilators, defibrillators and other modern equipments for better survival of patients in emergency, then drugs like nikethamides (coramine), picrotoxin and metrazole were considered as essential medicines but today they have no role to play. The entire armamentarium of advance synthetic medicines of allopathy (modern scientific medicines) does not have much to do with many chronic diseases involving brain, kidney, liver, heart and endocrinological/ metabolic disorders like diabetes. They have only palliative effect. Even bypass surgeries; angioplasty and organ transplants are also palliative treatments. The only rescuing and treating agents till date are antibiotics and chemotherapeutic agents. These are also becoming ineffective due to 'development of resistant pathogens. As the effective life span of any antibiotic is limited, every year a new antibiotic comes to the market yet it does not cover the spectrum of pathogen related diseases of man i.e. different kind of infections. New sources especially plant sources are also being investigated.

### 1. Introduction

The situation of explosion of modern drugs has reached to a point today that a comparable stage has reached with medicines and their harmful effects of 1800AD, where no less a luminary than Oliver Wendell Holmes noted that medical treatments in the 1800s could be dangerous and ineffective. Examples include the use of mercury baths in Landon "barber shops" to treat syphilis and dangerous hallucinogens as tuberculosis "cure" (Cowan, 1999). In 1861 Holmes wrote, "If the whole materia medica as now used could be sunk to the bottom of the sea, it would be all the better for mankind- and all the, worse for the fishes".

Considering the above facts we wish to invite the attention of modern scientists and doctors to open their minds and look into the holistic science of Ayurveda and its herbs for their therapeutic use in many chronic diseases establishing their authenticity through scientific tools. The totalitarian meaning holistic approach of herbal medicines has to be understood scientifically, which will fill the lacuna in the treatments through allopathic medicines. Thus herbs like *Withania somnifera* (Ashwagandha), *Ocimum sanctum* (Tulsi) and *Moringa oleifera* (Bel) which could be not only palliative but curative also should form the part of essential medicines. These herbs are preventative, curative and restorative in health care of man. It is estimated that over three quarters of the world's population relies mainly on plants and plant extracts for health care. The directorate general of WHO in a report of the 44<sup>th</sup> World Health Assembly, emphasized the medicinal plants play a very important role for the health of the individuals and communities. Prolong and apparently uneventful use of substance usually offers testimony of its safety. In a few instances, however, investigation of the potential toxicity of naturally occurring substances widely used as ingredients in these preparations has revealed previously unsuspected potential for systemic toxicity, carcinogenicity and teratogenicity (WHO, 1996). The adverse effects, reactions and interaction which in some cases may be serious are coming up with more and more research. Therefore adverse drug reaction of oriental medicines/herbals and modern medicines are required to be re-evaluated through a separate branch of pharmacology.

The following diagram explains the holistic mechanism of medicinal effects of herbs — (Singh et. al., 2002).



### Herbs and Modern drug interactions/adverse drug reactions

There are hundreds of such examples however; some common ones are given below: -

**Table — 1: Herbs- Drug interaction**

Herb	Drug	Interaction
<i>Aloe vera</i>	Digoxin and Thiazide	Increase cardiac toxicity
Bitter melon	Hypoglycemics	May affect blood glucose levels
Capsicum	Aspirin	Increase stomach irritation
	ACE inhibitors Theophylline	May increase cough May increase absorption
<i>Echinacea</i>	Corticosteroids	Avoid combination
	Warfarin	Decrease warfarin metabolism, increased post operative bleeding
Garlic	Antihypertensive drug	Herb may decrease BP
	Hypoglycemics	Herb may cause hypoglycemia
<i>Ginkgo biloba</i>	Acetaminophen	Subarachnoid haemorrhage
	Anticonvulsants/TCA	Increase seizures
St. John's Wort	Antihypertensive	May decrease BP
	Barbiturates	May decreased barbiturate induced sleeping time
	Cyclosporin/Digoxin Indinavir, Midazolam	Herbs may decrease levels of these Drug via metabolism
	4-HT reuptake inhibitors	Additive effect
		Reduce plasma levels of Warfarin, oral 'contraceptive, theophylline. Serotonin syndrome with corticosteroids with selective
Ginseng ( <i>Panax ginseng</i> )	Multiple uses (eg. Warfarin)	Decreased INR with warfarin, synergism with monoamine inhibitors
Winter Cherry (Ashwagandha)	Nervine Tonic	Increased sedation
Kava ( <i>Piper methysticum</i> )	Anxiolytic (Benzodiazepines)	Synergism

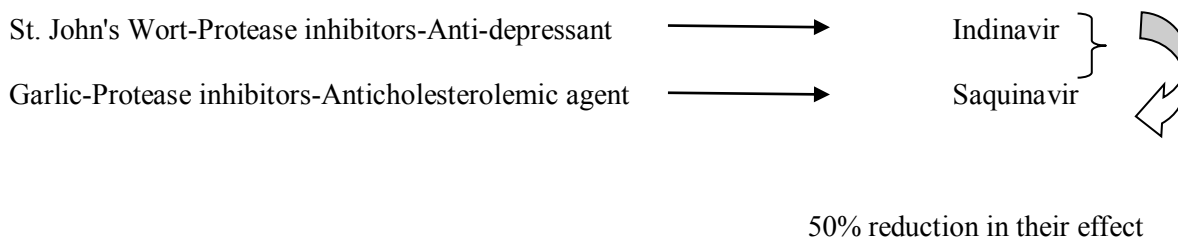
**Table —2: Grapefruit — Drug Interaction**

Grapefruit	Anti-infective agents	Increases bioavailability
	Antihyperlipidemic agents	Increases bioavailability
	Cardiovascular agents	Increases bioavailability
	Antimalarial agents	Increases bioavailability
	Central Nervous System agents	Increases bioavailability
	Gastrointestinal agents	Increases bioavailability
	Histamine H1-antagonists	Increases bioavailability
	Immunosuppressive agents	Increases bioavailability

**Table — 3: Some adverse drug reaction of commonly used plants**

Drugs	Major side effects
1. <i>Ginkgo biloba</i>	Spontaneous bleeding
2. St. John Wort	Gastrointestinal disturbances, allergic reactions, fatigue, dizziness, confusion, dry mouth, photosensitivity, Serotonin syndrome
3. Ephedrine	Hypertension, cardiac, arrhythmias, anxiety, restlessness, tremors, myocardial infarction, cerebrovascular event, renal stones, seizures
4. Brahmi	Headache
5. Licorice	Water retention, heart failure (large doses) in CHF
6. Senna leaf	Hives
7. Neem	Cardiac arrest (large doses)

### Herbal interaction



*Ginkgo biloba* - Aspirin → Spontaneous hyphaema (Eye haemorrhage) (Lewis and Lewis 2003)

## 2. Discussion

Failures of modern clinical trial assessments have become very common phenomenon. Post marketing surveillance for safety information cannot realistically be collected before approval of drug, clinical trials cannot assess the effects of every new drug in combination. Clinical trials are conducted in small number of patients, adverse drug reactions are often more obvious when the product is used by thousands and millions of patients (Medwatch). The requirement is prolonged clinical study/observation for good/wanted effects and unwanted adverse drug reactions. Rather than or dismantling Med watch system FDA should borrow ideas from more rigorous system from all over the world if FDA want to better fulfill its mission to protect public health.

It has now become evident, that there is a need for a holistic approach to the healthcare, and the untapped potential of the traditional medicines should be utilized. However, that would not come easy as it requires thorough search for medicinal plants, proper guidelines for their identification, validation of the scientific methods of isolation of active ingredients, pre-clinical evaluation of their pharmacological and toxicological profiles, and lastly, the clinical evidence of their usefulness needs to be obtained. It means that these drugs need to be analyzed in the same way as any modern drug, i.e., randomized controlled clinical trials. However, as 60,000 chemicals are pumped every year in the atmosphere that may create genobiotic changes in plants, and can change the complete chemistry of the herbs. Thus, plants of Vedic period with high safety, medicinal and nutritional values may be

ineffective and toxic today. Thus retesting of claims of Veda and Ayurveda for medicinal herbs is an essential requirement.

Prolonged unbiased clinical observations by competent physicians at several centers and levels are the only way to find effectiveness and medicinal values as well as nutritional values in case of plants. Poor 'placebo' has been made an escape goat in most of the clinical trials, always showing insignificant or low effect than the drug. About 30% patients are placebo reactors. This is not unusual if one understands the mind body medicine where expectations make positive results, even pharmacological effects can be antagonized due to mind acceptance e.g. emetine given with conviction can stop cyclic vomiting (Laurence et. al., 1997).

The situation is complex and dilemma of herbal medicines/food supplements is gaining international prospective. Our Ayurvedic medicines are looked by western as supplements, it is a wrong attitude. Any herb, which treats disease or takes care of health, is a medicine. Nutrients take major part in disease process, their deficiency causes plethora of diseases and if a herb provides medicinal and nutritional effect to treat a disease what is wrong with it?

The westerns are claimer and disclaimer at the same time I am giving two examples of food supplements from USA. Which show double standards as describe below:

These are Co-enzyme Q-10, (Jarrow Formulation, Prod. 06012 USA) and Omega-3 (Nordic Naturals US patent No, 6246231).

### **Co-enzyme Q-10**

#### **Properties Claimed**

Co-enzyme Q10 supports heart function as a component of the electron transport system, and as an antioxidant protects mitochondrial membranes and cholesterol from oxidation.

#### **Disclaimer**

This product is not intended to diagnose, treat, cure or prevent any disease.

### **Omega-3**

#### **Properties Claimed**

Omega-3 supports proper cellular flexibility and cardiovascular health.

#### **Disclaimer**

This product is not intended to diagnose, treat, cure or prevent any disease.

We need an International revolutionary trend to expose the fallacies of the western world about food supplements. This gives extreme degree of unreliability to the consumers; however, they have faith in nature and many people use so called food supplements.

Western drug mafias and Ayurvedic physicians equally are the greatest hindrance in development of Ayurveda. This attitude is nonscientific and creates doubts in the mind of people using OTC medicines/food supplements. A clear-cut stand should be followed to understand ethnomedicines from Veda and Ayurveda (5000 BC to 600 BC) as well as from folklore medicines including European medicines (Greeks) Hippocrates (300 BC).

Herb's hygiene standards are poor, thus give a bad name to herbal and Ayurvedic products. These should be free from insecticides, pesticides and other toxic chemicals. The live herbs properly processed, standardized, if used show immense benefits. We do so and produce organic herbs like Ashwagandha, Brahmi, Amalaki, Shatavari and Harjor etc., which are curative and effective in many chronic diseases of man. Organic means herbs grown naturally with no use of inorganic manures and pesticide, insecticide or herbicides and in pollution free with allowable levels of Pb, Arsenic and Hg etc. (WHO standards).

Some examples of organically grown herbs are: -

1. Organic Ashwagandha (*Withania somnifera*) — Paralysis, nerve degeneration, Parkinsonism.
2. Organic Brahmi (*Centella asiatica*) — Memory, venous insufficiency and giardiasis.
3. Organic Bhumyamalaki (*Phyllanthus niruri*) Hepatitis-B, Kidney stones.
4. Organic Punarnava (*Boerhaavia diffusa*) — Chronic renal failure.
5. Organic Katuki (*Picrorrhiza kurroa*) — Antiviral.
6. Organic Harjor (*Cissus quadrangularis*) — Fracture healing, Osteoporosis, reduces blood glucose and triglycerides.

Senior herbal practitioners have not found any interaction with commonly used modern medicines or toxicity in the dosage prescribed for these herbs. Patients are using thousands of capsules of these herbs for years and till date they have not found a single case with any mild or serious toxicity, adverse drug reaction etc.

### 3. Conclusion

We recommend naturally or organically grown and scientifically tested herbs to be included in the list of essential medicines for human therapy, because of the holistic approach and innocuous nature of herbal medicine are the only solution to deal with today's toxic environment and biological, physical, chemical and emotional stressors.

### References

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