

## Use of Herbal Medicine: A Growing Trend

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### ABSTRACT

Herbal medicine has its own origin in ancient cultures. It is the knowledge, skills and practices based on theories, beliefs and experiences indigenous to different cultures. It involves the medicinal use of plants to treat diseases and to improve general health and wellbeing. In fact, many pharmaceutical medications are the manmade versions of naturally occurring compounds found in plants. Recently there has been a shift in universal trend from synthetic to herbal medicine, which we can say "Return to Nature". Medicinal plants have been known for millennia and highly esteemed all over the world as the rich source of therapeutic agent for the prevention of disease and ailments. The demand for plant based medicine, health products, pharmaceuticals, food supplements, cosmetics, etc are increasing in both developing and developed countries, due to the growing recognition that the natural products are non toxic, have less side effect and easily available at affordable prices.

**KEYWORDS:** Herbal medicine, Benefits, Drug Interaction.

### I. INTRODUCTION

A herb is a plant or plant part used for scent, flavor or therapeutic properties. Herbal medicines can be considered as a dietary supplement also apart from its therapeutic properties. The one reason for the popularity and acceptability is belief that all natural products are safe, even though it is completely not. Still there is a lack in the standardization and legal requirements for the approval of an herbal medicine. And the modern science is not fully aware of the benefits of use, side effects and adverse effects related to a number of herbs. So, even it aids as a complementary or alternative medication therapy, the physicians and the people should be aware and cautious regarding possible adverse drug interactions and negative effect of the herbal product. Herbal medicines can be mistakenly thought to be safe

because they are natural products.

### CONTENTS

#### 1. Driving factors for increased use of herbal medicines

There are multiple reasons for patients turning to herbal therapies. One of them is sense of control, a mental comfort from consumption, which helps explain why many people taking herbs have diseases that are chronic or incurable. The recent resurgence of public in herbal remedies has been attributed to several factors, some of which includes<sup>1</sup>,

- Various claims on the efficiency and effectiveness of plant medicines.
- Preference of consumers for natural therapies and a greater interest in alternative medicines.
- Erroneous belief that herbal products are superior to manufactured products.
- Dissatisfaction with the results from orthodox pharmaceuticals and belief that herbal medicines might be effective in the treatment of certain diseases where conventional therapies and medicines have proven that ineffective or inadequate.
- High cost and side effects of most modern drugs.
- Improvements in the quality, efficacy and safety of herbal medicines with the development of science and technologies.
- Improvement towards self medications.
- Increased popularity due to Trademarking.

The global market for herbal medicines currently stands at over US\$ 60 billion annually and is growing steadily.

#### 2. Difference between herbal and conventional drugs

The mechanisms by which the herbal drugs generally act are not well established<sup>2</sup>. It contains a lot of different compounds in which some of them have great complexities. Plant

substances such as polysaccharide, mucilage and tannin may modulate and modify the effects of active components. Herbal medicines tend to have several broad complementary or synergistic actions on physiological systems at the same time<sup>3</sup>. The herbal medicine actions are too complex and usually cannot be adequately described using the vocabulary of “Medication Action” terms such as antipyretic, antihypertensive, etc Synthetic drugs address symptoms caused by specific diseases as understood by scientific pathology. Herbal medicines usually act by gently supporting the systems and processes that have become deficient or attempt to help remove excesses that are unimportant for the normal function of system<sup>4</sup>. Symptom relief is only a section of medicinal plants therapeutic strategies. For example, Arthritis is usually treated with steroid and anti inflammatory drugs which have widespread disturbing adverse effects. The approach of herbs to this condition causes moistening of dry synovial, stimulation of circulation in the affected region, facilitation of elimination through kidney or hepatic routes.

**3. Use of herbal medicines as complementary or alternative to conventional drugs** Complementary medicine refers to therapies that complement traditional western medicine or is used together with conventional medicine<sup>11</sup>. That is, an alternativemedicine is used in place of conventional medicine. Some common medicinal herbs in use includes<sup>6</sup>,

**Chamomile (Flower):** (figure-1) commonly used to for anxiety and relaxation. Also it is used for wound healing and to reduce inflammation and swelling. In capsule form it is used to treat vomiting in chemotherapy. Complementary conventional drug – anxiolytic drugs, antiemetic drugs.



Figure-1 Chamomile plant

**Echinacea (Leaf, stalk):** (Figure-2) It is

commonly used to prevent or to treat cold, flu and for wound healing<sup>9</sup>. Some studies show some benefits of using Echinacea for upper respiratory infections.

Complementary conventional drug – Antihistaminic drugs



Figure-2 Echinacea plant

**Garlic (cloves, root):** (Figure-3) Garlic has been used all over the world for its cooking and medicinal properties. The compounds isolated from garlic have been shown to have antimicrobial, cardio protective, anticancer and anti inflammatory properties. Complementary conventional drug – Antibiotics, Cardiotonics, Anticancer drugs.



Figure-3 Garlic plant

**Ginger (Root):** (Figure-4) Ginger is most commonly known as an herb for easing nausea and motion sickness. It also helps to relieve the nausea caused by pregnancy and chemotherapy. Complementary conventional drug –Antiemetics

#### 4. Health concerns of using Herbal medicines

As the global use of herbal medicinal products continues to grow and many more new products are introduced into the market, public

health issues and concerns surrounding their safety are also increased. It can be mistakenly thought to be safe because they are natural products. Like other prescription drugs, some herbal medicines should always be prescribed by a registered practitioner. Some herbs have potent ingredients and should be taken with the same level of caution as pharmaceutical medications. In fact, pharmaceutical medications are based on manmade versions of naturally occurring compounds found in plants. Some factors related to the purchase and use of herbal medicines which the people and market always tries not to highlight is as follows,

### The complexity of herbal products

Herbal products are sold as either raw plant or extracts of portions of the plant. Both the form contains complicated mixtures of organic chemicals, which may include fatty acids, sterols, alkaloids, glycosides, tannins and terpenes. All these contents are related to a host of environmental factors including soil, altitude, seasonal variation in temperature, atmospheric humidity, rainfall pattern, shade, dew, and other factors including infections, insects, planting density, competition with other plant species, seeding time and genetic factors, etc. so, the production and preparation of a uniform herbal product becomes challenging.

### Efficacy

Herbal drugs and their constituents have advantageous effects and can be used to efficiently treat human diseases and disorders<sup>8</sup>. Several

specific herbal extracts have been shown to be efficacious for specific conditions. Even though the public is often misled to believe that all natural treatments are inherently safe, herbal medicines do carry risks. But the fact is that some herbal medicines do more harm than good. So, the use of approved and authenticated products along with consultation from a specialist will be more beneficial.

### Safety

Herbal products are usually not evaluated for purity and consistency of active compounds, they also often contains contaminants<sup>5</sup>. Many herbs are also been identified as unsafe including liferoot, comfrey, sassafras, etc. These herbs are capable of producing negative effects that can range from mild to severe<sup>10</sup>. So, it cannot be assured related to the safety of herbal medicines until it is not tested and approved by FDA of any other knownbodies.

### Adverse Drug and food interactions

The risk of pharmacodynamic interaction occurs when a herbal supplement has a direct effect on the mechanism of action of a co administered drug or food. Direct pharmacological effects of a herbal medicine may antagonize or exacerbate the drugs clinical effects without changing then drug concentrations<sup>7</sup>. Some of the drug-herb and food-herb interactions are listed (Table-1).

Sl No	Drug	Herb	Result of interaction	Possible mechanism
1	Alprazolam	St Johns wart	Decreased plasma levels of Alprazolam	Alprazolam is a specific probe for CYP 3A4, which is induced by St Johns Wart
2	Aspirin	Gingko	Spontaneous hyphema (RBC accumulation in the anterior chamber of eye)	Additive effect on platelet aggregation.

3	Digoxin	Wheat bran	Decreased plasma digoxin concentration	Fibers in bran traps the digoxin in the gut
4	Barbiturates	Aswagandha	Enhanced sedative effect	Not known
5	Diuretics	Aloe Vera	Lowers body potassium levels	Increased potassium loss
6	Warfarin	Green tea	Increased risk of bleeding	Decreased anticoagulation
7	Oral and topical corticosteroids	Licorice	Acrocynosis, increased risk of heat stroke in people with hyperthermia	Cutaneous vasoconstrictive response and potentiates corticosteroids

**Table-1 Drug Herb interactions**

Recently, structured assessment procedures are introduced to provide levels of drug interactions. These assessments can be taken into consideration for the clinical relevance of the potential adverse event resulting from the interaction, the modification of patient specific risk factors and disease conditions for which the interaction is important.

#### Sideeffects

The common side effects includes stomach upsets, sleeplessness, muscular and joint pain, and even the side effect can also be raised from the interactions of the herb to the drug or food<sup>12</sup>. The side effect can vary from a range of mild to severe and it can be acute or chronic, and even may lead to death also.

#### 4.5 Testing and approval

Herbal products are not tested scientifically like the conventional drugs and they are not subjected to the approval process of the US Food and Drug Administration (FDA)<sup>13</sup>. And hence, herbal products cannot be marketed for the purpose of diagnosis, treatment, cure or prevention of a disease. But, the dietary supplement health and education act of 1994 allows these products to be labeled with statements explaining their effect on the structure or function of the human body<sup>14</sup>.

#### 5. Factors Hindering the Use of Herbal Medicines

Even though the popularity and use of herbal medicines are increased, some factors are still hampering with the numbers in the market. Poor legal and regulatory frame work is one of them causing fatal problems to the growing market of herbal medicines. Lack or scarcity of adequate research and standardization is also necessary to build trust on the herbal products. The shortage in the depth knowledge on the use also affects the limited use and introduction of new products into the market.

#### II. CONCLUSION

There is a trend of growing numbers in the use of herbal medicines for preventive and therapeutic purposes. Approximately 25% of the people are employing herbal and other natural therapies, and from that, 70% of the people do not even acquire a physician consultation. Because of the increasing popularity of herbal medicines and natural supplements, the physicians and the pharmacists who deal with the herbal products need to ask questions about the use of herbal products as a part of medication history. Even though herbal products are available without prescription, medical guidance is necessary because of the adverse effects, unidentified physiological actions of the herb in the system and the potential drug and food

interactions. Consequently, the people should be aware of the trends in use of herbal medicines and supplements with realization that, the adverse effects and potential side effects are not well characterized and hence it is impossible to identify until proper research and investigations are not carried out. Standardization of methods and quality control data on safety and efficacy are required for understanding the use of herbal medicines. A cautious and sensible approach from the side of physicians, pharmacists and the people also expected to fulfill the safe, effective and desired outcomes from the use of natural and herbal medicines.

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