

Why Focusing on Traditional Medicine is too important- Interesting Facts with Evidence

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Abstract

In 2000 BC people ate the part of plants to the treatment of disease, 1850 AD drunk the portion (traditional medicine) of the plants. And after 1940 AD they start swallow the synthetic drugs for treatment because scientists discover the exact mechanism of drug action. However now days (2000 AD) people again start eat the herbal for the treatment diseases. So that this review is focused on the reasons for why people again going back to herbal medicine. From leading data bases such as Science Direct, PubMed and Google scholar, this review collected the literatures. The herbal and herbal drugs are having phytochemicals such as alkaloids, flavonoids, terpenoids, steroids, glycosides, saponins, triterpenoids etc., for their therapeutic activity. And also some of the herbal medicines are produce good therapeutic action than synthetic drugs as well as produce safer treatment for example Silymarin for hepatoprotective, Vinca alkaloid for cancer, Digoxin glycosides for cardio protective, Curcumin polyphenol for anti inflammatory, Quercetin flavonoid for antioxidant and Nilavembu for viral fever. The 2000 AD people may didn't know the exact mechanism of herbal treatment but 2000 BC peoples started the research on herbal medicine and findout exact mechanism of herbal medicine. And also they are isolated the active principles from the traditional herbal medicine and developed the formulation and sale into the market. In future herbal medicine will play the important role in treatment of diseases.

Keywords: *Herbal medicine; Indian medicine; Folk medicine; Phytoconstituents.*

Introduction

Traditional medicines (TM) are the indigenous medical system, which is defined as the belief of theories based treatment on the different cultures to prevent or cure the diseases. In this traditional medicine system is based on the lifestyles changes (Yoga), maintaining of diet, using of herbals or using of mineral origins, animal origins etc. In this traditional system is not only controlling the disease and it is also maintain the mental illness [1].

The traditional medicine is varies in region to region. In India the traditional systems of medicines has developed the ministry of AYUSH which consist of Ayurveda, Yoga, Unani, Siddha and Homeopathy. The traditional system of medicine is maximum of consisting of herbal drugs [2]. The traditional peoples ate these herbals without knowing of the exact impact of these herbals but now day's scientists developed the medicines from

the traditional medicine system and find out the exact mechanism of action of drugs, safety and efficacy of herbal drugs [3]. The using of the synthetic drugs having the many side effects due to the harmful metabolites, synthetic drugs are economically high and also it is differing in age and sex.

But the traditional medicines overcome these limitations and herbal derived drugs are safer because many of the herbal medicines are derived/isolated from the food materials and herbal medicines may consists of the supplementary materials such as vitamins, minerals, energy molecules (carbohydrate, proteins and lipids) [4].

The activity of the herbal medicines is mainly by the presence of phytochemicals for example Alkaloids, Glycosides, Flavonoids, Steroids, Terpenoids, Triterpenes, Saponins, Tannins, and Phenolic acids etc [5, 6].

In this review we describe the brief about the importance of herbal medicines with evidence of literature. The literature survey for this review is done using leading databases like Science Direct, Pub Med and Google scholar.

Global Herbal Medicine Market Revenue

The herbal medicines are exported into various countries such as North America, Europe, Asia pacific, Central and South America, Middle East and Africa; these herbal medicines are marketed in the form of tablets, Capsules, Extracts and Others. According to the WHO, about 21,000 medicinal plant species has reported as potential medicinal properties. These herbal drugs are marketed for the ailment of various illnesses like Digestive disorders, Respiratory disorders, Blood disorders and others [7].

The herbal medicine global market bulk remained as USD 71.19 billion in 2016 and it is expected as USD 117.02 billion in 2024. Comparing to the all the other forms of herbal drugs extracts was more marketed globally its global market size was USD 27.1 billion in 2016 and it is expected as USD 44.6 billion in 2024 [8].

Traditional Indian Foods as a Medicine

The traditional Indian foods has plays an important role in the medicine through its preparation methods, storage conditions, food materials (Fruits, Vegetables, Spices, Pulses, Cereals etc.). The south Indian kitchen is also known as the medical store because of it contains many medicinally important spices such as Turmeric, Asafoedita, Pepper, Garlic, Fenugreek etc. the food materials are rich in vitamins, minerals, carbohydrates, proteins, lipids and phytochemicals these are the nutrients are stable in the traditional food system thereby it has act as a medicine.

But nowadays people are eating junk foods (contains many chemicals for storage, caking agent, flavors, colors etc.), fast foods (added with more synthetic flavoring agents and coloring agents), and baked foods (contains synthetic chemicals for long storage), and they storing the foods in refrigerators those habits harmful the biological system of human. Since those following traditional food system has healthier than modern food users [9].

Food Processing Factors Affects Nutrients

The used Vegetables for cooking are fresh it maintains the stability of Water soluble vitamins like vitamins B and vitamin C and minerals. The manual handling of cereals and non-polishing can increase the minerals, Proteins and vitamin B complex than milling and polished cereals. Traditional way of grinding using stone/woods in home can stabilize the important minerals such as iron, Calcium rather than using of heavy milling equipment. Storing of water in copper pot is the traditional way which can act as the antiseptic and minimum amount is required for human system.

And cooking of foods in sand pot and iron pot can gives minerals and irons to human system thereby healthy of human. The traditional people using the mild flame using woods that may prevent the volatile substance, phytoconstituents of the food materials and modern system using of gas for the higher flame which can destroy the important nutrients of the foods.

Olden peoples decant the maximum and starch contents when cooking of rice followed by eating of nutrients (Vitamin B complex) and fiber contents and controlled glucose level but now a days people using cooker for preparation of rice which contains more amount of starch thereby increases blood glucose level in human [10].

Traditional Food Rasam is a God of Medicine

Rasam is one of the south Indian traditional food/ soup; it is very popular in India. Commonly south Indian meals always contains the Rasam due to its digestive property. The other names of Rasam are chaaru, saaru in South Indian languages such as Tamil, Telugu, Malayalam and Kannada.

This Rasam is known as the essential food for digestion in Sanskrit. Generally south Indian meals contains many items like sambar, cooked rice, curried vegetables (porial and koottu), sweet, pickle, curd etc. The Rasam is eaten last of meal due to its digestive property and it is also having most of the medicinal values.

South Indian Rasam is prepared by mixing of tamarind juice with the spices [11]. The tamarind juice is the main ingredient, and the Rasam is commonly not boiled but mild heat is applied traditionally because of extracting of volatile substances present in spices (Tamarind, Black pepper, Red chili, Coriander, Cumin, Garlic, Black mustard, Chili pepper, Curry leaves, Turmeric and Asafoetida).

The Rasam is an ideal recipe with the basic principles of Indian method of remedies like Ayurveda and Siddha. The commonly ingredients present in Rasam is having important medicinal values like Antipyretic activity, Hypoglycemic activity, Antianemic, Antimicrobial activity and Laxative. The main base of Rasam (Tamarind) is sometimes alternated by the tomato, mango, and lemon juice for its sour taste. The ingredients in Rasam and its importance are mentioned in Table 1.

Table 1: Ingredients of Rasam with active principle and medicinal importance

Name of ingredient	Scientific name	Part used	Medicinal compound	Medicinal value
Tamarind	<i>Tamarindus indica</i>	Fruit	Anthranilate, p-cymene, Linalool, Limonene, Caryophyllene, longifolene, Vitamin C etc.	Intense fever, Severe malaria, Dysentery, Diarrhea, Cardiovascular disorders [12].
Coriander	<i>Coriandrum sativum</i>	Seed	γ -Terpinene, Camphene, E-Verbenol, Sabinene, β -Pinene, β -Myrcene, Cyclooctanol, α -Thujene [13].	CNS activity, anticonvulsant, Memory enhancement, Neuroprotective, Anthelmintic, Insecticidal, Anti-diabetic, Anti-mutagenic, Anticancer, Hepatoprotective, Detoxification.
Red chili	<i>Capsicum annuum</i>	Fruit	Capsaicin, Capsaicinoids and Vitamin C	Analgesic, Antiangiogenic, Antiplatelet, Anti-arthritis, Antiviral, Antineoplastic, Hypoglycemic, larvicidal [14].
Black pepper	<i>Piper nigrum</i>	Seed	Piperamide, Piperamine, Piperettine, Pipericide, Piperine, Piperolein, Trichostachine, Sarmentine, Sarmentosine, Tricholein, Retrofractamide	Asthama, Antihypertensive, Anti-platelets, Antitumor, Antipyretic, Anti-inflammatory, Anti-diarrheal, Antibacterial, Antifungal, Anti-reproductive, Insecticidal activities [15].
Cumin	<i>Cuminum cyminum</i>	Seed	Pinene, Cymene, Terpinene, Cuminaldehyde, Oleoresin, Thymol.	Carminative, eupeptic, astringent, antibacterial, cough remedy and analgesic [16].
Garlic	<i>Allium sativum</i>	Bulb	Glutamyl cysteins, Allicin etc [17].	Hepatoprotective, Anthelmintics, Anti-inflammatory, Antifungal, Wound healing, Sciatica, Lumbago, Backache, Bronchitis, Chronic fever, Tuberculosis etc.
Black mustard	<i>Brassica nigra</i>	Seed	Sinapine, Myrosin, Sinigrin, Inosite.	Antioxidant, Anti-inflammatory, Antiepileptic, Antidiabetic [18].
Curry leaves	<i>Murraya koenigii</i>	Leaves	Koenimbine, Koenine, Mahanimbine, Murrayazolidine etc [19].	Antimicrobial, Anthelmintic, Anti-inflammatory, Antidiarrheal, Hepatoprotective and antitumor.
Turmeric	<i>Curcuma longa</i>	Rhizomes	Curcumin, Bisdemethoxycurcumin, Cyclocurcumin and Calebin	Anti-inflammatory, Anti-allergic, Antioxidant, Anti-hyperglycemic, and Anticancer [20].
Asafoetida	<i>Ferula asafoetida</i>	Resin from stems	Ferulic acid, Coumarins, Rhamnose, Glucuronic acid etc.	Relaxant, Neuroprotective, Digestive enzyme, Antispasmodic, Hypotensive, Hepatoprotective, Anti-carcinogenic, Anticancer, Anti-cytotoxicity, Anti-obesity [21].

Fasting as a Medicine

The fasting is the one of the traditional method of detoxification in human system. The Religious and ethnic traditions like Hindus, Christian, Muslims are following the fasting for their religious belief. But the science behind the fasting is to enhance the detoxification process thereby improve our human health.

The liver is plays the important role in the detoxification, and liver has many of the metabolic enzymes for the detoxification of toxic substances and also they maintain the homeostasis by the metabolism and catabolism of nutrients. During meal time and after meals liver is working for digestion of nutrients and storage of energy process thereby delayed in detoxification process in human system, and fasting can help to enhance the detoxification process [22].

Traditional Approach for the Pandemic Diseases

The pandemic diseases Dengue, Chikungunya virus was controlled by Tamil Nadu government using traditional medicine like Nilavembu kasayam and Papaya leaf extract that has better than synthetic drugs and also it was proved scientifically by the researchers in 2011 and 2019 [23, 24]. The current pandemic disease COVID-19, the researchers reported Chinese traditional medicine for the treatment of patients infected with 2019-New Coronavirus [25].

And the Indian AYUSH system suggests indication managing of COVID-19 like infections by using of Vishasura Kudineer and Kaba Sura Kudineer [26]. These are the kabasurakudineer chooranam was scientifically reported as its antipyretic, anti-inflammatory [27] effects scientifically so that, future it may be useful for the control of current pandemic disease COVID-19.

Current Research Focused on Traditional Medicine

The current medicine system is going too focused on traditional knowledge for example Silymarin from *Silybum marianum* for hepatoprotective activity, Vinca alkaloid from *Catharanthus roseus* for anticancer activity, Digoxin glycosides from *Digitalis purpurea* for cardio protective, Curcumin polyphenol

from *Curcuma longa* for anti-inflammatory, Coumarins from *Azardirachta indica* for antiviral are commercially available. And also many of the cosmetic protects contains natural flavonoids for their anti-aging property.

The current research is searching the active principles from traditional medicinal plants for the optimization of lead compounds [28, 29]. The researchers follow the methods such as extraction, isolation, characterization of isolated compounds, and *in vitro/in vivo* studies, and pharmacokinetic study, clinical trials, development of formulation and commercialization. Future researchers will find out many lead compounds for the various activities.

Conclusion

This review summarizes the importance of traditional medicine and also provided many evidence for scientific of traditional system. This review is important to the researchers to focus on traditional knowledge and find out new novel molecule with low toxicity.

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