

Review Article

Aloe Vera as an effective agent for the treatment of some Common Diseases

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ABSTRACT

Herbal medicine are gaining great importance in the treatment of various diseases. Herbal extracts are being vastly used in advanced countries to cure health related problems and have shown beneficial effects over modern medicines. In many cases, herbal drug have proved to be safe and effective with no or minimum side effects. Herbal plants like Aloe vera have been in use since the earliest days of recorded history, for various ailments including the healing of wound, and as an anti-inflammatory, anti-pruritic, anti-fungal, anti-bacterial and anti-viral agent, as well as an astringent, emollient, pain reliever, an excellent moisturizing agent, and immune modulator. It also helps in RBCs production and development. It is very popular in European countries and United State particularly as a component of cosmetic preparations for the treatment of multiple skin infections, boils and for certain other purposes like moisturizing, enhancing skin appearance marking it smooth and to protect and heal the skin. This plant contains several vitamins and minerals, which play an important role to regulate many biological functions. In this article the importance of herbal medicines particularly Aloe vera and its applications in various ailments and cosmetics have been presented.

Keywords: Aloe vera, herbal treatment, skin diseases

INTRODUCTION

Herbal medicines throughout the world have been used traditionally for therapeutic purposes in different forms to treat a wide variety of ailments. In the past few decades, interest in the use of herbal drugs has widely increased and has led to enormous growth in the commercialization of the herbal medicines. It has increased the interest of pharmaceutical companies towards medicines derived from the plant materials whereas the demand of herbal industry has also increased vastly.

In developing countries, a large number of populations rely on the use of herbal medicine for their primary health care needs because of their minimum side

effects, lack of modern medicines and financial constraints. With the advancement in conventional drug delivery system, herbal products have undergone remarkable advancement in product development and as their use over the counter have gained considerable popularity¹⁻³.

One of the main reasons of increased demand of the plant products is its safety in terms of less side effects along with the efficacy. Herbal materials are not only used to treat diseases like arthritis, diabetes mellitus, gastro intestinal diseases and other ills but their use as cosmetics is also increasing with the time. Examples of some of the herbal plants used traditionally are given in the Table 1.

Table 1: Herbal Plants used traditionally

Botanical name	Common name	Part used	Applications
Allium sativum	Garlic	Bulb	Digestion
Aloe barbadensis	Aloe	Leaf	Moisturizer, Sun screen
Azadirachta Indica	Neem	Leaves	Measles, antiseptic
Camellia sinensis	Tea plant	Leaves	Lowering cholesterol, blood sugar levels, anti-obesity
Cocos nucifera	Coconut	Fruit/seed	Moisturizer, prevent protein loss from hair
Crocus sativus	Kesar	Flowering Top	Cleansing lotion
Curcuma longa	Turmeric	Rhizome	Natural body glow, Antimicrobial
Embolica officinalis	Amla	Fruit	Hair nutrition
Lawsonia inermis	Henna	Leaves	Staining hair

Over modern medicines, In many cases, herbal drugs have proved to be safe and effective with no or minimum side effects

USE OF HERBAL PLANTS AS COSMETICS

Use of material obtained from the plants as herbal cosmetics has increased vastly, especially in the Middle East and South East Asia. Several plant materials are used for the treatment of multiple skin infections, boils and for certain other purposes like moisturizing, enhancing skin appearance, making it smooth, to protect and to cure the skin.

One of popular uses of herbal material is their incorporation in skin care cream for achieving whitening, moisturizing and fairness. For this purpose, many herbal materials are added to the creams for their various beneficial actions. These contain sweet almond, olive, peanut, corn, wheat, bees wax, wheat germ, jojoba lecithin, vitamin E oil, and many others. Some of the uses of herbal plant materials as cosmetics including: use of coconut oil, sunflower oil, and Aloe vera as moisturizer and softener to the skin, golden root (*Rhodiola rosea*) and carrot seed oil as anti-aging and rose oil in perfumery⁴. Seeds of tamarind can reduce per-oxidative action of lipids⁵, can cause radical scavenging⁶ and can inhibit microorganism's activity⁷.

ALOE VERA: A VALUABLE HERBAL PLANT

The medicinal use of Aloe plants is known from the beginning of history of human civilization⁸⁻¹¹. Aloe Vera (*Aloe barbadensis* Miller) one of the four hundred species of Aloe, belonging to the family Liliaceae is 3 feet tall having thick, fleshy, spiky, grey-green leafy structure that grows with a very short stem from a central point. Aloe vera is a succulent plant which may retain water in its leaves, stem as well as in roots and can grow in hot and humid environment even in the absence of sufficient water.

In the ancient times, Aloe vera was used for cosmetics, and for curing certain infections, besides treating and preventing skin related problems. It also helps evacuation of bowels, treating eczema with licorice and for regenerating the cell powers and for certain other ills. Aloe gel is rubbed on forehead to relieve headache. Success story of Aloe in 1930s in the United States lies in the hand of the people who used Aloe for treating burns related with the x-ray¹²⁻¹⁵.

All parts of the plant Aloe are used, such as the exudates, the pure or the inner gel. The gel obtained from the plant is used in the form of gel or power for the preparation of the herbal products or cosmetics. It is also used as an important ingredient in certain pharmaceutical products including the manufacturing of tablets, capsules, ointments, creams and paste. In food industry, Aloe has found its worth and now it is used as a function of food because of its nutritional value, especially in healthy drinks and because of its moisturising activity Aloe vera gel is used as a base in cosmetic products.

CHEMICAL AND NUTRITIONAL VALUES OF ALOE

Seventy five of the 200 compounds, identified in Aloe vera, has shown biological activity¹⁶⁻²⁶. Aloe, a miracle plant, having a wide variety of nutritional substances, contain²⁷ vitamins: β -carotene (vitamin A), ascorbic acid (vitamin C), and tocoferol (vitamin E) which are used as anti-oxidants. Other vitamins include thiamine (vitamin B₁) riboflavin (vitamin B₂) vitamin B₆ and choline. Cyanocobalamine (vitamin B₁₂) plays a vital role in red blood cells production and folic acid in the development of red cells.

Aloe vera has eleven minerals namely: calcium, chlorine, chromium, copper, iron, magnesium, manganese, potassium, phosphorus, sodium and zinc, which work in combination with vitamins and with each other and play an important role in regulating many functions of the body, especially relating to enzyme activity.

Out of eight essential amino acids, seven of them namely:- iso-leucine, leucine, lysine, methionine, phenylalanine, threonine and valine are found in Aloe vera, which are utilized in the body, especially in the synthesis of proteins, in order to regulate certain processes undergoing in human cells.

In addition, some sterols (cholesterol, campesterol, lupeol and sitosterol), sugars (glucose and fructose) and hormones (auxine and gibberellins) are also reported from Aloe vera which are known for their anti-inflammatory activities.

From the latex of leaves anthraquinones are obtained which are known for their laxative activity. Anthraquinones (aloin A, aloin B, aloesin and aloeresin) and carbohydrates (especially acemannan) have been found to have anti-cancerous activity. Hostile activity has been shown by acemannan against feline leukemia virus^{16,28,33}. Salicylic acid is also obtained which is known universally to relieve pain and lowering the blood glucose level which is due to anti-oxidant activity found in Aloe vera. Bradykinase, an enzyme found in Aloe helps to reduce excessive inflammation, when applied to the skin topically, while other help in the breakdown of sugar and fats^{34,40}. Clinical efficacy of the gel obtained from the Aloe has been verified and is used in intestinal ailments^{16,41-46}.

It has been proved scientifically that the Aloe vera helps in the healing of wound, acts as anti-inflammatory, anti-pruritic, anti-bacterial and anti-viral agent, as an astringent, emollient, relieving pain, an excellent moisturizing agent, an immune modulator, helps in RBCs production and development. The hypersensitivity in terms of contact dermatitis has been documented^{12,47-49}.

CONCLUSION

The use of herbs as medicine is known from the early history of human civilization. Some modern medicines have been extracted from some of the plant. In recent years, there has been a growing interest in herbal medicines among health care as recommended by WHO are supported by many professionals, scientist, and the general public. One common ingredient of herbal plant, used as cosmetics⁵⁰ is Aloe vera, which possesses many medicinal properties such as anti-inflammatory, astringent, emollient, anti-fungal, anti-bacterial, anti-viral properties. Externally it is used for the treatment of skin irritation, burns, scars, eczema, dermatitis, acne, as whitening, softening and moisturizing agent in skin care creams.

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