BENEFITS OF HERBAL EXTRACTS IN COSMETICS: A REVIEW

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BENEFITS OF HERBAL EXTRACTS IN COSMETICS: A REVIEW

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ABSTRACT: Herbal extracts...
ABSTRACT: Herbal extracts are primarily added to the cosmetic formulations due to several associated properties such as antioxidant, anti-inflammatory, antiseptic and antimicrobial properties. Even today, people in rural and urban areas depend upon herbs for traditional cosmetics. Information on the herbal cosmetics was collected via electronic search (using pubmed, scifinder, Google Scholar and web of science) and library search for articles published in peer-reviewed journals. Furthermore, information also was obtained from some local books on ethnopharmacology. The herbal extracts, as a whole or part, have been used for various ailments of the skin, hair, and dental care for overall appearance. Cosmetics alone are not sufficient to take care of skin and others body parts, it requires association of active ingredients to check the damage and ageing of the skin. Herbal cosmetics have gained much popularity among the population. Herbal cosmetics products claimed to have efficacy and intrinsic acceptability due to routine use in daily life and avoid the side effects which are commonly seen in synthetic products. Due to the awareness of the environmental damage caused by industrialization, a trend has developed to use products with natural ingredients. Various adverse effects may occur in the form of acute toxicity, percutaneous absorption, skin irritation, eye irritation, skin sensitization and photosensitization, sub chronic toxicity, mutagenicity, and photo toxicity by the usage of synthetic products that's why today's generation prefers herbal cosmetics for hair, skin and dental care. This review attempts and emphasizes the benefits of herbal extracts in cosmetics.

Keywords: Herbal extracts, Herbal drug, Cosmetic, Skin care, Hair care, Dental care

INTRODUCTION: Since
INTRODUCTION: Since ancient times, plants have been used as herbal medicines. Ayurveda has a 5000 years old rich heritage of role of the use of plants in the treatment of various human ailments as alternative medicines.

In the last few years, there has been an exponential growth in the field of herbal medicine and these drugs are gaining popularity both in developing and developed countries because of their natural origin and less side effects. Many traditional medicines in use are derived from medicinal plants, minerals and organic matter.

A number of medicinal plants, traditionally used for over 1000 years named rasayana are present in herbal preparations of Indian traditional health care systems. In Indian systems of medicine most practitioners formulate and dispense their own recipes. The World Health Organization (WHO) has listed 21,000 plants, which are used for medicinal purposes around the world. Among these 2500 species are in India, out of which 150 species are used commercially on a fairly large scale. India is the largest producer of medicinal herbs and is called as botanical garden of the world.

India has a very long, safe and continuous usage of many herbal drugs in the officially recognized alternative systems of health viz. Ayurveda, Yoga, Unani, Siddha, Homeopathy and Naturopathy. These systems have rightfully existed side-by-side with Allopathy and are not in ‘the domain of obscurity’, as stated by Venkat Subramanian.

Millions of Indians use herbal drugs regularly, as spices, home-remedies, health foods as well as over-the-counter (OTC) as self-medication or also as drugs prescribed in the non-allopathic systems. Millions of Indians use herbal drugs regularly, as spices, home-remedies, health foods as well as over-the-counter (OTC) as self-medication or...
also as drugs prescribed in the non-allopathic systems. India is sitting on a gold mine of well-recorded and well-practiced knowledge of traditional herbal medicine. But, unlike China, India has not been able to capitalize on this herbal wealth by promoting its use in the developed world despite their renewed interest in herbal medicines. Now-a-days, in the whole world there is turn to return towards the use of herbal products and to adopt more natural way of life. People prefer natural food, herbal medicines and natural curing practices for healthy life. The usage of herbal cosmetics has been increased in many folds in personal care system and there is a great demand for herbal cosmetics. All this happen due to excessive use of synthetic based products, synthetic chemicals, chemical dyes and their derived product in the last one and half century; their production and usage cause human health hazard with several side effects leading to numerous diseases. It also caused considerable environmental pollution and disturbed our eco-system. The more than 500,000 non-allopathic practitioners are trained in the medical colleges (>400) of their respective systems of health and are registered with the official councils which monitor professionalism. Hence, these systems are not folklore or traditional herbal practices. There are basic axioms of these systems leading to a logical and systematic structure of pathogenesis and diagnosis, which serves also as a determinant for therapy.

Cosmetics: Natural herbs help in preserving and enhancing the beauty and personality of human beings. Natural cosmetic is general term applied to all preparation and external conditioning and beautifying the body. Beauty, the quality that gives pleasure to the senses, is perhaps the desire of every human being on earth. Some
are born beautiful and some are in fact made beautiful. Aesthetic appearance has always been a matter of prime importance. The word ‘Beauty’ is not only related to women, as is often thought, but men also used cosmetic products. By the European Directive 93/35/EEC (European Commission), the ‘cosmetics products’ are define as “any substance or preparation intended to be placed in contact with the various external parts of the human body (epidermis, hair system, nails, lips and external genital organs) or with the teeth and mucous membranes of the oral cavity with a view exclusively or mainly to cleaning them, changing their appearance and/or correcting body odours and/or protecting them or keeping them in good conditions”. Cosmetics typically claim to improve skin tone, texture, and radiance, while reducing wrinkling. Cosmeceuticals are the fastest-growing segment of the natural personal care industry. A cosmeceutical's “intended use” - gleaned from the labelling, advertising, promotional materials - determines the regulatory fate of cosmeceutical as a cosmetic or drug. In general, vitamins, herbs, various oils, and botanical extracts may be used in cosmetics, but the manufacturer may not claim that these products penetrate beyond the skin's surface layers or that they have druglike or therapeutic effects. Herbal cosmetics are the preparations, which represent cosmetic associated with active bioactive ingredients or pharmaceuticals. The uses of phytochemicals from a variety of botanicals have dual function; (i) They serve as cosmetics for a care of body and its parts and; (ii) The botanical ingredients present influence biological functions of skin and provide nutrients necessary for the healthy skin or hair. Herbal cosmetics are not
considered under the preview of drugs and regulations of food and drug administrations. Like cosmetics, these are subjected for their safety according to their existing rules of the different countries. Generally it is not mandatory for a manufacturer to claim that how bioactive ingredients penetrate the skin or that these ingredients cause drug-like or therapeutic effect.

**Cosmetic Preparations:**
The physical states of cosmetics preparation are broadly divided into following three categories:

1. **Solids:** Face powders, Talcum powders, Face packs, Masks, Compact powders, Cake make-up, etc.
2. **Semi solids:** Creams, Ointments, Liniments, Wax base creams, pastes, etc.
3. **Liquids:** Lotions, Moisturizers, Hair oil, Conditioners, Shampoos, Cleansing milk, Mouth washes, Deodorants, Liniments, Sprays, etc.

The preparation of any herbal cosmetics basically follows the same procedure as in the case of cosmetics. In preparation, suitable bioactive ingredients of their extracts are used along with requisite ingredients basically used for cosmetics. It requires selection of suitable emulsifying agent, and modified methodology to obtain desirable product of specified parameters. The herbal cosmetics formulation is a sophisticated and sensitive technological profile because it retains the bioactivity of the botanicals during excessive processing and ascertains their availability after application on skin. It is desirable that manufacturers should ensure the quality of products through systematic testing at their level. Other parameters like organoleptic characteristics, pH, viscosity, stability towards light and refrigeration should also be evaluated.

**TABLE 1: BOTANICALS USED FOR SKIN CARE**

<table>
<thead>
<tr>
<th>S. No.</th>
<th>Botanical name / Family</th>
<th>Common name</th>
<th>Chemical constituent</th>
<th>Uses</th>
</tr>
</thead>
</table>

9 | | | | |
<table>
<thead>
<tr>
<th>Plant Name</th>
<th>Family</th>
<th>Common Name</th>
<th>Constituents</th>
<th>Uses</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Adhatoda vasica</em></td>
<td>Acanthaceae</td>
<td>Vasaca</td>
<td>Vasinic, vasicine acetate, 2-acycl benzylamine, vasicineone, quinazoline.</td>
<td>Fresh leaves juice / extract is used for skin affection and control of scabies.</td>
</tr>
<tr>
<td><em>Ailanthus excels</em></td>
<td>Simaroubaceae</td>
<td>Maharuk</td>
<td>Apigenin, luteolin, kaempferol, quercetin.</td>
<td>Leaves extract checks skin eruption and useful in skin creams and lotions.</td>
</tr>
<tr>
<td><em>Allium sativum</em></td>
<td>Alliaceae</td>
<td>Garlic</td>
<td>Llicin, phytocidéa, allin, agéne, isoallin, methiin, allìin.</td>
<td>Garlic oil is useful to control sores, pimples and acne. It may be used in skin lotions and creams.</td>
</tr>
<tr>
<td><em>Aloe vera</em></td>
<td>Liliaceae</td>
<td>Ghikanwar</td>
<td>Hydroxanthroquinone – barbaloin, y – hydroxyaloin isomers, aloe emodin, chrysophanol, loing β barbaloin, Isobarbaloin, Alop.</td>
<td>Leaves juice, its pulp or extracted material is applied on skin for smoothness, healing controlling skin burn, sun burn and injury. Used in moisturizers, lotions, creams, hair tonic, shaving creams, etc.</td>
</tr>
<tr>
<td><em>Andropogon muricatus</em></td>
<td>Poaceae</td>
<td>Khas</td>
<td>Vetiselinol, khusimol, 20 sesquiterpenoids-vetidiol.</td>
<td>Powdered root paste with red sandal wood is used to cure irritated skin.</td>
</tr>
<tr>
<td><em>Azadirachta indica</em></td>
<td>Meliaceae</td>
<td>Neem</td>
<td>Di-n-propyl disulfide, 1-cinnamoyl melianolone, isoniguliconilide, nimolicinoic acid.</td>
<td>Bark, seed, fruits and leaves contain diterpenes and highly oxidized tetraner warmer parts triterpenoids including azadirachtin; antiseptic agent; useful in curing wounds, skin deseases, leprosy, 21 ulcers etc.</td>
</tr>
<tr>
<td><em>Butea frondosa</em></td>
<td>Fabaceae</td>
<td>Dhak</td>
<td>6, 8 di-C-rhamnosyl apiigenin, luteolin, Chrysoeriol 3G-8-O-4Cl-glucronic acid.</td>
<td>Leaves extract is useful in pimples and seed extract for fungal infection and bruises.</td>
</tr>
<tr>
<td><em>Carica papaya</em></td>
<td>Caricaceae</td>
<td>Papaya</td>
<td>Papain, chymopapain, carpain, carpasemine, bp2zyl isothiocyanate.</td>
<td>Milky juice of unripe fruit is a good ingredient for facial and hair cream; fruit pulps make skin soft and remove blemishes.</td>
</tr>
<tr>
<td><em>Cassia tora</em></td>
<td>Caesalpinacae</td>
<td>Panwar</td>
<td>Anthraquinone, naphthopyrone glucoside.</td>
<td>Leaves and seed extract are useful for skin infection, ringworm, goution, etc.</td>
</tr>
<tr>
<td>Plant Name</td>
<td>Family</td>
<td>Part Used</td>
<td>Benefits</td>
<td></td>
</tr>
<tr>
<td>----------------------------</td>
<td>--------------</td>
<td>----------------------</td>
<td>--------------------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>Citrus limon</td>
<td>Rutaceae</td>
<td>Nimbu</td>
<td>Limonene, β-myrcene and decan-1. Potential source of vitamin C; oil is used in various preparations to reduce skin itching and skin nourishment. Pulp left after extraction of juice is useful as a facial ingredient.</td>
<td></td>
</tr>
<tr>
<td>Cocos nucifera</td>
<td>Arecaceae</td>
<td>Nariyal</td>
<td>Sugars, vitamins, minerals, amino acids and 30 phytosterols. Coconuts are useful for skin itching and rashes. Water extract of fruits and seeds protect skin from sunburn.</td>
<td></td>
</tr>
<tr>
<td>Cucumis sativus</td>
<td>Cucurbitaceae</td>
<td>Khira</td>
<td>24-ethylcholest-7, 25, trienol, 25-dienol, avenasterol, spinasterol, kargunadiol and isokarounidiol.</td>
<td></td>
</tr>
<tr>
<td>Curcuma longa</td>
<td>Zingiberaceae</td>
<td>Haldi</td>
<td>Curcumin, turmerone and zingibereone, cineaole and p-tolymethyl carbinol α-pherlantrene, terpinoline, 1,8-cineole, and p-cymene.</td>
<td></td>
</tr>
<tr>
<td>Cuscuta reflexa</td>
<td>Convolvulaceae</td>
<td>Akashbel</td>
<td>7′-(4′-hydroxy,3′-methoxyphenyl)-N-{[(4′-butylphenyl)ethyl]propanamide, 6,7-dimethoxy-2H-1-benzopyran-2-one, 3- (3,4-dihydroxyphenyl)-2-propen-1-ethanoate, 2-(3-hydroxy-4-methoxyphenyl)-3. Plant extract is useful to control dermatitis, itching and ringworm.</td>
<td></td>
</tr>
<tr>
<td>Cydonia oblonga</td>
<td>Rosaceae</td>
<td>Bile</td>
<td>3-O-caffeylquinic, vicenin-2, stellarin-2, schaftoside, chrysoeriol, citric, ascorbic, malic, quinic, 3′kımic and fumaric acids. Seed extract is used for beautification and protection of skin.</td>
<td></td>
</tr>
<tr>
<td>Eclipta alba</td>
<td>Asteraceae</td>
<td>Bhringraj</td>
<td>Stigmasterol, Henriciacontanol, P-amyrin, Luteolin-7-O-glucoside, Wedelolactone, Triterpene, Eclalbatin, Ursolic acid, Oleic acid. Paste of herb is useful to control skin diseases and eczema. Plant extract is useful to control ringworm and skin infections.</td>
<td></td>
</tr>
<tr>
<td>Euphorbia thymifolia</td>
<td>Euphorbiaceae</td>
<td>Choti dhudi</td>
<td>Afzelin, quercitrin, myricitrin, rutin, quercitin, euphorbin-A, euphorbin-B, euphorbin-C, euphorbin-D. Essential oil extracted from flowers is used in skin creams and lotions to control skin diseases. Essential oil extracted from plant is used in creams for the protection from sunburn.</td>
<td></td>
</tr>
<tr>
<td>Jasminum grandiflorum</td>
<td>Oleaceae</td>
<td>Chameli</td>
<td>Secoiridoid glucosides, 2″-epifraxamoside, demethyl-2″-epifraxamoside, secoiridoid, jasminanhydride. Essential oil extracted from flowers is used in skin creams and lotions to control skin diseases. Essential oil extracted from plant is used in creams for the protection from sunburn.</td>
<td></td>
</tr>
<tr>
<td>Juniperus communis</td>
<td>Cupressaceae</td>
<td>Aaraar</td>
<td>Monoterpene hydrocarbons, sabinene, limonene. Whole plant extract is useful in skin creams to control skin rejuvenation. Essential oil is used in skin anti-acne.</td>
<td></td>
</tr>
<tr>
<td>Lavandula vera</td>
<td>Lamiaceae</td>
<td>Lavender</td>
<td>Resinous matter, tannic acid. Essential oil is used in skin anti-acne.</td>
<td></td>
</tr>
<tr>
<td>Plant Name</td>
<td>Family</td>
<td>Common Name</td>
<td>Constituents</td>
<td>Uses</td>
</tr>
<tr>
<td>-----------------------------</td>
<td>----------------</td>
<td>-------------</td>
<td>------------------------------------------------------------------------------</td>
<td>----------------------------------------------------------------------</td>
</tr>
<tr>
<td>Leucas aspera</td>
<td>Lamiaceae</td>
<td>Hul Khusa</td>
<td>Triterpenoids,oleanolic acid, ursolic acid, b-sitosterol, nicotine, asperol,</td>
<td>Juice of leaves is applied to control scabies, skin psoriasis, chronic skin, skin eruption and eczema.</td>
</tr>
<tr>
<td>Mallotus philippensis</td>
<td>Euphorbiaceae</td>
<td>Kamala</td>
<td>5, 7-dihydroxy-8-methyl-6-prenylflavanone, 3'-prenylrubranine, red compound, isorotterin, rottlerin.</td>
<td>Flower powder is useful to control scabies, ringworm, lepromous eruption, etc.</td>
</tr>
<tr>
<td>Mangifera indica</td>
<td>Anacardiaceae</td>
<td>Aam</td>
<td>Mangiferin, isomangiferin, tannins, gallic acid, protocatechic acid, catechin, mangiferin, alanine, glycine, y-aminobutyric acid, kinic acid, shikimic acid.</td>
<td>Plant extract possesses anti-oxidant properties.</td>
</tr>
<tr>
<td>Matricaria chamomilla</td>
<td>Asteraceae</td>
<td>Babuna</td>
<td>Herniarin, umbelliferone, chlorogenic acid, caffeic acid, apigenin, luteolin, luteolin-7-O-glucoside, quercetin, rutin, naringenin.</td>
<td>Leaves extract is applied in anti-acne cream.</td>
</tr>
<tr>
<td>Mimosa pudica</td>
<td>Mimosaceae</td>
<td>Lajwanti</td>
<td>Flavones, isorientin, orientin, isovitexin, vitexin.</td>
<td>Herb extract applied in skin creams and lotions to control itching.</td>
</tr>
<tr>
<td>Ocimum sanctum</td>
<td>Lamiaceae</td>
<td>Tulsii</td>
<td>Eugenol, epi-a-cadinol, α-61 bergamotene, γ-cadinene.</td>
<td>Leaves extract is useful to control skin infection and rejuvenation.</td>
</tr>
<tr>
<td>Pistia stratiotes</td>
<td>Araceae</td>
<td>Water Lettuce</td>
<td>Stigmasterol, stigmasteryl stearate, palmitic acids, anthocyanin-cynidin-3-glucoside, luteolin-7-O-glucoside, vitexin, orientin.</td>
<td>Leaves extract is applied to control chronic skin disorders.</td>
</tr>
<tr>
<td>Prunus amygdalus</td>
<td>Rosaceae</td>
<td>Badam</td>
<td>3'-O-methylquercetin 3-O-β-d-glucopyranoside, naringenin 7-O-β-d-glucopyranoside, catechin, protocatechuic acid, vanillyl acid, p-hydroxybenzoic acid.</td>
<td>Kernel extract is used in sun creams and other formulations to make the skin fair and beautification creams.</td>
</tr>
<tr>
<td>Psoarea corylifolia</td>
<td>Fabaceae</td>
<td>Babchi</td>
<td>Corylinin, isopsoralen, psoralen, sophoracoumestan A, neobaphisoflavone, daidzin, uracil.</td>
<td>Seeds extract potential to control skin diseases.</td>
</tr>
<tr>
<td>Rosa damascena</td>
<td>Rosaceae</td>
<td>Lal gulab</td>
<td>Citronellol, Citronelly acetate, Citronellyl formate, eugenol, Farnesol, Geranial, Nerol, Geranyl acetate, Geranyl formate, Linalool, Methyl isoeugenol, Rose oxide, Alpha-Terpineol, 4-Terpineol, Methyl heptenone, Humulene, Hexanol, Guaiene, Eudesmol, Guaiene, Humulene.</td>
<td>Essential oil extracted from flowers is used in skin creams, lotions and ointment for beautification, smoothness and protection from sunburns.</td>
</tr>
</tbody>
</table>
**Santalum album**  
*Santalaceae*  
**Chandan**  
Alpha- and beta-santalol, cedrol, esters, aldehydes, phytosterols, squalene  
Paste of hardwood is used in face pack; essential oil used in preparation of creams, ointments and lotions for skin beautification and protection from sunburn; possesses antioxidant properties.

**Saussurea lappa**  
*Asteraceae*  
**Kuth**  
P-hydroxybenzaldehyde, ethyl 2-pyrrolidinone-5(s)-carboxylate, 5-hydroxymethylfuraldehyde, palmitic acid, succinic acid, mucosterol, beta-sitosterol  
Roots extract is used in ointments for chronic skin diseases.

**Sesamum indicum**  
*Pedaliaceae*  
**Til**  
Latifonin, momor-cerebrosides, soya-cerebrosides II, beta-sitosterol, D-galactitol  
Seed extract is useful for skin protection and rejuvenation.

**Swertia chirayita**  
*Gentianaceae*  
**Cheretta**  
Triterpene swertanone, seco-hopene lactones, swertiamarin swertia lactone – C, swertain – D  
Bark powder extract controls skin affections, possesses antioxidant properties.

**Withania somnifera**  
*Solanaceae*  
**Aswagandha**  
Withanolides,’ll-sominolide, mindabeolide-1, withanolide-R, flabelline, corydaldine, Oxyhydrastine, fumaritine, protopine, fumariline, juziphine, tetrahydropalmatine, N-feruloyltyramine, (+)-bicuclline, (-) corlumine  
Whole plant extract is used in skin cleansing formulations and possesses antioxidant properties.

**Zea mays**  
*Makka*  
Luxuriantes, Zea perennis, Zea diploperennis, Zea luxurians  
Stigma extract is used in creams and lotions for skin rejuvenation.

<table>
<thead>
<tr>
<th>Table 2: Botanicals Used for Hair Care</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>S. No.</strong></td>
</tr>
<tr>
<td>-----------</td>
</tr>
</tbody>
</table>
| Acacia concinna  
*Mimosaceae* | Shikakai | Lupeol, spinasterol, lactone, hexacosanol, spinasterone, calamytomine, racimase-A oleanolic acid, lupenone, betulin, betulonic acid, betulonic acid | Pods extract is used as hair cleanser and for control of dandruff. |
| Arnica montana  
*Asteraceae* | Arnica | Helenalin, 11α, 13β dihydrohelenalin | Flowers extract is used in hair oil as a tonic material. It stimulates the hair follicles. |
| Betula pendula  
*Betulaceae* | Birch | Carotenoid, Rubisco uronic acids, lignin | Extract of leaves is used as anti-dandruff. |
| Brassica spp.  
*Brassicaceae* | Mustard | Quercetin, predominate, kaempferol, luteolin, apigenin, d-3-carbinol | Seed oil is used as hair oil and useful for hair nourishment. |
<table>
<thead>
<tr>
<th>Plant Name</th>
<th>Family</th>
<th>Main Active Components</th>
<th>Use in Hair Care</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calendula officinalis</td>
<td>Asteraceae</td>
<td>α-cadinol, T-muurolol, a-thujene, dcdinene, a-thujene, gadininene, d-cadinene</td>
<td>Flowers extract is used in hair creams for smoothing effect</td>
</tr>
<tr>
<td>Carthamus tinctorius</td>
<td>Asteraceae</td>
<td>Benzyl-O-β-D-glucopyranoside, syringarenol, linoresinol-A, β-sitosterol, 97 stigmasterol</td>
<td>Alcoholic extract is used in hair tonics</td>
</tr>
<tr>
<td>Centella asiatica</td>
<td>Apiaceae</td>
<td>Centellin, asiaticin, centelicin, asiatic acid, asiaticoside, madecassic acid, madecassoside, brahmoside, brahmic acid, brahminoside, thankuniside, isothankuniside, centelloside, madasiatic acid, centelic acid, betulinic acid, 99, 99C-cenic acid</td>
<td>Whole plant extract is used for the growth and maintenance of hairs</td>
</tr>
<tr>
<td>Cocos nucifera</td>
<td>Arecaceae</td>
<td>Minerals, vitamins, dietary fibres, sugars, organic acids, fatty acid and amino acid, α-Tocopherol, citric, malic acids</td>
<td>Kernel oil is well-established hair oil, which is used as such or as a basic raw material for preparing hair oil and tonics</td>
</tr>
<tr>
<td>Eclipta alba</td>
<td>Asteraceae</td>
<td>Ecliptasaponin C, daucosterol, stigmasterol-3-O-glucoside, wedelolactone, eclipta, β-aminin, luteolin-7-O-glucoside, hentriacontanol, heptacosanol, stigmasterol</td>
<td>Whole plant extract is useful for hair's nourishment and dyeing</td>
</tr>
<tr>
<td>Ficus racemosa</td>
<td>Moraceae</td>
<td>B-sitosterol, p-amyrin, lupiol acetate</td>
<td>Aerial root powder is mixed with coconut oil for massage to check falling hairs</td>
</tr>
<tr>
<td>Juglans regia</td>
<td>Juglandaceae</td>
<td>Oleic acid, macadamia, linoleic acid, linolenic acid, methionine, cysteine, tryptophan, threonine</td>
<td>Leaves and hull of fruits is used for hair dyeing and nourishment</td>
</tr>
<tr>
<td>Lawsonia inermis</td>
<td>Lythraceae</td>
<td>Lalioside, lawsoniaside, uteolin-7-O-β-glucopyranoside, awsoninc, lawsonadiene, 111 vomifolol</td>
<td>Leaves paste is used for hair dyeing and nourishment</td>
</tr>
<tr>
<td>Nardostachys jatamansi</td>
<td>Valerianaceae</td>
<td>β-eudesmol, elemol, β-sitosterol, angelcin, jatamansinol, 113 nardostachysin</td>
<td>Extract of rhizome is used in hair tonics for their growth</td>
</tr>
<tr>
<td>Phyllanthus emblica</td>
<td>Euphorbiaceae</td>
<td>Gallic acid, ellagic acid, 1-O-galloyl-beta-D-glucose, 3,6-di-O-galloyl-D-glucose, chebulinic acid, quercetin, chebulagic acid, corilagin, 3-ethylgallic acid (3-ethoxy-4,5-dihydroxybenzoic acid, isostrictinin, 1,6-di-O-galloyl-beta-D-glucose</td>
<td>Fruit extract is used in oils for promotion of hair growth</td>
</tr>
</tbody>
</table>

Note: T-muurolol, α-cadinol, T-muurolol, a-thujene, dcdinene, a-thujene, gadininene, d-cadinene, α-cadinol, T-muurolol, a-thujene, dcdinene, a-thujene, gadininene, d-cadinene, Benzyl-O-β-D-glucopyranoside, syringarenol, linoresinol-A, β-sitosterol, 97 stigmasterol, Centellin, asiaticin, centelicin, asiatic acid, asiaticoside, madecassic acid, madecassoside, brahmoside, brahmic acid, brahminoside, thankuniside, isothankuniside, centelloside, madasiatic acid, centelic acid, betulinic acid, 99, 99C-cenic acid, Minerals, vitamins, dietary fibres, sugars, organic acids, fatty acid and amino acid, α-Tocopherol, citric, malic acids, Ecliptasaponin C, daucosterol, stigmasterol-3-O-glucoside, wedelolactone, eclipta, β-aminin, luteolin-7-O-glucoside, hentriacontanol, heptacosanol, stigmasterol, B-sitosterol, p-amyrin, lupiol acetate, Oleic acid, macadamia, linoleic acid, linolenic acid, methionine, cysteine, tryptophan, threonine, Lalioside, lawsoniaside, uteolin-7-O-β-glucopyranoside, awsoninc, lawsonadiene, 111 vomifolol, β-eudesmol, elemol, β-sitosterol, angelcin, jatamansinol, 113 nardostachysin, Gallic acid, ellagic acid, 1-O-galloyl-beta-D-glucose, 3,6-di-O-galloyl-D-glucose, chebulinic acid, quercetin, chebulagic acid, corilagin, 3-ethylgallic acid (3-ethoxy-4,5-dihydroxybenzoic acid, isostrictinin, 1,6-di-O-galloyl-beta-D-glucose.
<table>
<thead>
<tr>
<th>S. No.</th>
<th>Botanical name / Family</th>
<th>Common name</th>
<th>Chemical constituent</th>
<th>Uses</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Achyranthes aspera Amaranthaceae</td>
<td>Puthkanda</td>
<td>β-pinene, sabinene, germacrene-D, estragole, linalool</td>
<td>Root used as a toothbrush, good for dental caries</td>
</tr>
<tr>
<td>2</td>
<td>Argemone mexicana Papaveraceae</td>
<td>Kandayi</td>
<td>Dehydrocorydalmine, jatrohazine, cephalolin, oxyberberine</td>
<td>Pulverized seeds good for gum troubles</td>
</tr>
<tr>
<td>3</td>
<td>Azadirachta indica Meliaceae</td>
<td>Neem</td>
<td>Azadirachtol, mahamodin, limonoid, nimbin, gedunin, tolimonoid, naheedin</td>
<td>Twigs used to clean teeth, considered good for dental caries and gum infection</td>
</tr>
<tr>
<td>4</td>
<td>Berberis lycium Berberidaceae</td>
<td>Kashmal</td>
<td>Berberine, berbamine, palmatine</td>
<td>Peeled stem considered good for souring teeth</td>
</tr>
<tr>
<td>5</td>
<td>Boehmeria platyphylla Urticaceae</td>
<td>Handa</td>
<td>Cypholophine, O-acetylcypholophine, lactone, loliolide</td>
<td>Leaves used for souring teeth</td>
</tr>
<tr>
<td>Plant Name</td>
<td>Family</td>
<td>Common Name</td>
<td>Actives</td>
<td>Use</td>
</tr>
<tr>
<td>------------------------------------</td>
<td>-------------------</td>
<td>-------------</td>
<td>----------------------------------------------</td>
<td>----------------------------------------------------------------------</td>
</tr>
<tr>
<td>Calotropis procera</td>
<td>Asclepiadaceae</td>
<td>Ak</td>
<td>Calotropin, calotokin, calactin, uscharidin, voruscharin, calotropagenin</td>
<td>Latex used for toothache due to dental caries</td>
</tr>
<tr>
<td>Capsicum annum</td>
<td>Solanaceae</td>
<td>Mirch</td>
<td>Phenols, flavonoids, carotenoids, capsacin, dihydrocapsaicin, poliphenols, flavonoids, caragenoids, capsacinoids</td>
<td>Fruits boiled in 'saron' oil and oil is poured in ear; good for toothache</td>
</tr>
<tr>
<td>Cassia occidentalis</td>
<td>Fabaceae</td>
<td>Relu</td>
<td>Lenoleic acid, Galactomannan, Torosafuorin B, singueanol I, Questin, Methylgermitosorone</td>
<td>Leaves used for scouring teeth</td>
</tr>
<tr>
<td>Cinnamomum tamala</td>
<td>Lauraceae</td>
<td>Tej-patta</td>
<td>Trans-sabinene hydrate, (2)-β-ocimene, myrcene, α-pinene, β-sabinene, sesquiiterpenes, germacrene A, α-gurjunene</td>
<td>Leaves used for scouring teeth; good for gum inflammation</td>
</tr>
<tr>
<td>Citrus limon</td>
<td>Rutaceae</td>
<td>Galgal</td>
<td>A-pinene, camphene, b-pinene, sabine, myrcene, α-terpinene, linalool, β-bisabolene, limonene, trans-bergamotene, nerol, nerale</td>
<td>Leaves used for scouring teeth and good as a mouth freshener</td>
</tr>
<tr>
<td>Citrus medica</td>
<td>Rutaceae</td>
<td>Nimbu</td>
<td>Limettin, stigmasterol, 22-dien-3-ol, palmitic acid</td>
<td>Leaves and rind of fruits recommended for scouring teeth along with a pinch of rock salt</td>
</tr>
<tr>
<td>Curcuma angustifolia</td>
<td>Zingiberaceae</td>
<td>Haldi</td>
<td>Neocurdione, 1,2-hexadecanediol, curcusesterterpene A, curcusesterterpene B, curcusesterterpene C, n-1,2-hexadecan-1-ol, curcumin</td>
<td>Powdered rhizome mixed with and mustard oil is applied on gums for pyorrhea</td>
</tr>
<tr>
<td>Ficus hispida</td>
<td>Moraceae</td>
<td>Daagrein</td>
<td>Norisoprenoid, fucetritul phenanthroindolizidine alkaloid, O-methylphlorinidine</td>
<td>Latex used for toothache</td>
</tr>
<tr>
<td>Ipomoea carnea</td>
<td>Convolvulaceae</td>
<td>Ghodan</td>
<td>Swainsosine, 2-epi-lentiginosine, calystegines B1, B2, B3, and C1, N-methyl-trans-4-hydroxy-l-proline</td>
<td>Leaf juice recommended for toothache</td>
</tr>
<tr>
<td>Jatropha curcas</td>
<td>Euphorbiaceae</td>
<td>Japhrota</td>
<td>Fatty acids, palmitic acid, stearic acid, unsaturated fatty acid, oleic acid, linoleic acid</td>
<td>Twigs used as a toothbrush; good against dental caries</td>
</tr>
<tr>
<td>Juglans regia</td>
<td>Juglandaceae</td>
<td>Khod</td>
<td>Palmitate, stearate, oleate, linoleate, linolenate</td>
<td>Bark and leaves used for scouring teeth</td>
</tr>
<tr>
<td>Mangifera indica</td>
<td>Anacardiaceae</td>
<td>Aam</td>
<td>Mangiferin, isomangiferin, tannins, gallic acid, protocatechic acid, catechin, mangiferin, alanine, glycine, γ-aminoobutyric acid, kinic acid, shikimic acid</td>
<td>Leaves used for scouring teeth</td>
</tr>
<tr>
<td>Murraya koenigii</td>
<td>Rutaceae</td>
<td>Gandhela</td>
<td>α-pinene, sabine, β-pinene, β-caryophyllene, limonene, bornyl acetate, terpinene-γ, γ-terpinene, α-humulene</td>
<td>Stem used for scouring teeth and for healthy gums</td>
</tr>
<tr>
<td>Murraya paniculata</td>
<td>Rutaceae</td>
<td>Gandhela</td>
<td>β-cyclocitr, methyl salicylate, trans-nerolidol, α-cubebe, (−)-cubobenol, β-cubebe, isogermacrene, β-caryophyllene, (−)-zingiberen, germacrene B, α-copene, α-humulene</td>
<td>Used for scouring teeth and for healthy gums</td>
</tr>
<tr>
<td>Carya illinoensis</td>
<td>Juglandaceae</td>
<td>Kagji-khod</td>
<td>Fatty acid, sucrose, protein, ferric aluminum, vitamin C</td>
<td>Leaves used for scouring teeth; good for gums</td>
</tr>
<tr>
<td>Plant Name</td>
<td>Scientific Name</td>
<td>Family</td>
<td>Common Name</td>
<td>Uses</td>
</tr>
<tr>
<td>----------------------------</td>
<td>-----------------</td>
<td>----------------</td>
<td>-------------</td>
<td>----------------------------------------------------------------------</td>
</tr>
<tr>
<td>Pistacia integerrima</td>
<td>Anacardiaceae</td>
<td>Kakarsingi</td>
<td>Chrysoeriol, diandraflavone, quercetin-3-O-β-D-glucopyranoside, kaempferol-3-O-β-D-glucopyranoside, quercetin-3-O-(6″-O-syringyl)β-D-glucopyranoside, kaempferol-3-O-(4″-O-galloyl)-β-l-arabinopyranoside, rutin, aglycons, quercetin, kaempferol, apigenin.</td>
<td>Leaves chewed to check toothache.</td>
</tr>
<tr>
<td>Plumbago zeylanica</td>
<td>Plumbaginaceae</td>
<td>Chitra</td>
<td>Plumbazeylanone, plumbagic acid, β-sitosterol, lupeol, lup-20(29)-en-3,21-dione, norcanelline, 3-O-glucopyranosyl plumbagicacid, methylester, daucosterol.</td>
<td>Stem recommended for scouring teeth and root paste to check toothache.</td>
</tr>
<tr>
<td>Prunus cerasoides</td>
<td>Rosaceae</td>
<td>Paza</td>
<td>Jaquanine, prunetin, sasccuranin, taxifolin, padmetin.</td>
<td>Twigs used for scouring teeth. Leaves and stem used for scouring teeth.</td>
</tr>
<tr>
<td>Psidium guajava</td>
<td>Myrtaceae</td>
<td>Guava</td>
<td>Guajanoic acid, beta-sitosterol, uvaol, deanolic acid, ursolic acid.</td>
<td>Powdered bark recommended for toothache. Inflorescence used for gum inflammation. Twigs recommended to clean teeth; considered good for pyorrhea, gum inflammation, dental caries and other 179 problems. Twigs considered as a best source for scouring teeth and considered good for any dental problem.</td>
</tr>
<tr>
<td>Robinia pseudo-acacia</td>
<td>Fabaceae</td>
<td>Rasinia</td>
<td>Acacetin, secundiflorol 1, mucronulatol, isomucronulatol, isovestitol, Robinspirols A–C, Robinlinin, Robinpiramic acid, Abrisapogenol E, abrisapogenaldacetal.</td>
<td></td>
</tr>
<tr>
<td>Spilanthes oleracea</td>
<td>Asteraceae</td>
<td>Karkara</td>
<td>Trans-caryophyllene, germacrene-D, 1-dodecene, spathulenol, spilanthol.</td>
<td></td>
</tr>
<tr>
<td>Vitex negundo</td>
<td>Verbenaceae</td>
<td>Bana</td>
<td>Luteolin, luteolin-3″-O-glucuronide, isoorientin, 2″-p-hydroxybenzoylmussaenosidic acid, agnuside, phydroxybenzoic acid, stigmasterol, β-sitosterol.</td>
<td></td>
</tr>
<tr>
<td>Zanthoxylum armatum</td>
<td>Rutaceae</td>
<td>Tirmir</td>
<td>Linalool, methyl cinnamate, limonene, β-phellandrene, 1, 8-cineole, sabinen, β-terpineol, terpinen-4-ol, α-terpineol, β-cymene, 2-tridecanone.</td>
<td></td>
</tr>
</tbody>
</table>

**Adverse reaction of Cosmetics:** Skin cleansing agents remain on the body for a very short period of time and rarely cause significant adverse reactions, however, perfume and others constituents may cause skin irritation and allergic reactions. Moisturizers increase the hygroscopic properties of the skin; however, high concentration of these substances may cause irritation and exfoliation. Skin lightening/depigmenting agents, such as hydroquinone (HQ), are one of the most widely prescribed agents. Ochronosis is an uncommon adverse effect of HQ, characterized by progressive darkening of the area to which the cream containing high concentrations of HQ is applied.
applied for many years. 'Black henna' tattoo is a chemical stain due to p-phenylenediamine (PPD), in the form of commercial hair dye mixed into the henna paste. Addition of this artificial dye stains the skin in much shorter duration, an hour or less. Adverse reactions to PPD can include stinging sensations, with an erythematous rash, swelling, blisters, and surface oozing.

Adverse effects to sunscreening agents may result in irritant, allergic, phototoxic, or photoallergic reactions, and caused not only by the active constituents but also by the additives such as fragrances and stabilizers. Benzophenones are probably the most common sensitizers, while dibenzoylmethanes, para-aminobenzoic acid (PABA), and cinnamates may cause photoallergic dermatitis. The allergic reactions associated with deodorants and fragrances are usually caused by fragrance or other ingredients. Fragrance can enter the body through lungs, airways, skin, ingestion, and via pathways from the nose directly to the brain and can cause headaches, irritation to eyes, nose, and throat, dizziness, fatigue, forgetfulness, and other symptoms. Fragrance is the number one cause of skin allergic reactions to cosmetics. Shampoos and conditioners have only a brief contact with the skin and are not a common cause of cutaneous irritant or allergic contact dermatitis. However, eye irritation can be a problem. Possible sensitizers in shampoos include formalin, parabens, hexachlorophene, triclosan, and fragrances. Matting of scalp hair is most commonly a sudden, usually irreversible, and tangling of scalp hair resulting from shampooing.

Hair straightening (relaxing) with pressing oils and heated metal combs or round tongs may be associated with hair-shaft breakage and scarring alopecia. Hair removal techniques may partially
account for allergic and photoallergic reactions. The adverse effects of shaving include skin irritation, cuts in the skin, ingrown hair (pseudofolliculitis), etc. The active ingredients in hair bleaches are hydrogen peroxide solutions that oxidize melanin to a lighter color. They may be supplemented with persulfate boosters. The disadvantages of bleaching include skin irritation, temporary skin discoloration, pruritus, and the prominence of bleached hair against tanned or naturally dark skin. Ammonium persulfate may cause types I and IV allergic contact reactions. About 12% of cosmetic reactions occur on the eyelid, mainly due to the eye shadow. Irritant contact dermatitis is more common than allergic contact dermatitis. Mascara is the most commonly used eye cosmetic. The most feared adverse effect of mascaras is that of infection, particularly Pseudomonas aeruginosa corneal infections, which can permanently destroy visual acuity, due to multiple reuses of applicator and reinsertions into the tube between uses. Kajal and surma are mainly carbon compounds, but surma also contains mercury or lead and may put at risk of serious health problems. Nail plate discoloration and allergic contact dermatitis are the major dermatological concerns with the use of nail polish. The nail staining is seen more with dissolved rather than suspended pigments.

CONCLUSION: There are also a number of Institutes/Universities in India carrying out research work on herbal drugs and medicinal plants for lesser side effects and rich sources of beneficial compounds including antioxidants, anti-inflammatory, antiseptic and antimicrobial properties. In India more than 70% of the populations use herbal cosmetics for their health care. Now a day's herbal cosmetics has been increased in personal care system and
there is a great demand for the herbal cosmetics in daily life. Healthy teeth, shiny hair and glowing skin are fundamental for the good looking of the human body. In allopathy, the treatment of all the problems is expensive and cannot be afforded by poor people. So, these types of herbal medicines, which are almost free, are a great help. Although, cosmetic preparations have rarely been related with serious health hazards, this does not mean that cosmetics are always safe to use. Cosmetics and personal-care products may contain ingredients whose safety is unknown or which are known to create health risks. The present review focuses on the potential of herbal extracts for cosmetic purposes.

**Conflict of Interest:** The authors declare that they have no conflict of interest.

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We can, otherwise, also perco- Herbal cosmetics, however, are not. The extraction process late the solvent through the herb mass. an invention of modern times. Early civilizations made use of herbal cos- The very first stage in an herbal ex-apparatus for extraction. (See the dia- metrics, as our ancient books, the traction process consists of leaching grammatic photo of the Soxhlet assem- Vedas, the Epics, and Samhitas make out the impurities or the not-so-useful bly.) mention of many herbal concoctions portion of the herb by use of a suit-prevalent in