

Plants Used by Local And Tribal People of Chhattisgarh With Special Reference To Their Cosmetic And Skin Care Uses : A Review

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Abstract: Current work discusses the way of local and tribal people have used plants over the time to cure for their skin, hairs, face beauty and in physical aspect. In times of this industrialization, people prefer natural and herbal products for dryness, acne, anti-aging, hair and skin protection effects. This article presented a descriptive review on the plants used by local and tribal people of Chhattisgarh for their skin care, cosmetics purpose and describes how plants are currently used in personal care products. Plants such as *Lawsonia inermis* L., *Terminalia chebula* Retz., *Terminalia ballerica* (Gaertn.) Roxb., *Hibiscus rosa-sinensis* L., *Azadirachta indica* A.Juss. and many other are used in cosmetic industry for various purposes. The purpose of doing this work is to collect and spread the knowledge about the plants nearby that are used for cosmetics.

Keywords : Cosmetics, Tribal, Skin care, Anti-aging, Chhattisgarh.

1. INTRODUCTION

In view of extremely rich bio-cultural diversity in the state and dependence of forest dwellers for their health requirements on medicinal plants, Chhattisgarh is known as herbal state of India. Cosmetics are products designed to cleanse, protect and change the appearance of external parts of our bodies. Cosmetics are not a modern invention, humans have used various substances to alter their appearance or accentuate their features for at least 10,000 years and possibly a lot longer. Herbal cosmetics are formulated, by using different cosmetic ingredients to form the base in which one or more herbal ingredients are used to cure various skin ailments. Plants are highly used for development of new drug products in cosmeceuticals industries. These are the products in which plants and plant parts are used in crude or extract form. It is almost true for all old civilizations like Indian, Chinese, and Egyptian & Greek. Ubtan with flour, turmeric and vegetables oil before marriage and Kumkum is still being applied by women in India. During the early period, all cosmetics items were made in the home, natural materials like aromatic materials, spices, herbs, resins, dyes, fats, oils, and the natives of different counties used perfumes. The demand for plant-based cosmetics is increasing in national as well as international market as they are natural products, non-narcotic, having no side-effects, easily available at affordable prices and sometimes the only source of healthcare available to the poor.

Besides, in states like Chhattisgarh, it provides the means of livelihood to a large population, specially the tribals who are involved in collection of medicinal plants and fruits. Cosmetics includes face beauty, skin and hair care. Skin protects the body from the external

environment (as it constitutes the largest living organ in human body). It helps to regulate temperature, fluid balance and keeps out harmful microbes and chemicals, offering some protection against sunlight. Skin care along with cosmetics, are very ancient, when we goes back to the prehistoric times where cave women and cave men deployed all their efforts to survive the severe weather conditions. Apparently the kind of job they were performing was inevitably exposing their skin to severe weather conditions. It was essential for these workers to preserve their skin against the environmental conditions.

2. MATERIAL AND METHODS

This review work was conducted in 2021 using the main database from the ethno-botanical area and checked scientific studies, published in books and journals in various electronic databases (such as ScienceDirect, researchgate, Medline, PubMed and Google scholar) from year 2002 to 2020 and reviewed a total of 32 publications. Only English language papers are collected, studied and reviewed from international and national organizations. All these publications provide information about the plants that are used for cosmetics and skin care purposes. That research articles were searched for abstract and introduction using the search terms: “cosmetics”, “natural herbs”, “cosmeceuticals” and “herbal cosmetics”. Relevant knowledge gathered about herbal cosmetics and skin care treatment by using floristic species, from the various research papers related to the ethno-botanical works that were conducted in the Chhattisgarh state. As we are native to Chhattisgarh, I too have some traditional knowledge about the plants that are used to cure skin disease and for cosmetics purpose (as home remedies) and that knowledge about home remedies we have used are also applied here to do this work.

3. RESULT

Table 1. List of plants used by local and tribal people of Chhattisgarh for their cosmetics and skin care uses

Purpose	Local Name	Botanical Name with Family	PPU	Remedy/Uses
Fairness	Chandan	<i>Santalum album</i> L. (Santalaceae)	St	Stem powder with rose water applied.
	Kheera	<i>Cucumis sativus</i> L. (Cucurbitaceae)	Ft	Grated fruit is applied.
	Gulab	<i>Rosa^x damascene</i> Mill. (Rosaceae)	Fl	Soaked water is used to wash the face.
	Gajar	<i>Daucus carota</i> L. (Apiaceae)	Rt	Grated root along with milk is applied.
	Aloe vera	<i>Aloe vera</i> (L.) Burm.f. (Asphodelaceae)	Lf	Gel of leaf is used as moisturizer, sun screen and emollient.
	Papita	<i>Carica papaya</i> L. (Caricaceae)	Ft	Mashed fruit along with honey applied.
	Harra	<i>Terminalia chebula</i> Retz. (Combretaceae)	Ft,Sd	Paste is used to maintain skin tone, helps to remove wrinkles.
Skin		<i>Azadirachta indica</i> A.Juss.	WP	Boiled leaf, stem and

care	Neem	(Meliaceae)		roots are used to treat, Pimples chicken pox and measles.
	Gehu	<i>Triticum aestivum</i> L. (Poaceae)	Flour	Mixed with haldi and water and apply to cure Pus pockets.
	Tulsi	<i>Ocimum tenuiflorum</i> L. (Lamiaceae)	Lf	Paste is Applied for achne and pimples.
	Brahmi	<i>Centella asiatica</i> L. (Apiaceae)	WP	Paste is applied to reduce Stretch marks.
	Kheera	<i>Cucumis sativus</i> L. (Cucurbitaceae)	Ft	Juice and paste are applied as moisturizer.
	Chana	<i>Cicer arietinum</i> L. (Fabaceae)	Flour	With honey used as skin cleanser.
	Nariyal	<i>Cocus nucifera</i> L. (Arecaceae)	Oil	As a skin moisturizer and softener.
	Semal	<i>Bombax ceiba</i> L. (Malvaceae)	Pr	Rubbed on the stone (sil) and applied on pimples.
	Surajmukhi	<i>Helianthus annus</i> L. (Asteraceae)	Oil	Has smoothing properties and is considered non-comedogenic.
Acne	Haldi	<i>Curcuma longa</i> L. (Zingiberaceae)	Rz	Rubbed paste is applied over the acne.
	Kusum	<i>Schleichera oleosa</i> (Lour.) Oken. (Sapindaceae)	Sd	Oil is used for the cure of itch and acne
	Neem	<i>Azadirachta indica</i> A. Juss. (Meliaceae)	Lf	Vapor from boiled leaves use to steam the face.
	Lehsun	<i>Allium sativum</i> L. (Amaryllidaceae)	Bb	Paste is applied over the acne during night
	Tulsi	<i>Ocimum sanctum</i> L. (Lamiaceae)	Lf	Leaf paste is applied
Anti-aging	Chana	<i>Cicer arietinum</i> L. (Fabaceae)	Sd	Seed powder applied as face pack
	Coconut	<i>Cocus nucifera</i> L. (Arecaceae)	Sd	Coconut milk is applied with carrot juice.
	Gajar	<i>Daucus carota</i> L. (Apiaceae)	Sd	for anti-aging, revitalizing and rejuvenating.

Hair care	Amla	<i>Phyllanthus emblica</i> L. (Phyllanthaceae)	Ft	With water applied on hairs. It Provides nutrition to hair and also causes darkening.
	Gudhal	<i>Hibiscus rosa – sinensis</i> L. (Malvaceae)	Fl	Paste is used to stimulate thicker hair growth and prevents premature graying of hairs.
	Neebu	<i>Citrus limon</i> (L.) Osbeck (Rutaceae)	Ft	Juice is applied to hairs as a anti-dandruff.
	Badam	<i>Prunus dulcis</i> Mill. (Rosaceae)	Oil	Used to nourishing, softens and strengthens of the hairs.
	Henna	<i>Lawsonia inermis</i> L. (Lythraceae)	Lf	Powder form of leaf, is able to “stain” the colour onto the hair shaft.
	Shikakai	<i>Acacia concinna</i> DC. (Fabaceae)	Ft	Pods are blended into shampoo and hair cleanser
	Ritha	<i>Sapindus mukorossi</i> Gaertn. (Sapindaceae)	Ft	It promotes hair growth and to stop hair falling, splitting and dandruff.
	Bhringraj	<i>Eclipta prostrate</i> (L.) L. (Asteraceae)	WP	Paste is used to prevent hair fall, hair thinning and premature graying of hair.
	Gondli/Pyaj	<i>Allium cepa</i> L. (Amaryllidaceae)	Bb	Paste is applied for hair smoothening.

Abbreviation : St-Stem, Ft-Fruit, Fl-Flower, Lf-Leaf, Sd-Seed, Rz-Rhizome, Rt-Root, WP-Whole plant, Bb-Bulb, Pr-Prickle.

4. RESULT

Mainly by this study we got to know that locally available plants are used by people of Chhattisgarh as their home remedies (in cosmetics, skin care, hair care and other applications). A total of 30 plant species belonging to 23 families have been mentioned and listed. The herbal cosmetics products range from face freshness, removal of ugly spots, hair care, skin moisturizer, colouring of hair and to remove acne and pimples. About 24 plant species are known for their use to cure multiple skin diseases and skin care, 9 plant species for hair care and among which some species used for fragrance also. Some of the plants were found to have dual use as for skin care, cosmetics and hair care. The most commonly used plant parts were leaves, fruits, flower and aerial parts.

5. CONCLUSION

Since Chhattisgarh has the rich plant diversity, local people of area have good knowledge of utilization of plants for cosmetic purposes. People of Chhattisgarh have a close relationship with nature. They are more dependent upon forest for many purposes. This study has information of some of the plants used in Chhattisgarh for cosmetic purpose. As cosmetic utilization of local herbs has not been carried out yet in Chhattisgarh the documentation of traditional knowledge will contribute to the conservation, sustainable management and consumption of plant resources. Finally, I would to highlight the fact that, in this work, only a small number of plant species have been mentioned and listed. Indeed, the number of plant species used in skin care, cosmetics and fragrances is considerably greater and continues to grow. The villages of state are rich in ethno-botanical knowledge owing to their close affinity with the surrounding plant covers. They obtain a variety of plant products from wild plants to fulfil their own needs. However, most of knowledge about the plants in cosmetics survive only as memories from the past in the mind of elderly, and will probably vanish in a few decades. Thus, we tried to compiled these scattered data together in a single document for the next scientific works related to ethno-botanical, herbal cosmetically interests. This review also shows that there is need to record all the traditional knowledge and attempts to compile the data in order to maintain cultural traditions.

REFERENCES

- [1] Abbasi, A. M., Khan, M. A., Ahmad, M., Zafar, M., Jahan, S., & Sultana, S. (2010). *Ethnopharmacological application of medicinal plants to cure skin diseases and in folk cosmetics among the tribal communities of North-West Frontier Province, Pakistan. Journal of ethnopharmacology*, **128**(2), 322-335.
- [2] Ashawat, M., Banchhor, M., Saraf, S., & Saraf, S. (2009). *Herbal Cosmetics: " Trends in Skin Care Formulation". Pharmacognosy Reviews*, **3**(5), 82.
- [3] Bano, U., Jabeen, A., Ahmed, A., & Siddiqui, M. A. (2015). *Therapeutic Uses of Vitex Negundo. World Journal of Pharmaceutical Research*, **4**(12), 589-606.
- [4] Bisht (1993). *"Paleobotanical and pollen analytical investigations"* (PDF). *Indian Archaeology a Review 1993-1994*: 143–144.
- [5] Capasso, F., Borrelli, F., Capasso, R., Carlo, G. D., Izzo, A. A., Pinto, L., ... & Longo, R. (1998). *Aloe and its therapeutic use. Phytotherapy Research: An International Journal Devoted to Pharmacological and Toxicological Evaluation of Natural Product Derivatives*, **12**(S1), S124-S127.
- [6] Chandel, P. K., Prajapati, R. K., & Dhurwe, R. K. (2018). *Documentation of traditional collection methods of different NTFPs in Dhamtari forest area. Journal of Pharmacognosy and Phytochemistry*, **7**(1), 1531-1536.
- [7] Dewangan, K., Acharya, V., Naik, M. L., & Girolkar, A. K. (2011). *Home medicines of Chhattisgarh. Indian Journal of Appl. & Pure Biology*, **6**, 47-52.
- [8] Dixit, U. (2011). *Traditional knowledge from and for elderly. Indian Journal of Traditional Knowledge*, **10**(3), 429-438.

- [9] Dusi, S., & Saminathan, J. (2017). *Formulation and Evaluation of Aloe vera and Dacus Carota herbal cream*. *Int. J. Pharm. Res. Technol.*, **10**, 31-6.
- [10] Eibl, R., Meier, P., Stutz, I., Schildberger, D., Hühn, T., & Eibl, D. (2018). *Plant cell culture technology in the cosmetics and food industries: current state and future trends*. *Applied Microbiology and Biotechnology*, **102(20)**, 8661-8675.
- [11] Elansary, H. O., Mahmoud, E. A., Shokralla, S., & Yessoufou, K. (2015). *Diversity of plants, traditional knowledge, and practices in local cosmetics: A case study from Alexandria, Egypt*. *Economic Botany*, **69(2)**, 114-126.
- [12] Fongnzossie, E. F., Tize, Z., Nde, P. F., Biyegue, C. N., Ntsama, I. B., Dibong, S. D., & Nkongmeneck, B. A. (2017). *Ethnobotany and pharmacognostic perspective of plant species used as traditional cosmetics and cosmeceuticals among the Gbaya ethnic group in Eastern Cameroon*. *South African Journal of Botany*, **112**, 29-39.
- [13] González-Minero, F. J., & Bravo-Díaz, L. (2018). *The use of plants in skin-care products, cosmetics and fragrances: past and present*. *Cosmetics*, **5(3)**, 50.
- [15] Goswami, N. B., & Tah, J. (2018). *WHITE SANDAL (SANTALUM ALBUM L.), A PRECIOUS MEDICINAL AND TIMBER YIELDING PLANT: A SHORT REVIEW*. *Plant Archives*, **18(1)**, 1048-1056.
- [16] Haddad, M., Sauvain, M., & Deharo, E. (2011). *Curcuma as a parasitocidal agent: a review*. *Planta medica*, **77(06)**, 672-678.
- [17] Hongratanaworakit, T., Tapaneeyasin, P., Nuamlert, J., Chansiri, A., & Hongrattanaavorakit, N. (2006). *Development of skin whitening preparations from kaffir lime oil (Citrus hystrix)*. *Planta Medica*, **72(11)**, 208.
- [18] Jain, J. B., Kumane, S. C., & Bhattacharya, S. (2006). *Medicinal flora of Madhya Pradesh and Chhattisgarh—a review*. 237-242.
- [19] Juan-Badaturuge, M., & Udeshika, P. H. (2011). *Medicinal Plant Applications in Cosmetics*. *Planta Medica*, **77(05)**, 111.
- [20] Kaur, A., Singh, T. G., Dhiman, S., Arora, S., & Babbar, R. (2020). *NOVEL HERBS USED IN COSMETICS FOR SKIN AND HAIR CARE: A REVIEW*. *Plant Archives*, **20(1)**, 3784-3793.
- [21] Macdonald, H. M. (2015). *Skillful revelation: Local healers, rationalists, and their 'trickery' in Chhattisgarh, Central India*. *Medical anthropology*, **34(6)**, 485-500.
- [22] Madharia, P., & Jahan, A. (2015). *Ethnomedicinal plants and their conservation in Chhattisgarh State: Review and Perspectives*. *Journal of Environmental Science, Toxicology and Food Technology*, **1(4)**, 46-50.
- [23] Mans, D. R., & Grant, A. (2017). *"A thing of beauty is a joy forever". Plants and plant-based preparations for facial care in Suriname*. *Clin Med Investigations*, **2**, 1-16.

- [24] Meena, A. K., Sachan, A., Singh, B., Kaur, R., Pal, B., Yadav, A. K., ... & Rao, M. M. (2010). *A Review on Herbal Plants used in Skin and Hair Treatment*. *Research Journal of Topical and Cosmetic Sciences*, **1**(1), 13-17.
- [25] Parihaar, R. S., Bargali, K., & Bargali, S. S. (2014). *Diversity and uses of ethno-medicinal plants associated with traditional agroforestry systems in Kumaun Himalaya*. *Indian Journal of Agricultural Sciences*, **84**(12), 1470-1476.
- [26] Patel, S. K., & Dixit, A. K. (2020). *Ethno-medicinal plants used as medicine by traditional healers of Gomarda Wildlife Sanctuary, Raigarh, Chhattisgarh, India*, *Journal of Biodiversity And Conservation*, **4**(3), 371-380.
- [27] Saive, M., Frederich, M., & Fauconnier, M. L. (2018). *Plants used in traditional medicine and cosmetics in Mayotte Island (France): An ethnobotanical study*. *Indian Journal of Traditional Knowledge*, **17**(4), 645-653.
- [28] Sharma, A. Sati, S. C. Sati, O. Sati, D. M. Kothiyal, S. K. (2011). "Chemical constituents and bio activities of genus *Sapindus*" (PDF). *International Journal of Research in Ayurveda & Pharmacy*. **2** (2), 403–409.
- [29] Sharma, M., & Govind, P. (2009). *Ethnomedicinal plants for prevention and treatment of tumours*. *International Journal of Green Pharmacy*, **3**(1), 2.
- [30] Sharrif Moghaddasi, M., & Res, M. (2011). *Aloe vera their chemicals composition and applications: A review*. *International Journal Of Biomedical Research*, **2**(1), 466-71.
- [31] Solanki, R. (2011). *Treatment of skin diseases through medicinal plants in different regions of the world*. *Int J Biomed Res*, **2**(1), 73.
- [32] Subashini, R., & Rakshitha, S. U. (2012). *Phytochemical screening, antimicrobial activity and in vitro antioxidant investigation of methanolic extract of seeds from *Helianthus annuus* L.* *Chemical science review and letters*, **1**(1), 30-34.
- [33] Sumit, K., Vivek, S., Sujata, S., & Ashish, B. (2012). *Herbal cosmetics: used for skin and hair*. *Inven. J*, **2012**, 1-7.
- [34] *The History of Eucalyptus. EUCLID: Eucalypts of southern Australia (Second Edition)*. Retrieved **2007**, 07-1.
- [35] Tirkey, A. (2009). *Some rare and less known ethnomedicinal plants used by tribal communities from Chhattisgarh*. *Indigenous ethnomedicinal plants*, 185.