Global Advances in Multidisciplinary Applications in Next-Gen and Modern Technologies (GAMANAM)
ISSN: 3107-653X | Volume 2, Issue 2, April 2026, Pp: 86-96

Research Paper

Composition Analysis of Marketed Poly Herbal Formulations

[1] Keerthana Morusu, [2*] Nagaraju Ravouru, [3] Praveen Kumar Javvaji

[1] *Institute of Pharmaceutical Technology, Sri Padmavati Mahila Visvavidyalaya, Tirupati, Andhra Pradesh, India.*
[2*] *Institute of Pharmaceutical Technology, Sri Padmavati Mahila Visvavidyalaya, Tirupati, Andhra Pradesh, India*
Email: profnagaraju@gmail.com
[3] *Department of General Medicine, Sri Venkateswara Medical College, Tirupati, Andhra Pradesh, India.*

**Corresponding Author(s): profnagaraju@gmail.com*

Received: 02/01/2026 Revised: 05/02/2026 Accepted: 23/03/2026 Published: 01/04/2026

Abstract: Herbal formulations are dosage forms comprising single or multiple herbs or modified herbs in stated amounts to furnish definite nutritional, cosmetic application and offer its use in diagnosis, treatment, mitigation of diseases of human beings or animals, alter the structure or physiology of human beings or animals. Herbal formulations are prepared by subjecting herbal substances after size reduction to any of the processes like extraction, distillation, expression, fractionation, purification, concentration or fermentation. This study focussed to review the composition of 100 marketed poly herbal preparations and identify the most prevalently used herb in each formulation. This study helps reveal current trends in herbal drug formulation, supporting better standardization, rational ingredient selection, and consistency in herbal medicines. The findings also serve as a useful reference for manufacturers, academicians, and students in Pharmacognosy and herbal drug technology. Additionally, the study aids quality control, regulatory evaluation, and research prioritization by highlighting herbs that are most frequently incorporated into marketed preparations. Understanding commonly used herbs can guide future pharmacological, clinical, and safety studies, ensuring that research efforts focus on ingredients with widespread therapeutic use and commercial relevance.

Keywords: Herbal syrups, Tablets, Capsules, Ointments, Shampoos, Lotions

---

1. Introduction

Herbal formulations are the oldest form of health care known to mankind. It was an integral part of the development of modern civilization. In olden days people appreciated the use of great diversity of plants available to them. The medicinal usage of plants was initiated by the primitive man with the trial and error method. Plants are always an exemplary source of drugs. The currently available drugs are derived either directly (or) indirectly from the plants. The traditional herbal medicinal practices have been adopted for the diagnosis, prevention and treatment of various diseases [1].

The production of herbal formulations is increasing rapidly in comparison to other medicines. Fresh leaves, gels, and juice are formulated products of the plants that have been used for medical and cosmetic purposes and to enhance general health. Plants play a dominant role in introduction of new therapeutic agents as they help to alleviate human ailments. The antioxidant, anti-mutagenic and anti-carcinogenic properties of higher plants are due to the presence of secondary metabolites. The secondary metabolites are of prime importance for human kind as they prevent the onset of different degenerative diseases. Herbal formulations manufactured in India and China and are widely distributed throughout Asia [2].

The drug discovery using higher plants can be distinguished by random selection followed by chemical screening: one (or) more biological assays, biological activity reports and Ethno medical use of plants. The latter approach includes plants used in traditional medical systems, herbalism, folklore and shamanism and the use of databases and objective of the isolation of new bioactive phyto compounds. When an active extract has been identified, the first task to be taken is the identification the bioactive phyto compounds and this can mean either a full identification of a bioactive phyto compound after purification (or) partial identification to the level of family of known compounds. Quality control directly impacts the safety and efficacy of herbal formulations. A particular plant part will have many constituents and some of them may be toxic because herbs usually are not as potent as manufacture drugs, and compared with synthetic drugs the adverse

effects of most herbal drugs are relatively in frequent [3], [4].

A large number of cosmetic and toiletry formulations have been developed based on Indian herbs recently. Apart from traditionally documented applications, some modern trials have also established the utility of Indian herbs in personal care products. Herbal Cosmetics are formulated using various permissible ingredients to form the base in which one or more herbal ingredients are used to provide defined cosmetic benefits only, shall be called “Herbal Cosmetics”. The demand for herbal formulations is increasing rapidly due to the lack of side effects. The herbal cosmetics are purely made from herbs and shrubs.

Traditional herbal medicine is a form of medicine that uses plants or plant extracts to treat various diseases and ailments. It has been used for centuries in many cultures around the world. Traditional herbal medicine is based on the idea that plants contain natural compounds that can help to heal the body. These natural compounds are often used to create medicines that can be taken orally, applied topically, or inhaled [5-7].

Herbal formulations are attracted due to their multiple benefits with fewer side effects than synthetic products. In ancient days, women used a lot of herbs such as sandalwood and turmeric for skin care, henna to colour the hair and natural oils to as perfumes [8] , [9].

The present Meta-analysis proposed to review the composition of different herbal formulations like Creams, Syrups, Tablets, Capsules, Ointments, Shampoos, Dental care Products and Lotions. This work reviewed total of 100 poly herbal and mono herbal formulations and the herbs used in the formulation were assigned with scores and percentage usage of the each herb in each formulation was identified. This study was conducted to reveal most prevalently used herb in different dosage form. The preceding section outlines the information of different formulations and percentage composition of herbs in each formulation category.

2. Materials and Methods

The present work intended to analyse the composition of 100 different herbal marketed formulations. Various formulations include herbal creams, shampoos, capsules, tablets, syrups, pastes, lotions and ointments composition information was collected from different sources like Ayurvedic pharmacies and internet. Most of the herbal formulations are containing more than one herb. Hence the formulas of different ploy herbal formulations were reviewed to identify the herb of interest in each dosage form separately and the percentage of each herb used to manufacture them individually [10].

Creams are semi solid preparations which help in altering the appearance of skin or beautifying the skin. Herbal creams are those which contain one or more herbal ingredients. Brand names of herbal creams available in the market are Herbal hills Glohills Cream (face cream), Savi Herbal (pimple cream), Herbal multipurpose cream, Khadi pure herbal fairness cream, Eelata herbal glowing cream, Roop Mantra (face cream), Omni herbal acne cream, Mohammedia kalonji herbal pimple cream, Patanjali swarn Kanti fairness cream, Patanjali moisturiser cream, Khadi pure herbal cucumber and aloe vera cleansing milk cream with shea butter, Khadi pure herbal nourishing cream - olive and sandal, Khadi pure herbal facial gold with shea butter (massage cream), Khadi pure herbal milk and saffron hand cream with shea butter. From the above mentioned marketed herbal creams, compositional information was collected and it was analysed [11-14].

Shampoos are preparations of surface active material in a suitable liquid, solid or powder form [herbal extract] is when used under the condition specified will remove surface grease, dirt, and skin debris from the hair, shaft and scalp. [S1, S2]. Brand names of marketed Herbal Shampoos reviewed are Vilvah's shampoo, Patanjali, Indulekha, Shikakai, Khadi pure shampoo, Amla/Reetha shampoo, Satritha shampoo, Baby shampoo,Two layered shampoo, Conditioning shampoo, Powder shampoo and New shampoo [15].

Capsules are solid unit dosage forms in which the drug substance is bound in a water soluble shell composed of gelatin. Herbal capsules are stuffed with the herbal supplement; these are used exclusively for internal use. They are classified into two types based on the composition of the capsule shell: gelatinous capsules and non-gelatinous capsules. Gelatinous capsules include hard and soft gelatin capsules, while non-gelatinous capsules include hydroxypropylmethyl cellulose (HPMC), polyvinyl alcohol (PVA), and starch capsules. Brand names of Herbal Capsules available in the market and reviewed in the study are Ruma Gold, Senna wild fruit capsule, Vitomanhills (men's health capsule), Arozyme capsule, Type 1 Diabetes cure capsule, Stress off capsule, A-BGN (Arlak's Blood Glucose Normalise), Telone No Piles Herbal Capsules & power capsules, Strong man herbal capsule, Reg Liv Capsules, Bhring Neel herbal capsule, PSORA - D Capsule, Calciserve capsules, Joint support capsules and Dabur Lipistat capsule [16-18].

Herbal syrups are a popular form of herbal supplements that are prepared by combining a concentrated decoction of herbs with either honey or sugar, and sometimes alcohol. Composition of Herbal Syrups like Fevermox syrup, Leukolik, Justof tuls, Croplus syrup, King koff, Apizox syrup, Heptovit syrup, Biopron, Gulkoff[and Mucoron syrups was reviewed [19], [20].

Herbal tablets are solid unit dosage forms which are prepared with one or more herbal ingredients meant for oral administration. Brand names of marketed Herbal tablets reviewed in the study were Zealous regulate tablets, Herbal hills amla antioxidant , Patanjali immuno charge tablet, Botany bay herbs,ayush kwath tablet, Ayurvedic and herbal tablets for vigour and vitality, Xovak Pharma,ayurvedic and herbal tablet for female fertility, Dabur pure herbs health booster amla tablet, Divya pharmacy,peedanil gold, Ayur champ,migra plus, Lenovalley herbal tablet, Cureado stemkof herbal tea dispersible tablet, Gautyhills tablet, Cologrit(enteric coated), Sallak forte tablets, Ayursun Pharma,amolif tablet, Divya muktha vati extra power, Way to herbal digesherbo tablet and Millennium health care osheal tablet [21].

An ointment is a viscous semisolid preparation used topically on a variety of body surfaces. These include the skin and the mucus membranes of the eye, vagina, anus, and nose. Herbal ointments are prepared from various parts of plants like flowers, leaves, seeds, roots etc. for the external use. Herbal Ointments available in the Market and reviewed in the study are De-heat ointment, Swiss itch cream, Pilon Ointment, Calendula ointment, Movement ointment and Uniroyal herbals [22], [23].

Herbal Lotions are semi solid dosage forms meant for external application on the skin possess cosmetic applications. Brand names of Herbal lotions analysed were Ayur and Indian Herbo Pharma [24], [25].

3. Results and Discussion

The Meta data analysis of 100 different herbal marketed formulations like herbal creams, shampoos, capsules, tablets, syrups, pastes, lotions and ointments was carried out to know various herbs and the percentage of each herb used to manufacture each dosage form.

The number of herbs contained in each formulation is different and lies in the range of 3-20. From the collected information, Meta-analysis was done to identify the herb of interest in different dosage forms separately and the percentage of each herb used to manufacture them individually.

In Herbal Creams category, 668 different herbs were used in formulation. Among 15 formulations *Aloe barbadensis* was used in 10 marketed formulations and identified as most prevalently used herb when compared to other herbs. The compositional analysis of marketed herbal cream formulations was shown in Table 1.

Table1. Composition analysis of Marketed Herbal creams

S.no	Scientific name of herb	Scoring	Percentage of use among formulations	S.no	Scientific name of herb	Scoring	Percentage of use among formulations
1.	*Aloe barbadensis*	10	7.57%	35.	*Dacus carota*	1	0.75%
2.	*Azadirachta indica*	7	5.30%	36.	*Citrus lemon*	1	0.75%
3	*Prunus amygdalus*	7	5.30%	37.	*Vitis vinefera*	1	0.75%
4	*Curcuma longa*	6	4.54%	38.	*Curcuma zedoria*	1	0.75%
5	*Glycyrrhiza glabra*	6	4.54%	39.	*Brassica campestris*	1	0.75%
6	*Triticum sativum*	6	4.54%	40.	*Randia spinosa*	1	0.75%
7	*Olea europea*	6	4.54%	41.	*Acacia catechu*	1	0.75%
8	*Ocimum sanctum*	5	3.78%	42.	*Symplocos race mosa*	1	0.75%
9	*Santalum album*	5	3.78%	43.	*Spindus trifoliatus*	1	0.75%
10	*Rubia cordifolia*	4	3.03%	44.	*Acorus calamus*	1	0.75%
11	*Berberis aristata*	3	2.27%	45.	*Rosa centifolia*	1	0.75%
12	*Cucumis sativus*	3	2.27%	46.	*Hedychium spicatium*	1	0.75%
13	*Hemidesmus*	3	2.27%	47.	*Nigella sativa*	1	0.75%

14	*Crocus sativus*	2	1.51%	48.	*Citrus reticulata*	1	0.75%
15	*Pyrus malus*	2	1.51%	49.	*Aquilariaa agallocha roxb*	1	0.75%
16	*Cocus nucifera*	2	1.51%	50.	*Simmondsia chinensis*	1	0.75%
17	*Pterocarpus santalinus*	2	1.51%	51.	*Buchnania latifolia*	1	0.75%
18	*Camelia sinensis*	2	1.51%	52.	*Musa sapientum*	1	0.75%
19	*Myristica fragrans*	2	1.51%	53.	*Rheum emodi*	1	0.75%
20.	*Tankan bhasma*	1	0.75%	54.	*Purified gold along with fruit extract*	1	0.75%
21.	*Kumkumadi tail*	1	0.75%	55.	*Honey*	1	0.75%
22.	*Allium cepa*	1	0.75%	56.	*Butyrospermum parki*	1	0.75%
23.	*Neer brahmi panchang*	1	0.75%	57.	*Glycine max*	1	0.75%
24.	*Callendula*	1	0.75%	58.	*Theobroma cocoa*	1	0.75%
25.	*Bombax ceiba[shalmali extract]*	1	0.75%	59.	*Matricaria chamomilla*	1	0.75%
26.	*Arnica*	1	0.75%	60.	*Citrus sinensis*	1	0.75%
27.	*Trigonella foenum*	1	0.75%	61.	*Brassica oleracea*	1	0.75%
28.	*Sudha gandhak*	1	0.75%	62.	*Pheonix sylvestris*	1	0.75%
29.	*Rosa[oil]*	1	0.75%	63.	*Dolichos soja*	1	0.75%
30.	*Carica papaya*	1	0.75%	64.	*Yashad bhasma*	1	0.75%
31.	*Phyllanthus emblica*	1	0.75%	65.	*Goat milk*	1	0.75%
32.	*Juglans regia*	1	0.75%	66.	*Prunus armeniaca*	1	0.75%

33.	*Holarrhena antidysentrica*	1	0.75%	67.	*Simmondsia chinensis*	1	0.75%
34.	*Vedveria zizanioides*	1	0.75%	68.	*Brassica juncea*	1	0.75%

In Herbal Shampoos category, among 15 formulations, 20 differnt types of herbs were used. Among them, *Phyllanthus emblica* and Azadirachta *indica* were used in 6 marketed formulations and identified as most prevalently used Herbs. The compositional analysis of marketed herbal shampoos formulations was shown in Table 2.

Table 2. Composition analysis of the Marketed Herbal Shampoos

S.no	Scientific name of Herb	Scoring	Percentage of use among formulations
1.	*Phyllanthus emblica*	6	30%
2.	*Azadirachta indica*	6	30%
3.	*Acacia concinna*	5	25%
4.	*Lawsonia inermis*	3	15%
5.	*Sapindus mukorassi*	3	15%
6.	*Eclipa alba*	3	15%
7.	*Aloe barbadensis*	2	10%
8.	*Prunus amygdalus*	2	10%
9.	*Terminella chebula*	2	10%
10.	*Lemon oil*	2	10%
11.	*Hibiscus rose sinesis*	1	5%
12.	*Saccharum offinarum*	1	5%
13.	*Juglans regia*	1	5%
14.	*Osmium sanctum*	1	5%
15.	*Eclipta prostrata*	1	5%
16.	*Trigonella foenum*	1	5%
17.	*Nardostachys jatamansi*	1	5%
18.	*Santum album*	1	5%
19.	*Charilla*	1	5%
20.	*Multani mitti*	1	5%

In Herbal Capsules category, 78 different types of herbs were used. Among them, *Withania somnifera* used in 5 marketed formulations and identified as most prevalently used Herb. The compositional analysis of marketed herbal capsule formulations was shown in Table 3.

Table 3. Composition analysis of the Marketed Herbal Capsules

S.no	Scientific name of Herb	Score	Percentage of use among formulations	S.no	Scientific name of Herb	Score	Percentage of use among formulations
1	*Withania somnifera*	5	6.4%	40	*Cacica papaya*	1	1.3%
2	*Tinospora cordifolia*	3	3.8%	41	*Trachyspermum ammi*	1	1.3%
3	*Terminalia chebula*	3	3.8%	42	*Cuminum cyminum*	1	1.3%
4	*Emblica officinalis*	3	3.8%	43	*Costus igneus*	1	1.3%
5	*Zingiber officinale*	3	3.8%	44	*Syzygium cumini*	1	1.3%
6	*Berberies aristate*	3	3.8%	45	*Whithania coagulans*	1	1.3%
7	*Azadirachta indica*	3	3.8%	46	*Senna ariculata*	1	1.3%
8	*Boswellia serrata*	2	2.6%	47	*Triphala extract*	1	1.3%
9	*Commiphora wightii*	2	2.6%	48	*Convolvulus pluricaulis*	1	1.3%
10	*Boerhavia diffusa*	2	2.6%	49	*Acrous calamus*	1	1.3%
11	*Asparagus racemosus*	2	2.6%	50	*Nardosta chys jatamansi*	1	1.3%
12	*Mucuna pruriens*	2	2.6%	51	*Justicia athatoda*	1	1.3%
13	*Hygrophila spinosa*	2	2.6%	52	*Aegle marmelos*	1	1.3%
14	*Myristica officinalis*	2	2.6%	53	*Mesua ferrea*	1	1.3%
15	*Asphaltum punjabinum*	2	2.6%	54	*Baliospermum montanum*	1	1.3%
16	*Terminalia bellirica*	2	2.6%	55	*Operculina turpethum*	1	1.3%
17	*Piper nigrum*	2	2.6%	56	*Sudh tankan bhasma*	1	1.3%
18	*Ferula assa foetida*	2	2.6%	57	*Hordeum vulgare*	1	1.3%
19	*Plum bago zeylanica*	2	2.6%	58	*Sajikshar*	1	1.3%
20	*Pterocarpus marsupium*	2	2.6%	59	*Crocus sativus*	1	1.3%
21	*Momordica charantia*	2	2.6%	60	*Amygdalus communis*	1	1.3%
22	*Trigonella foenum-graecum*	2	2.6%	61	*Cinnamomum zeylancium*	1	1.3%
23	*Gymnema sylvestre*	2	2.6%	62	*Curculigo orchioides*	1	1.3%
24	*Bacopa monnieri*	2	2.6%	63	*Smilax chinensis*	1	1.3%

25	*Tribulus terrestris*	2	2.6%	64	*Moringa pterygosperm*	1	1.3%
26	*Eclipta alba*	2	2.6%	65	*Purified shilagith*	1	1.3%
27	*Andrographis paniculate*	2	2.6%	66	*Picrorrhiza kurroa*	1	1.3%
28	*Terminalia arjuna*	2	2.6%	67	*Phyllanthus niruri*	1	1.3%
29	*Bruhat vat chintamani*	1	1.3%	68	*Glycyrrhiza glabra*	1	1.3%
30	*Ricinys communis*	1	1.3%	69	*Hedychium spictum*	1	1.3%
31	*Alpinia galanga*	1	1.3%	70	*Holarrhena pubescens*	1	1.3%
32	*Cassia angustifolia*	1	1.3%	71	*Hemidesmus indicus*	1	1.3%
33	*Citrullus colocynthis*	1	1.3%	72	*Psorale corylifolia*	1	1.3%
34	*Chlorophytum borivilianum*	1	1.3%	73	*Wrightia antidysenterica*	1	1.3%
35	*Pueraria tuberosa*	1	1.3%	74	*Rubia cordifolia*	1	1.3%
36	*Vigna mungo*	1	1.3%	75	*Pulchea lanceolata*	1	1.3%
37	*Anacyclus pyrethrum*	1	1.3%	76	*Curcuma longa*	1	1.3%
38	*Piper longum*	1	1.3%	77	*Allium sativum*	1	1.3%
39	*Piper retro fractum*	1	1.3%	78	*Inula recemosa*	1	1.3%

In Herbal Syrups category, 64 different types of herbs were used. Among them, *Ocimum sanctum* used in 5 marketed formulations and identified as most prevalently used herb. The compositional analysis of marketed herbal syrup formulations was shown in Table 4.

Table-4 Composition analysis of the Marketed Herbal Syrups

S.no	Scientific name of Herb	Score	Percentage of use among formulations	S.no	Scientific name of Herb	Score	Percentage of use among formulations
1.	*Ocimum sanctum*	5	7.0%	33.	*Punica granutum*	1	1.4%
2.	*Hedge Mustard*	3	4.2%	34.	*Orcheulic myrobalan*	1	1.4%
3.	*Piper lomugum*	3	4.2%	35.	*Linumvsittissimum*	1	1.4%
4.	*Foemidium vulgate*	3	4.2%	36.	*Babool*	1	1.4%
5.	*Embilca officinalis*	2	2.8%	37.	*Munaka*	1	1.4%
6.	*Banaksha*	2	2.8%	38.	*Pistacia integrrima*	1	1.4%
7.	*Ficus cavica*	2	2.8%	39.	*Myrica nagi*	1	1.4%
8.	*Solanum virgianum*	2	2.8%	40.	*Kartki*	1	1.4%
9.	*Ephedra*	2	2.8%	41.	*Chitrak*	1	1.4%
10.	*Justcia adhatoda*	2	2.8%	42.	*Jeeva*	1	1.4%
11.	*Tinospora cordifolia*	2	2.8%	43.	*Camphor*	1	1.4%
12.	*Foenidium vulgate*	3	4.2%	44.	*Triminala bellerica*	1	1.4%
13.	*Emblica ribs*	2	2.8%	45.	*Ecliptalloba*	1	1.4%
14.	*Cypensu cyrrium*	2	2.8%	46.	*Beriberies aristala*	1	1.4%
15.	*Cinnamon*	2	2.8%	47.	*Boerhaaviodia*	1	1.4%
16.	*Gingiber officinalis*	3	4.2%	48.	*Mauyashi*	1	1.4%
17.	*Mentha spicate*	2	2.8%	49.	*Picrorrhiza*	1	1.4%
18.	*Caryophyllus romaticus*	2	2.8%	50.	*Cpiper longum*	1	1.4%
19.	*Trachysperum ammi*	2	2.8%	51.	*Caricapaperya*	1	1.4%
20.	*Mugwort*	1	1.4%	52.	*Cuminum cyminum*	1	1.4%
21.	*Coriander sativum*	1	1.4%	53.	*Hedychium spicatum*	1	1.4%
22.	*Peruvian bark*	1	1.4%	54.	*Adhatoda vasica*	1	1.4%
23	*Crape jasmine*	1	1.4%	55.	*Glyeryrrhiza glabra*	1	1.4%
24.	*Withana somnifera*	1	1.4%	56.	*Onosma bracteatum*	1	1.4%
25.	*Swertia chrata*	1	1.4%	57.	*Iris germainca*	1	1.4%
26.	*Termiinalia bellirica*	2	2.8%	58.	*Solanum surattense*	1	1.4%
27.	*Tincopora corolfolica*	2	2.8%	59.	*Cinnamomum camphor*	1	1.4%
28.	*Latakaranj*	1	1.4%	60.	*Piper nigrum*	1	1.4%
29.	*Vach*	1	1.4%	61.	*Ceylon cinnamon*	1	1.4%

30.	*Saraca indica*	1	1.4%	62.	*Kantakrica*	1	1.4%
31.	*Sidrhombia folica*	1	1.4%	63.	*Myristica fragans*	1	1.4%
32.	*Symplocos raemose*	1	1.4%	64.	*Mentha pipermintha*	1	1.4%

In Herbal Tablets category, 74 different types of herbs were used. Among them, *Zingiber officinale* used in 5 marketed formulations and identified as most prevalently used herb. The compositional analysis of marketed herbal tablet formulations was shown in Table 5.

Table 5. Composition analysis of the Marketed Herbal Tablets

S.No	Scientific Name of herb	Score	Percentage of use among formulations	S.No	Scientific Name of herb	Score	Percentage of use among formulation
1.	*Zingiber officinale*	6	8%	38.	*Holarrhema antidysenterica*	1	1.4%
2.	*Withania somniferous*	5	6.7%	39.	*Rosa centifolia*	1	1.4%
3.	*Cuminum cymynum*	3	4%	40.	*Flattaria cardamomum*	1	1.4%
4.	*Phyllanthus emblica*	3	4%	41.	*Hedychium spicatum*	1	1.4%
5.	*Syzygium aromaticum*	3	4%	42.	*Foeniculum vulgare*	1	1.4%
6.	*Guggul shuddh*	3	4%	43.	*Inula racemosa*	1	1.4%
7.	*Trachyspermum ammi*	2	2.7%	44.	*Lavendula stoechaslfl*	1	1.4%
8.	*Bacopa monnieri*	2	2.7%	45.	*Rauwolfia serpentina*	1	1.4%
9.	*Piper longum*	2	2.7%	46.	*Gum acacia*	1	1.4%
10.	*Chlorophytum borivilianum*	2	2.7%	47.	*Plumbago zeylanica*	1	1.4%
11.	*Oscimum sanctum*	2	2.7%	48.	*Cissus quadrangularis*	1	1.4%
12.	*Myristica fragrans*	2	2.7%	49.	*Terminalia arjuna*	1	1.4%
13.	*Asphaltum punjabianum*	2	2.7%	50.	*Vitex negun do*	1	1.4%
14.	*Convolulus pluricaulis*	2	2.7%	51.	*Boswellia serrata*	1	1.4%
15.	*Terminalia chebula*	2	2.7%	52.	*Sida cordifolia*	1	1.4%
16.	*Aegle marmeios*	2	2.7%	53.	*Suvarna bhasma*	1	1.4%
17.	*Piper nigrum*	2	2.7%	54.	*Ras sindoor*	1	1.4%
18.	*Cinnamomum zeylanicum*	2	2.7%	55.	*Mukta shuktibhasma*	1	1.4%
19.	*Commiphora Mukul*	2	2.7%	56.	*Mahvatvidhwansan ras*	1	1.4%
20.	*Glycyrrhiza glabra*	2	2.7%	57.	*Godanti bhasma*	1	1.4%

21.	*Argemone mexicana*	1	1.4%	58.	*Amvatari ras*	1	1.4%
22.	*Silybum marianum*	1	1.4%	59.	*Sajjikshar powder*	1	1.4%
23.	*Thymus vulgaris*	1	1.4%	60.	*Pippalimool powder*	1	1.4%
24.	*Autumn crocus*	1	1.4%	61.	*Dashmool powder*	1	1.4%
25.	*Indigofera tinctoria*	1	1.4%	62.	*Ashwagandha extract*	1	1.4%
26.	*Petrocapus santalinus*	1	1.4%	63.	*Brahmi extract*	1	1.4%
27.	*Mucuna pruriens*	1	1.4%	64.	*Shakhpushi extract*	1	1.4%
28.	*Hygrophila spinosa*	1	1.4%	65.	*Khurasaniajwain powder*	1	1.4%
29.	*Strychnos nux-vomica*	1	1.4%	66.	*Yashtimadhu powder*	1	1.4%
30.	*Cinnamomum camphora*	1	1.4%	67.	*Triphala churna*	1	1.4%
31.	*Tinospora cordifolia*	1	1.4%	68.	*Trikatu churna*	1	1.4%
32.	*Curcuma lounga*	1	1.4%	69.	*Trimad churna*	1	1.4%
33.	*Spirulina abbreviata*	1	1.4%	70.	*Vrikshamla*	1	1.4%
34.	*Tribulus terrestris*	1	1.4%	71.	*Guduchi extract*	1	1.4%
35.	*Aspergus recemosus*	1	1.4%	72.	*Vas extract*	1	1.4%
36.	*Hyoscyamus niger*	1	1.4%	73.	*Triphala extract*	1	1.4%
37.	*Adhatoda vasica*	1	1.4%	74.	*Sunthee extract*	1	1.4%

In Herbal Lotions category, 10 different types of herbs were commonly used. Among them, *Aloe vera and Cucumis sativus* used in 2 marketed formulations and identified as most prevalently used herbs. The compositional analysis of marketed herbal tablet formulations was shown in Table 6.

Table 6. Composition analysis of the Marketed Herbal Lotions

S.No	Scientific Name of Herb	Score	Percentage of the use among formulations
1.	*Aloe vera*	2	20%
2.	*Cucumis sativus*	2	20%
3.	*Rosa centifolia*	2	20%
4.	*Cocos nucifera*	1	10 %
5.	*Theobroma cocoa*	1	10%
6.	*Prunus amygdalus*	1	10%
7.	*Azadirachta indica*	1	10%
8.	*Ocimum*	1	10%
9.	*Curcuma longa*	1	10%
10.	*Santalum album*	1	10%

In Herbal ointments category, 15 different types of herbs were commonly used. Among them, *Mentha piperita used in* 2 marketed formulations and identified as most prevalently used herbs. The compositional analysis of marketed herbal ointments formulations was shown in Table 7.

Table 7. Composition analysis of the Marketed Herbal Ointments

S.No	Name of herb	Score	Percentage of the use among formulations
1.	*Aloe vera*	1	3.57%
2.	*Eucalyptus gobules*	1	3.57%
3.	*Mentha piperita*	2	7.14%
4.	*Amla*	1	3.57%
5.	*Nimbu*	1	3.57%
6.	*Guggul*	1	3.57%
7.	*Bala*	1	3.57%

8.	*Shudh gandhak*	1	3.57%
9.	*Shudh tankan*	1	3.57%
10.	*Vateria indica*	1	3.57%
11.	*Sphaticaka bhasma*	1	3.57%
12.	*Kasisadi oil*	1	3.57%
13.	*Yashad bhasma*	1	3.57%
14.	*Tarpin ka tel*	1	3.57%
15.	*Nilgiri tel*	1	3.57%

4. Conclusion

Knowledge of medicinal plants among the population is deeply rooted in cultural practices and traditional beliefs. The herbal cosmetic industry is expanding rapidly due to the perception that herbal preparations produce fewer side effects compared to synthetic products. The present study reviewed the composition of 100 different herbal formulations used for several conditions. In herbal creams, *Aloe barbadensis* is the most commonly used herb. In the preparation of herbal shampoos, *Phyllanthus emblica* is most prevalently used. Whereas, in preparation of herbal capsules, *Withania somnifera*is used more frequently. *Zingiber officinale* is predominantly in the preparation of Herbal tablets. *Aloe vera* is the most profoundly used herb in the preparation of Herbal Lotions and Ointments. This meta-analysis yields informative data that can assist researchers in developing herbal products through informed selection of appropriate herbs for individual formulations.

References

[1] Fabricant DS, Farnsworth NR. The value of plants used in traditional medicine for drug discovery. *Environ Health Perspect*. 2001;109(Suppl 1):69–75.

[2] Calixto JB. Twenty-five years of research on medicinal plants in Latin America: a personal view. *J Ethnopharmacol*. 2005;100(1–2):131–134.

[3] Rates SMK. Plants as source of drugs. *Toxicon*. 2001;39(5):603–613.

[4] World Health Organization. *Quality control methods for herbal materials*. Geneva: WHO; 2011.

[5] Ekor M. The growing use of herbal medicines: issues relating to adverse reactions and challenges in monitoring safety. *Front Pharmacol*. 2014;4:177.

[6] Mukherjee PK. *Quality control and evaluation of herbal drugs*. New Delhi: Elsevier; 2019.

[7] Pandey MM, Rastogi S, Rawat AKS. Indian traditional ayurvedic system of medicine and nutritional supplementation. *Evid Based Complement Alternat Med*. 2013;2013:376327.

[8] Sharma A, Shanker C, Tyagi LK, Singh M, Rao CV. Herbal medicine for market potential in India: an overview. *Acad J Plant Sci*. 2008;1(2):26–36.

[9] Dureja H, Kaushik D, Gupta M, Kumar V, Lather V. Cosmeceuticals: an emerging concept. *Indian J Pharmacol*. 2005;37(3):155–159.

[10] Mukherjee PK, Maity N, Nema NK, Sarkar BK. Bioactive compounds from natural resources against skin aging. *Phytomedicine*. 2011;19(1):64–73.

[11] Lachman L, Lieberman HA, Kanig JL. *The theory and practice of industrial pharmacy*. 3rd ed. Mumbai: Varghese Publishing House; 2009.

[12] Sharma PP. *Cosmetics: formulation, manufacturing and quality control*. 5th ed. New Delhi: Vandana Publications; 2017.

[13] Dureja H, Kaushik D, Gupta M, Kumar V, Lather V. Cosmeceuticals: an emerging concept. *Indian J Pharmacol*. 2005;37(3):155–159.

[14] Kapoor VP. Herbal cosmetics for skin and hair care. *Nat Prod Radiance*. 2005;4(4):306–314.

[15] Barel AO, Paye M, Maibach HI, editors. *Handbook of cosmetic science and technology*. 4th ed. Boca Raton: CRC Press; 2014.

[16] Aulton ME, Taylor KMG. *Aulton's pharmaceutics: the design and manufacture of medicines*. 5th ed. London: Elsevier; 2018.

[17] Cole ET, Scott RA, Connor AL, Wilding IR, Petereit HU, Schminke C, et al. Enteric coated HPMC capsules. *Int J Pharm*. 2002;231(1):83–95.

[18] Ku MS, Lu Q, Zhang L, Wen H. Pharmaceutical solid dispersion technology: capsule applications. *Drug Dev Ind Pharm*. 2008;34(10):1093–1103.

[19] Allen LV. *Pharmaceutical calculations*. 14th ed. Philadelphia: Wolters Kluwer; 2016. Syrup preparation and composition.

[20] Kokate CK, Purohit AP, Gokhale SB. *Pharmacognosy*. 56th ed. Pune: Nirali Prakashan; 2020.

[21] Ansel HC, Allen LV, Popovich NG. *Pharmaceutical dosage forms and drug delivery systems*. 9th ed. Philadelphia: Lippincott Williams & Wilkins; 2011.

[22] Pandey A, Tripathi P. Formulation and evaluation of herbal ointment. *J Pharmacogn Phytochem*. 2019;8(2):2320–2323.

[23] Shah R, Sharma S, Pathak K. Development and evaluation of herbal ointment. *Int J Res Pharm Sci*. 2010;1(1):86–90.

[24] Trivedi MK, Branton A, Trivedi D, Nayak G. Physicochemical characterization of herbal skin care formulation. *J Cosmet Dermatol Sci Appl*. 2015;5:1–9.

[25] Mishra AP, Saklani S, Milella L, Tiwari P. Formulation and evaluation of polyherbal lotion. *J Pharm Sci Res*. 2018;10(5):1254–1258.