

DESIGN, DEVELOPMENT AND EVALUATION OF POLYHERBAL FACE PACK FOR COSMETIC PURPOSE

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ABSTRACT

Objective: The main objective of the work is to formulate and evaluate a face mask for cosmetic purposes. **Materials and method:** Sandalwood, Turmeric, Aloe vera extract, Neem, Amla, Tulsi and fullers earth were purchased at the local market and dried, pulverized and then passed through sieve no. 100, mixed geometrically and packaged in an airtight container for further evaluation. **Results and Discussion:** the distinctive microscopic characters of the individual powders were observed and quantitative measurements were taken. The particle size of the powder was found between 20 and 30 µm. **Conclusion:** Herbal compresses or masks are used to stimulate blood circulation, rejuvenate the skin and help maintain skin elasticity and remove dirt from skin pores. The advantage of herbal cosmetics is their non-toxic nature, reduces allergic reactions and the usefulness of many proven ingredients over time. Therefore, in the present work, we have found good properties for masks and more optimization studies are needed in this study to find the useful benefits of masks in human use as a cosmetic product.

KEYWORDS: Face Pack, Mask, Polyherbal, Turmeric, Aloe, Evaluation, Cosmetic.

INTRODUCTION

The concept of beauty and cosmetics goes back to ancient humanity and civilization. In general, herbal cosmetics are also called natural cosmetics. Herbal cosmetics are formulated, using different cosmetic ingredients to form the base where one or more herbal ingredients are used to treat various skin ailments. The plants are widely used for the development of new pharmaceutical products for cosmeceutical and pharmaceutical applications. Herbal cosmetics are products in which herbs are used in raw or extract form.^[1] Herbal cosmetics, here called products, are formulated, using various cosmetic ingredients allowed to form the base where one or more herbal ingredients are used only to provide defined cosmetic benefits, they should be called "herbal cosmetics". herbs ".^[2] Since 1990, the cosmetic manufacturer has redesigned a term "cosmeceutical" to describe OTC skin care products that claim therapeutic benefits by adding active ingredients of plant origin such as alpha-hydroxy acid, acid retinoic acid, ascorbic acid and coenzyme.^[3] These active ingredients have many purposes: increased skin elasticity, delayed skin aging by reducing wrinkles, UV protection with antioxidant properties and control of collagen degradation respectively.^[4] The mask is the soft powder used for facial application. These preparations are applied to the face in the form of liquids or pastes

and left to dry and form a film that gives the skin a firming, strengthening and purifying effect.^[5] They are usually left on the skin for ten or twenty-five minutes to allow the evaporation of all the water, the resulting film contracts, hardens and can be easily removed. The heat and tensor effect produced by the application of the facial mask produces the stimulating sensation of a rejuvenated face, while the colloidal and adsorption clays used in these preparations remove dirt and oil from the skin of the face. When the applied mask is finally removed, the debris of the skin and the deposited dirt are removed with it. Facial packages are basically additives that offer some additional benefits. Herbal face packs help reduce wrinkles, pimples, acne and dark circles. It also increases the fairness and softness of the skin. It also helps someone increase their trust. Ayurveda is the most useful and successful means of achieving this.^[6] Different skin types require different types of herbal masks. The face packs used in Ayurveda help reduce wrinkles, pimples, acne and dark circles. They also increase the fairness and softness of the skin.^[7] Natural face packs contain some vital vitamins necessary for the health and shine of our skin. These substances also prove useful for our skin in many ways. Natural facial packs are less complicated and fairly easy to use. They help us take care of the skin and demonstrate their value by increasing blood circulation in the veins of the face. The

effects of face packs are generally temporary and for regular shine they must be used 2-3 times a week.^[8]

Ideal Qualities and characteristics of Face mask^[9,10,11]

- It must be a smooth paste or gel without flocculation or granulated particles.
- Must not have an "earthy" or questionable smell.
- It should form a tight layer that can be easily removed with a gentle wash.
- It should produce a definite sensation of tension or therapeutic tingling or warming.
- It should produce a noticeable change in the sensation of the skin.
- It should produce a significant and remarkable cleaning of the skin.
- Must be non-toxic, dermatologically harmless and properly preserved.

MATERIAL AND METHOD

Plant material used for the formulation of face pack

Amla: Amla or Embilica Officinalis are sought after by the cosmetic industry for the high content of vitamin C, which is an excellent skin care product. The herb also produces oil, which is an excellent remedy for various hair and scalp problems.^[12]

Aloe vera: Aloe vera has been an important herb sought after by the cosmetic industry, as it is an excellent moisturizer; Softens the skin and gives it a youthful appearance and glowing. The herb also has a great healing property which can be used to treat rashes, cuts, bruises, sunburns and other skin problems.^[13]

Neem: Neem or Azadirachta indica is anti-inflammatory, antiseptic and highly beneficial oily skin prone to acne. An anti-acne effect is due to the antimicrobial, anti-inflammatory and antioxidant activities of different chemical components.^[14,15]

Sandalwood: The sandalwood or santalum wood album has anti-tanning and anti-aging properties. It also helps the skin in many ways, such as the toning effect, the emollient, antibacterial properties, the cooling of the astringent properties, the soothing and healing properties.^[16]

Turmeric: The rhizomes of turmeric longa are evaluated as a topical antioxidant and anti-inflammatory agent, with a superior efficacy of the elimination of free radicals and the inhibition of lipid peroxidation compared to vitamin E. It has been reported to be an effective skin lightening agent with multifunctional topical benefits, without irritating and sensitizing side effects.^[17]

Tulsi: Ocimum sanctum (holy basil), called Tulsi in India, is ubiquitous in Hindu tradition. It purifies the blood from toxins and prevents appearance of acne and pimples.^[18,19]

Fullers earth: The calcium bentonite known as Multani mitti remove all impurities and dead skin cells. It helps to make skin radiant and excellent for irritated and irritated skin. It's refreshing action relieves the skin, relieves inflammation caused by aggravated pitta. Eliminates accumulated dirt and dead skin cells and replaces them with fresh, shiny and radiant skin.^[20]

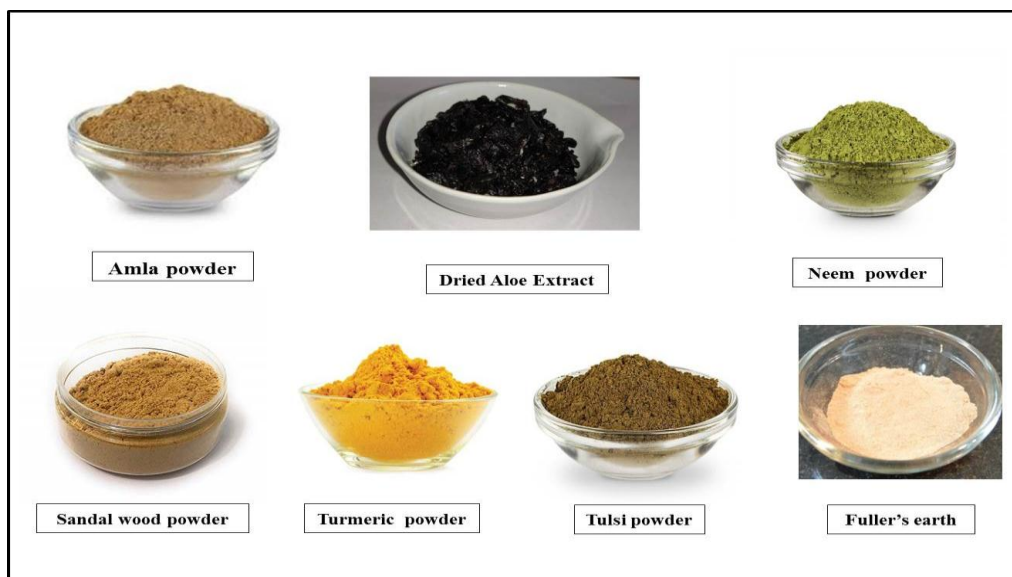


Figure 1: Plant material used for the formulation.

Preparation Method

Five different formulations with different ones were prepared concentrations of all ingredients named F1 to F5. The concentration of each ingredient was mentioned

in Table 1. The precise amount of ingredients was weighed and ground powder with sieve n. 100. So all the ingredients were geometrically mixed with the uniform serial dilution method mixture Then, the prepared mask

was packaged in a sealable polythene bag, labeled and used for further studies.^[21]

Table 1: Formulation of Face pack.

Sr. No.	Name of Ingredients	Quantity (50g)				
		F1	F2	F3	F4	F5
1.	Sandalwood	5	5	5	5	5
2.	Turmeric	15	15	5	8	8
3.	Aloe vera extract	5	3	7	4	5
4.	Neem	5	7	8	3	5
5.	Amla	5	5	8	3	3
6.	Tulsi	5	5	7	7	4
7.	Fullers earth	15	10	15	20	20

Evaluation of Face Pack

Morphological evaluation: Refers to the evaluation of the herbal mask by color, smell, appearance, consistency, etc.

Physico-chemical evaluation: The physico-chemical parameters were determined, including the determination of the extraction value, the ash value, the pH and the moisture content.

Physical evaluation: The particle size was tested with the microscope method. The flow property of the dry powder in combination was assessed by performing the resting angle with the funnel method, the apparent density and the bypass density with the derivation method.

Irritability test: Mark an area (1sq.cm) on the left dorsal surface. Defined quantities of prepared masks were applied in the specified area and time was noted. Irritability, erythematous, edema has been checked for regular intervals of up to 24 hours and has been reported.

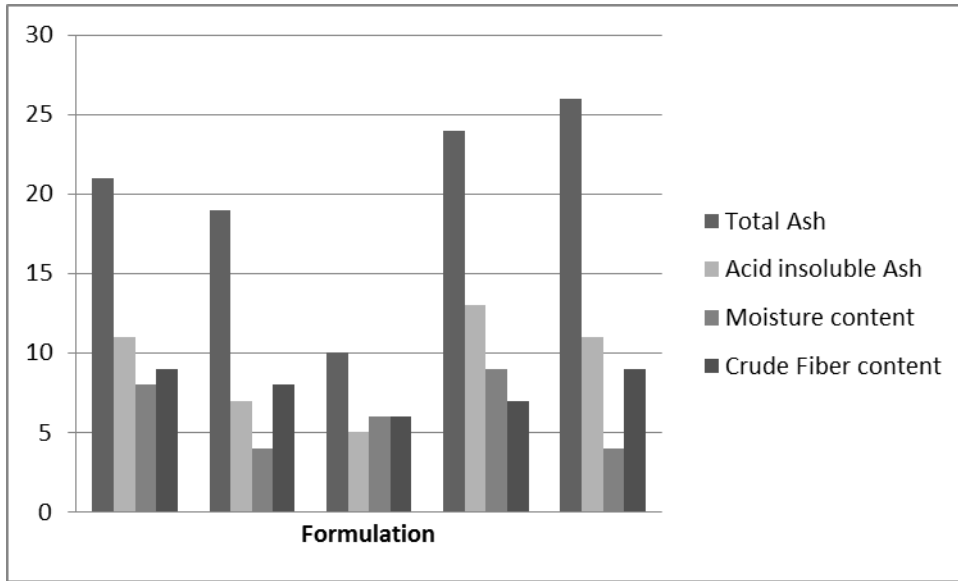
Stability studies: The stability test of the prepared formulation was performed by storing at different temperatures for one month. The formulated packaged glass ampoules were stored at different temperature, ambient temperature and 40 ° C conditions and evaluated for physical parameters such as color, odor, pH, consistency and sensation.^[22,23,24,25]

Table 2: Morphological evaluation.

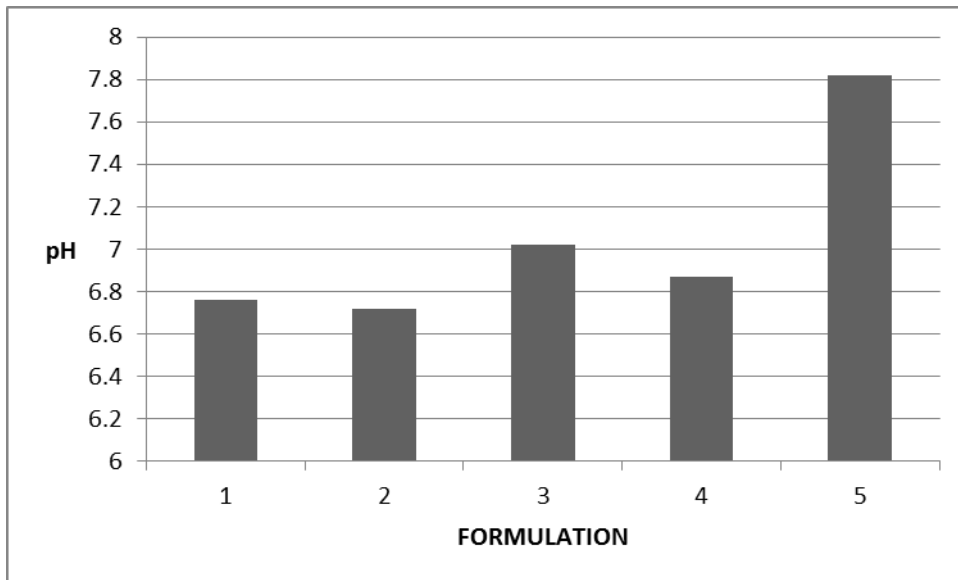
Sr. No.	Parameters	Observation				
		F1	F2	F3	F4	F5
1.	Color	Yellowish brown	Faint Brown	Yellowish brown	Faint Brown	Faint brown
2.	Odor	Pleasant	Pleasant	Pleasant	Pleasant	Pleasant
3.	Texture	Fine	Fine	Fine	Fine	Fine
4.	Smoothness	Smooth	Smooth	Smooth	Smooth	Smooth
5.	Grittiness	No gritty	No gritty	No gritty	No gritty	No gritty
6.	Appearance	Powder	Powder	Powder	Powder	Powder

Table 3: Physicochemical evaluation.

Sr. No.	Parameters	Observation				
		F1	F2	F3	F4	F5
1.	Total Ash	21% w/w	19% w/w	10% w/w	24% w/w	26% w/w
2.	Acid insoluble Ash	11% w/w	7% w/w	5% w/w	13% w/w	11% w/w
3.	Moisture content	8% w/w	4% w/w	6% w/w	9% w/w	4% w/w
4.	pH	6.76±0.11	6.72±0.10	7.08±0.12	6.87±0.21	7.52±0.18
5.	Crude fiber content	9.11 % w/w	8.28 % w/w	6.02 % w/w	7.59 % w/w	9.48 % w/w



Graph 1: Physicochemical evaluation comparison of Formulation F1 to F5.



Graph 2: pH comparison of Formulation F1 to F5.

Table 4: Powder characteristic evaluation.

Sr. No.	Parameters	Observation				
		F1	F2	F3	F4	F5
1.	Particle Size (µm)	25.33±5.21	26.04±3.01	23.91±6.78	26.24±5.81	25.62±8.25
2.	Bulk density	0.432	0.421	0.438	0.466	0.419
3.	True density	0.596	0.523	0.504	0.639	0.641
4.	Carr's index	27.51	19.50	13.09	37.12	34.63
5.	Angle of repose	20°	21°	16°	20°	19°

Table 5: Irritancy Test.

Sr. No.	Parameters	Observation				
		F1	F2	F3	F4	F5
1.	Irritation	+	+	-	+	+
2.	Erythema	-	-	-	-	-
3.	Edema	-	-	-	-	-

[+ = Present - = Absent]

Table 6: Stability studies of Formulation F3.

Sr. No.	Parameters	Observation		
		Room temperature	35 °C	40 °C
1.	Color	No change	No change	Slight change
2.	Odor	No change	No change	No change
3.	Appearance	Smooth	Smooth	Smooth
4.	pH	7.08±0.12	7.68±0.11	7.71±0.14

RESULT

The different formulation of face pack was prepared and evaluated for physical parameters. The flow property parameter showed free flowing properties. The colors of formulations were different due to variation in composition of contents. Formulation F2, F4 and F5 were slightly faint brown in color and formulation F1 & F3 showed as Yellowish brown. The odor of prepared formulations was good acceptable which is desirable as cosmetic formulations. The particle size of formulations was in the range of 20 to 30 µm. The pH of all formulations lied near to neutral range i.e. in the range of 6 to 7 pH shown in graph 2 The ash content and moisture content was within limit and compared as per graph 1. The formulations F1, F2, F4 and F5 showed mild irritation. The stability studies showed a slight change in pH of formulation which was stored at 40°C and no changes were observed at room temperature and at 35°C. The Formulation F3 was found to be a good in physical parameters, free from skin irritation and maintained its consistency even after stressed storage conditions.

CONCLUSION

In the current scenario, people need treatment for various skin problems without side effects. Herbal ingredients paved the way for cosmetic formulation without harmful effects. Herbal facial packages are considered a sustainable and productive way to improve the appearance of the skin. Therefore, in this document, it is an excellent attempt to formulate the herbal facial package that contains naturally available ingredients such as sandalwood, turmeric, aloe vera extract, Neem, Amla, Tulsi and more complete soil. It is suggested that the prepared Polyherbal face mask formulation was physically chemically stable and possessed the characteristics of a standard cosmeceutical formulation for skin care.

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