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Research Article

Formulation And Evaluation Of Herbal Lip Gloss By Using *Dacus Carota* And *Crocus Sativus*

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ABSTRACT

The main rationale of our study was to formulate herbal lip gloss only with herbal ingredients. Herbal lip gloss makes the lip glossy, nourishes the lips, and protects lips from the effects of harmful chemicals. By employing these data, we hope to prepare a distinctive Herbal Lip gloss. Herbal lip gloss are semisolid preparation that contain one or two medicaments usually in a base with refreshing fragrance and are intended to spread easily on the layer lips. The effectiveness of these product depends on the active ingredients. The lip gloss contain bees wax, coca butter, carrot oil, camelina oil, grapeseed oil, tomato seed oil, vitamin E oil, saffron, rose water. From which active ingredients are carrot oil, camelina oil and saffron. The antibacterial, anti-inflammatory, anti oxidant, property of active ingredient with smooth texture, good consistency, and can easily spread on lips. Carrot seed oil is a type of essential oil derived from the seeds of the *Daucus carota* plant. It is high in antioxidants, vitamins, and minerals, all of which have numerous skin and hair benefits. Carrot seed oil contains carotenoids, vitamin A, E, potassium, phosphorous minerals. Carrot oil has several benefits and is consider one of the most effective in healing processes, softening, rejuvenating and protective qualities of lips. Specifically, Camelina oil contains omega-3 acids, omega-6 acids, tocopherols, phytosterols, and phenolics. Camelina oil also nourish, soften, and protect your lips from dehydration and cracking. It is concluded that this essential oils has potential to developed a herbal lip gloss for lips hyperpigmentation treatment. The evaluation is done on the formulation. These studies suggest that composition of extract and base of herbal lip gloss of F2 and F3 are more stable and safer and it may produce effective action.

INTRODUCTION

Cosmetics are the effective products used broadly all over the world for sustaining and brushing

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general outlook of the face and other body parts, for example, hand, mouth, finger, hair, lip, and eye. Cosmetics are available in numerous formulations which include creams, face pack, lotions, powder, shampoos, conditioners, and hair oils for radiating, smooth and nourished skin and hair, positively count for an attractive woman and good looking man.

Why herbal cosmetics are beneficial?

Cosmetics products contain numerous chemical toxins, chemicals, toxic matter, chemical dyes, and their derived products, which can cause human health troubles and side effects directing to countless diseases. Therefore, the allopathic system is not sufficient for healthy benefits and there is a need to use herbal cosmetics. Nowadays, herbal cosmetics have emerged as the appropriate way out to the ongoing issues [1]. Hence, herbal cosmetics are preferred nowadays over the synthetic ingredients providing health benefits and nutritive value.

Herbal cosmetics:

It is also known as natural cosmetics, are the modern trend which encircles both health and beauty care [2]. Herbal cosmetics are now emerged as the appropriate solution to the current problem. Herbal cosmetics are the preparations, which represent cosmetics associated with active bio- ingredients, nutraceutical's or pharmaceuticals herbal cosmetics are the composition incorporating phytochemicals from various botanical sources, and having dual functions,

- a. they can be utilized as a cosmetic product for the skincare purpose, and
- b. the botanical components imparting biological activity to the skin and furnish nutrients beneficial for the nourished skin or hair [1].

Classification of Herbal Cosmetics [2, 3]

1. Skin cosmetics

- Cream

- Scrub
 - Lip balm
 - Lotion & Liniment
 - Face pack
 - Deodorant & antiperspirant
 - Powder
2. Hair cosmetics
 - Shampoo
 - Hair Oil
 3. Tooth cosmetics
 - Tooth powder
 - Tooth paste
 - Mouth wash
 4. Nail preparations
 5. Shaving preparations
 6. Foot preparations

Herbal cosmetic products claimed to have efficacy and intrinsic acceptability due to regular use in daily life and avoid adverse effects which are commonly seen in synthetic products made of chemicals and other toxic ingredients [3]. Herbal cosmetics are prepared by naturally available plant parts and plant extract; they may be as effective as synthetic products. E.g. aloe Vera gel and coconut oil, etc. [4].

Herbal Lip gloss:

Lip gloss is defined as “a cosmetic applied to the lips to provide a glossy finish and sometimes color”. It is distributed as a fluid or a soft solid substance that gives off a more pigmented color. Herbal lip-gloss is defined as lip-gloss made with herbal ingredients such as aloe Vera, tomato, chamomile etc. and fortified with antioxidant, vit. C, D, and E to hydrate lips. The product is available in range of opacity from translucent to solid and can have variously frosted, glittery, glossy, and metallic finishes. Herbal lip gloss is a cosmetic product containing pigments, oils, waxes, fragrances preservatives, colors, texture, and protection to the lips.

The most common types of lip glosses are:

- Sheer Lip gloss



- Pigmented Lip gloss
- Shimmer Lip gloss Matte Lip gloss
- Glitter Lip gloss
- Plumping Lip gloss [5]

Merits:

- When it comes that alluring, glossy finish lipsticks cannot compete with a gloss hence the name lip gloss.
- Application and Reapplication: In the case of lipstick we need a lip brush for long-lasting effect and is a time-consuming method and requires smudging after applying it. That isn't the case with lip gloss.
- As the lip gloss has a thicker texture than most other lip products, it can instantly make your lips look more full.
- Most lip products are identified for drying, but lip glosses winter are so moisturizing hence don't have to worry about chapped lips in the winter. [5].

Demerits:

- Lip gloss can't be used for lip art: The lip art looks with lipstick or other.
- Lip products can't be created with lip gloss.
- Sticky: This is one of the biggest demerits of lip gloss. Because it doesn't dry like other lip products, it's always sticky.
- Not As Many Vivid Colors: Lip gloss does not provide the same spectrum of colors that other lip products, like lip paint or lipstick make [5].

MATERIALS AND METHODS

Materials

Bees wax, cocoa butter, was obtained from collage laboratory. All other herbal ingredients include camelina oil, carrot oil, grape seed oil, vitamin E oil, tomato oil, saffron were ordered from online websites. The main active ingredients of our formulation are:

Methods CARROT OIL:

Carrot seed oil is the essential oil extract of the seed from the carrot plant *Daucus carota*. It belongs to family Apiaceae.

- Carrot seed essential oil has shown antibacterial, antifungal, anti-inflammatory, and antioxidant properties.
- It helps promote healthy, nourished lips and also protects the skin from UV damage and oxidative stress.
- Preserves the skin's natural moisture. Antioxidant-rich organic cleanser helps reduce the appearance of pigmentation and scarring.
- It also helps restore the lips natural glow. It is suitable for all skin types.
- Carrot Oil has softening, rejuvenating and protective qualities.
- Carrot oil in the lip balm gives your lips a slightly orange hue. [6]

CAMELINA OIL:

Commonly known as false flax, are native to Mediterranean regions of Europe and Asia.

It belongs to family Brassicaceae. The major compounds identified were β -sitosterol, campesterol, cholesterol, phytol, squalene and brassicasterol. Camelina oil can help calm skin inflammation and redness. [7]

- Chamomile essential oil can help calm skin inflammation and redness.
- Camelina oil facilitates healing of dry lips, particularly through collagen synthesis. [8]
- SAFFRON:
- Saffron is the dried stigma and styletops of *Crocus sativus*. It belongs to the family Iridaceae. The glycosides, crocin and picrocrocin together with lycopene, β -carotene, γ -carotene, zeaxanthin and a crystalline hydrocarbon. [9]
- It combats hyperpigmentation and results in smoother and glowing lips.
- It also provides UV protection.



- Its active compounds work against inflammation and protect the lips from UV radiation.
- It soothes dry, inflamed and chapped lips.
- 100% Natural Lip Butter.
- Provides deep nourishment.
- Leaves lips feeling plump and supple.
- Gives a natural glossy look. [10]

METHODS :

The herbal lip gloss was prepared using following steps :

- Preparation of lip gloss base
- Preparations of plumping lip gloss formulation

Step 1 : Preparations of lip gloss base :

- Take 1 gm of bees wax and 2 gm of cocoa butter in a clean glass beaker.
- To which 3ml of camelina oil and 3 ml of carrot oil add in it and melted at 70°C in a water bath.

Stir it continuously and mixed well until no fine particles are to be seen.

Step 2: Preparation of plumping lip gloss formulation:-

- After heating lip gloss base remove it from heat and allow to cool.
- Then add 3 ml of tomato seed oil and 3 ml of grapeseed essential oil to weight amount of base and mixed them continuously using stirrer.
- Mix it well until they are completely incorporated with the base
- Presence of tomato seed oil, grapeseed oil gives lip lightening, lip plumping, lips hydrating and nourishing effects respectively.
- Add 2 ml of vitamin E oil and stir it well.
- Finally add the saffron as dye and natural preservative, stir vigorously to form lip gloss. Transfer the prepared lip gloss into the lip gloss container.

Table no 1. Preparation of Formulation F1, F2, F3.

Sr No.	Ingredients	F1	F2	F3
1	Bees wax	1g	1g	1g
2	Cocoa butter	2g	2g	2g
3	Camelina oil	3ml	2ml	1.5ml
4	Carrot oil	3ml	3ml	3.5ml
5	Tomato seed oil	3ml	3ml	3ml
6	Grape seed oil	3ml	3ml	3ml
7	Vitamin E oil	2ml	2ml	2ml
8	Saffron	1g	1g	1g
9	Rose petals juice	2ml	2ml	2ml



Fig No1.Preparation Of Formulation

EVALUATION OF PLUMPING MEDICATED LIP GLOSS

Physical evaluation

- Color
- Odor
- State
- Consistency
- Homogeneity

Melting Point Determination Test:-

The determination of melting point is done in order to determine the storage properties of the product. Ideal melting point of lip gloss should be 60°C. The melting point of formulated lip gloss is determined by capillary tube method, capillary was filled and kept in capillary apparatus and firstly observed the product was slowly-slowly melted. After sometime product was completely melted. The above procedure was done in 3 times and melting point ratio was observed in all formulation.

Determination of pH:-

The pH of lip gloss was determined in order to investigate the possibility of any side effect. As an acidic or alkaline pH may cause irritation of lips, it was determined to keep the pH of lip gloss as close to neutral as possible i.e, 7.2. This would not cause any irritation to lips. The pH study was carried out by dissolving 1gm of sample into 100 ml water. The pH measurement was done using pH meter [11].

Spreadability test:-

The assessment of spreadability consisted of making use of the products.(at room temperature) time and again onto a glass slide to visually examine the uniformity in the formation of the layer. The 100mg product is applied repeatedly onto the glass slide (at room temperature) to visually observe the uniformity and kept for five minutes (31).

The following criteria were established for this test

G – Good, uniform, does not leave fragments and no deformation on application I – Intermediate, uniform leaves few fragments and little deformation. B –Bad, not uniform leaves many fragments, difficult application and intense deformation (32).

Light Exposure Testing:-

The product and packaging can be sensitive to UV radiation. All products should place in glass and the actual packaging in the window and if its available a light box that has a broad spectrum output. Place another glass jars completely covered with aluminum foil in the window to serve as a control. Allow to stand for a particular period of time. Observe whether there is discoloration on product or package. This discoloration is may due to the fragrance or some other sensitive ingredients [12].

Antibacterial activity:-

Prepare nutrient agar medium and sterilise by autoclave at 121°C for 15min. prepare the agar plates and label with the name of microorganisms inoculated using sterile technique, inoculate agar plates with their respective test microorganisms by swab streak method or spread plate method. Allow all culture plates to dry about 5min. using the semi-disc dispenser apply the antibiotic discs by placing the dispenser over the agar surface. If dispensers are not available, distribute the individual discs at equal distance with sterile forceps. Gently press each discs down with the wooden end of a cotton swap or sterile forceps to ensure that the discs adhere to the surface of the agar incubate all plates in an inverted position at 37°C for 24-48 hours.

Skin irritation:-

The tinted lip gloss formulation A and B were evaluated for skin irritation test by applying the product on the skin for about 15 mins.

Perfume Stability:-

These studies were conducted on the formulations for 15 days to record the fragrance.

Solubility test:



Solubility test of the prepared formulations were carried out in water, ethanol and acetone.

The result of evaluation parameter of lip gloss as follows:

RESULT AND DISCUSSION

Physical evaluation:-

Table no 2. Physical evaluation

Sr No	Tests	Formulation		
		F1	F2	F3
1	Colour	Orange	Orange	Orange
2	State	Semisolid	Semisolid	Semisolid
3	Oduor	Characteristic	Characteristic	Characteristic
4	Texture	Smooth	Smooth	Smooth
5	Homogeneity	Homogenous	Homogenous	Homogenous
6	Consistency	Good	Good	Good
7	Type of smear	Non-greasy	Non-greasy	Non-greasy

Solubility:-

Table no 3.Solubility test

Sr no	Solubility	Formulation A	Formulation B	Formulation C
1	Water	Sparingly soluble	Soluble	Soluble
2	Ethanol	Sparingly soluble	Soluble	Soluble
3	Acetone	Sparingly soluble	Soluble	Soluble

pH evaluation:-

Table no 4. pH evaluation

Formulation	pH
F1	6
F2	6.5
F3	6.9

Antibacterial activity

Table no 5.Bacterial zone of inhibition F1, F2, F3

Evaluation parameter	Marketed formulation		Herbal preparation	
	(Ampicillin)	F1	F2	F3
Zone of inhibition(mm)	For E.coli			
	12mm	8.5mm	8.9mm	10.2mm
	For S. aureus			
	14mm	9.2mm	9.5mm	10mm

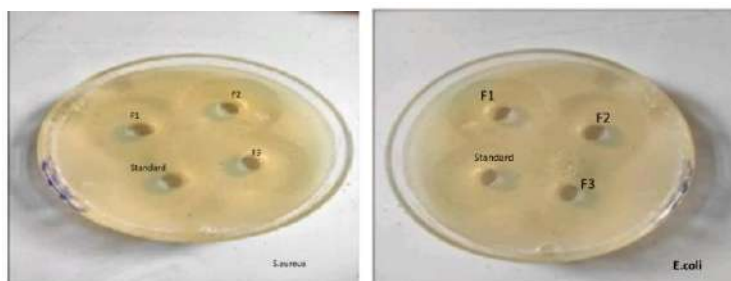


Fig No. 2 .Bacterial Zone Of Inhibition

Melting point determination:**Table no 6. Melting point determination**

Formulation	Melting point
F1	63°C
F2	62°C
F3	60°C

**Fig no.3. Melting point determination****DISCUSSION:-**

The herbal lip gloss formulation was prepared by keeping view to develop lip gloss using natural ingredients with hope to minimize hyperpigmentation. In the present work carrot oil and camelina oil were selected which give, antibacterial, antifungal, anti-inflammatory, and antioxidant properties. The formulation F2 and F3 showed the best result, maybe because of carrot oil contains carotol, vitamin A, vitamin E, β -carotene, and lesser amounts of α -carotene and camelina oil contain tocopherols, natural source of vitamin E, omega fatty acids are c-11-eicosenoic acid, linoleic acid, α -linolenic acid, and oleic acid. The evaluation parameters performed are meeting the standards of operation guarantees the healing of dry lips, remove dead cells to treat hyperpigmentation. Oils not only give lips a beautiful glossy shine, lip lightening effect but they also nourish, soften, and protect your lips from sun damage and cracking. This lip gloss also protects lips from chapping, dryness and beautify lip appearance. Up to date, numerous product has been available for the treatment of hyperpigmentation of lips but herbal lip gloss is a plant derived product with natural, effective and

safe for lips. Recently researchers have studied the anti-oxidant properties of herbal drug for the treatment of number of lips related problems. Another important issue that deserve, attention towards the safety of these herbal product as there were no reported adverse effect.

CONCLUSION :

Based on the finding of the present study, the relevance of carrot oil, camelina oil and saffron as natural, effective, and safe treatment for, hyperpigmentation of lips is clearly reported. The formulation of plumping lip gloss was prepared with glossy and smooth consistency. It gives fairly a glossy formulation which on application to lip was able to spread uniformly. Further, it gave reasonably good stability as far as the formulation and the colour tint is concerned. In this study, F2 and F3 lip gloss presented excellent stability that the F1 due to little bit alkaline pH. The pH of lip gloss kept as close to neutral as possible. From the study it can be concluded that prepared herbal lip gloss formulation F2 and F3 using carrot oil, camelina oil and saffron is suitable for the treatment of hyperpigmentation and dry lips.

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