



FORMULATION AND EVALUATION OF HERBAL LIPSTICKS

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ABSTRACT

The safety and reliability of natural products have triggered the need to produce herbal-based products. The use of herbal cosmetics has become increasingly popular among present-day women. Synthetic coloring agents being used in cosmetics have been found to produce carcinogenic effects. The objective of the present study involved the preparation and evaluation of herbal lipsticks using color matter from natural sources such as Castor oil, Olive oil, Beeswax, Petroleum Jelly, Pigment- Beet Root, Acacia, Lemon juice, Vanilla Essence, Perfume (Rose Oil) and Vitamin E Capsules was used to formulate herbal lipstick. Prepared herbal lipstick was evaluated for different evaluation tests such as color, texture, pH, melting point, breaking point, surface anomalies, aging, and perfume stability.

INTRODUCTION

Cosmetics are the formulations that are used to improve the appearance of the human beauty. Cosmetic substances include lipstick, skin care creams, lotions, perfumes, powders, hair colors, nail polish, gels, baby products and other so many products are in huge demand in developing and developed countries [1,2]. Herbal cosmetic products have increasing demand in the world market and they are precious gift from the nature. There is broad choice of herbal cosmetic products to convince our beauty regime [3]. Herbal lipsticks are produced from natural color from frequently available vegetables and plants. Commonly used colored pigments are beet root, rose, papaya, tomato, carrot, henna, alkanet root, indigo and it is easy to produce blends for our need. The commonly used ingredients for the preparation of lipstick are oil, emollients, waxes and pigments. Such ingredients mainly used for protection of lips, texture

and colour [4]. Herbal lipstick contains many natural nutrients are present which are safer to use and it is free from hazardous chemicals and it is safe to consume, therefore herbal lipstick prepared from the natural ingredients from beet root powder, rose water, bees wax. Herbal lipstick contains natural ingredients that are non-toxic as compare to the synthetic agents [5]. Beet root [6] is usually known in Canada and the USA as a beet and it is a taproot part of a beet plant. The vegetable is stated to as a beetroot in British English, it is also known as red beet, garden beet, table beet, golden beet or dinner beet. It is one of numerous cultured diversities of *Betavulgaris* sub, specious *vulgaris* Conditiva Group. *Beta vulgaris* (Beet root) is a plant from Chenopodiaceae family that is concluded in Amaranthaceae family [7]. Red purple color of beets due to the variety of betanin pigments and is commonly used industrially

as a red feed coloring and coloring agent in lipstick. The present work formulation and evaluation of herbal lipsticks was aimed to formulate a lipstick using herbal ingredients with a hope to minimize the side effects as produced by the available synthetic ones.

MATERIALS AND METHODS

MATERIALS: The ingredients that are used in the formulation of herbal lipstick by using Beetroot juice as natural coloring matter are procured from the college laboratory.

METHODS

Methods of preparation of lipsticks [8:

First, the waxes ingredients are melted and mixed separately. The first mixture is the solvent mixture; the second mixture contains the oils (Olive oil and Castor oil), and the third mixture contains the fats and waxy materials (Bees wax and Acacia). All mixtures are heated in separate stainless steel or ceramic containers. The solvent solution (Lemon juice and Perfume (Rose Oil)) liquid oils are then mixed with the color pigments (Beetroot Powder). After the pigment mass is prepared; it is mixed with hot wax, adds Vitamin E Capsules and Vanilla Essence. Air bubbles, if any are removed by agitation. Then it is poured into tubing moulds, cooled, and separated from the moulds. After the final touch-up and visual inspection, the lipstick is ready for packaging. All formulations are shown in Table 1.

Evaluation of lipsticks[9-13]

Organoleptic properties: The formulated lipstick was evaluated for organoleptic properties such as color, odor, and texture.

Melting point: The melting point determination is an important since it is an indication of the limit of safe storage. The melting point of formulating lipstick was determined by the capillary tube method the capillary was filled, kept in the capillary apparatus and firstly observed the product was slowly melted. Sometimes it was observed that the product was completely melted. The procedure was repeated 3 times and the melting point was determined in the formulations.

Breaking point: The breaking point is done to determine the strength of lipstick. The lipstick is kept horizontally in a socket of half inch away from the edge of support. The

weight gradually increased by a specific value (1 Gm) at a specific interval of 30 seconds and the weight at which breaks are considered as the breaking point.

Force of application: Force of application is used for the measurement of the force to be applied for application. A piece of coarse brown paper can be kept on a shadowgraph balance and lipstick can be applied at 45° angle to cover a 1 sq. inch area until fully covered.

pH: The pH of formulated herbal lipstick was determined using pH meter. Accurately weighs a specific amount of the herbal lipstick. Dissolve the weighed lipstick sample in a specific volume of distilled water. Before use, digital pH meter was calibrated using standard buffer solutions to ensure accuracy. Insert the calibrated pH meter's probe into the lipstick-water solution. Record the pH value displayed by the meter after the reading stabilizes.

Solubility test: The formulation of herbal lipstick was dissolved in various solvents like acetone, hexane, petroleum ether, water, alcohol, chloroform (CHCl₃), etc. and the solubility was observed.

Skin irritation test: This is performed by applying the product to the skin and observing for whole day any signs of irritation.

Perfume stability: The formulation of herbal lipstick was tested after 30 days, to record the fragrance.

Aging stability: The product was stored at 40°C for 1 hr. various parameters such as bleeding, crystallization of on the surface, and ease of application were observed.

Out of various prepared formulation and it was found that the herbal lipstick, F4 formulation containing was best among the eight formulations in terms of color and smoothness. The formulations containing carnauba wax i.e.; F1 to F8 proved to be better than the rest of formulations in terms of breaking point. However, the lipsticks were hard to apply in comparison to other formulations. None of the formulations produced any skin irritation. No surface anomalies were found in any formulation. Aging stability was smooth for all the seven formulations.

Table 1: Formulation tablets of different batches

Ingredients	Formulation chart							
	F1	F2	F3	F4	F5	F6	F7	F8
Castor oil (mL)	4	4	4	4	4	4	4	4
Olive oil (mL)	3	3	3	3	3	3	3	3
Beeswax (g)	1	2	3	4	5	6	7	8
Petroleum Jelly(g)	5	5	5	5	5	5	5	5
Pigment- Beet Root (Powder) (g)	5	10	15	20	25	30	35	40
Acacia (g)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lemon juice (mL)	2	2	2	2	2	2	2	2
Vanilla Essence	Q.S	Q.S	Q.S	Q.S	Q.S	Q.S	Q.S	Q.S
Perfume	Q.S	Q.S	Q.S	Q.S	Q.S	Q.S	Q.S	Q.S
Vitamin E Caps	1 Caps	1 Caps	1 Caps	1 Caps	1 Caps	1 Caps	1Caps	1 Caps

RESULTS AND DISCUSSION**Table 1: Evaluation of lipstick batches F1-F4**

Evaluation Parameters	F1	F2	F3	F4
Colour	Deep reddish-pink	Deep reddish-pink	Deep reddish-pink	Deep reddish-pink
Solubility	Soluble in methanol	Soluble in methanol	Soluble in methanol	Soluble in methanol
Melting point	80°C	78°C	78°C	77°C
pH	6.3+0.1	6.5+0.3	6.6+0.1	6.6+0.3
Skin irritation	No	No	No	No
Breaking point	25	22	22	21
Force of Application	Easy	Good	Good	Good
Perfumed stability	+	++	+++	+++
Surface Anomalies	No defect	No defect	No defect	No defect
Aging stability	Smooth	Smooth	Smooth	Smooth

Table 2: Table 1: Evaluation of lipstick batches F5-F8

Evaluation Parameters	F5	F6	F7	F8
Colour	Deep reddish-pink	Deep reddish-pink	Deep reddish-pink	Deep reddish-pink
Solubility	Soluble in methanol	Soluble in methanol	Soluble in methanol	Soluble in methanol
Melting point	77°C	76°C	76°C	75°C
pH	6.5+0.2	6.6+0.1	6.5+0.2	6.5+0.1
Skin irritation	No	No	No	No
Breaking point	20	20	20	20
Force of Application	Easy	Good	Good	Good
Perfumed stability	+	++	+++	+++
Surface Anomalies	No defect	No defect	No defect	No defect
Aging stability	Smooth	Smooth	Smooth	Smooth

Perfume stability was best in F4 formulation containing rose oil among all four formulations. F4 formulations also showed adequate perfume stability upon storage. Solubility of the prepared herbal lipsticks was checked in different solvents like methanol, ethanol, and chloroform and petroleum ether. All the four formulations were found to be soluble in methanol. Hence, from present investigation it was concluded that this formulated herbal lipstick has better option to women with minimal side effects though a detailed clinical trials may be done to access the formulation for better efficacy. F4 is optimized formulation because of its balanced melting point (77°C, ideal pH (6.6 $\pm$ 0.3), excellent perfume stability (+++): Indicates long-lasting fragrance, enhancing user acceptability, smooth aging stability and no surface defects: confirms long-term physical stability, good force of application: ensures ease and comfort during use without being too soft or too hard, no skin irritation: demonstrates dermatological safety and color and solubility: Consistent with all formulations—Deep reddish-pink and soluble in methanol.

CONCLUSION

In last few decades there has been tremendous boost in use of cosmetics by women. However, the hazards cause by these chemicals has come into limelight very recently. The present work formulation and evaluation of herbal lipsticks was aimed to formulate a lipstick using herbal ingredients with a hope to minimize the side effects as produced by the available synthetic ones. Study concluded that herbal lipstick can be successfully. Formulated using different natural ingredients such as Castor oil, Olive oil, Beeswax, Petroleum Jelly, Pigment- Beet Root, Acacia, Lemon juice, Vanilla Essence, Perfume (Rose Oil) and Vitamin E Capsules. These are better options compared to synthetic coloring agents which may cause different and hazardous side effects. Consumers can take safe and effective advantage of herbal lipsticks after thorough clinical trials.

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