



Formulation and Evaluation of Herbal Lipstick from Natural Edible Coloring Matter

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ABSTRACT: Now-a-days herbal lipsticks are gaining popularity because natural cosmetics are safe to use and easy to handle by women. Synthetic coloring agents may cause allergic reactions and were found to be carcinogenic in nature. Aim of our study was to formulate and evaluate herbal lipstick using natural edible coloring matter like cinnamon bark powder, turmeric powder, cocoa powder as a coloring agent. Along with different natural ingredients such as bees wax, butter, coconut oil, olive oil, castor oil, Vanilla & rose essence and lemon juice were used to formulate herbal lipstick. Prepared herbal lipstick were evaluated for different evaluation test such as color, texture, pH, melting point, breaking point, softening point, surface anomalies, ageing and perfume stability and also compared with marketed standard formulation. Results showed that, different evaluation parameters of prepared herbal lipstick were resembled with standard values and with marketed formulation. Study revealed that, natural edible colouring matter may be the better option for preparation of herbal lipsticks.

Keywords: Herbal lipstick, Natural coloring matter, Essence, Bee wax, olive oil, coconut oil.

I. INTRODUCTION

Cosmetics have become an integral part of every woman's life. Herbal cosmetics are products which are formulated using various permissible cosmetic ingredients in which one or more herbal ingredients are used to provide distinct cosmetic benefits [1-4]. They are also called as herbal cosmetics. Herbal cosmetics are the latest trend in the field of beauty and fashion. The herbal cosmetics industry is experiencing a rising graph for its market and products which are being sold the world over. Today, there are a plethora of brands in the cosmetics market. Yet, the market is still growing and there is scope for new products who can deliver quality natural based products that will satisfy the consumer's requirements. Herbal products are gaining popularity as nowadays most women prefer natural products over chemicals for their personal care to enhance their beauty as these products supply the body with nutrients and enhance health and provide satisfaction as these are free from synthetic chemicals and have relatively less side-effects compared to the synthetic cosmetics. Lipstick is cosmetic preparation used to color the lip and protect lips from external environment. Coloring lips in an ancient practice date back to prehistoric period. Now-a-days the use of herbal product has increased and choice of shades of

colors, textures, luster, have been changed and become wider. This can be observed from the facts that lipstick is marketed in hundred of shades of colors to satisfy latest demand of the women. The dyes that contribute to the color of the lipstick are very harmful to humans on consumption. Coal tars are the basic ingredients from which synthetic dyes are formed can cause allergy, nausea, dermatitis, and drying of the lips. In a more severe form they can be carcinogenic and even fatal [5-8].

II. MATERIALS AND METHODS

Bees wax, butter, castor oil, coconut oil, olive oil, Vanilla, rose essence, Cinnamon bark powder, turmeric powder, cocoa powder and lemon juice were purchased from local markets of Gwalior.

A. Formulation of Herbal Lipstick

The herbal lipstick was formulated as per general method of lipstick formulation. In this formulation, white bees wax, butter, coconut oil, olive oil, were melted in porcelain dish on water bath with decreasing order of their melting point. Edible coloring matter like Cinnamon bark powder, turmeric powder, cocoa powder mixed with Castor oil and heated. Both phases were mixed at same temperature.

Vanilla & rose essence and lemon juice were added at 35°C. Then mixture was poured into lipstick mould in excess amount and mould was kept on ice bath. After solidification surplus amount was scrapped with blade. Lipsticks were removed from mould and flamed.

Prepared Lipsticks were fitted in Lipstick container and used for further evaluation.⁹ Composition and importance of different ingredients used for preparation of herbal lipstick is shown in Table 1.

Table 1: Composition and importance of different ingredients used for preparation of herbal lipstick.

Ingredients	Quantity taken	Importance of Ingredient
Bees wax	1 gm	Hard wax (Hardness)
Coconut oil	1.5 ml	Hard wax (Hardness)
Olive oil	1ml	Soft wax (Glossy)
Castor oil	1 gm	Blending agent
Edible colouring matter like cinnamon bark powder, coca powder, turmeric powder	2 gm	Coloring agent
Vanilla essence	5-6 drops	Flavoring agent
Rose essence	3 drops	Flavoring agent
Lemon juice	2 ml	Anti-oxidant

B. Evaluation of Herbal Lipstick

The evaluation of the herbal lipsticks were carried out by the methodology of Nanda *et al.*, Deshmukh *et al.*; Sainath *et al* [9-11]

Colour and Texture: Formulated lipsticks were checked for colour, glossy and smooth texture.

pH: The pH of formulated herbal lipsticks was determined using digital pH meter (Systronics, 802).

Determination of Melting Point: Determination of melting point is an important parameter for lipstick formulation; as it is an indication of the limit of safe storage. The melting point of formulated lipstick was determined by capillary tube method. Approximately 50 mg of lipstick sample was taken and melted and filled into glass capillary tube opened at both ends. Capillary was cooled with ice for 2h and fastened with thermometer. Thermometer with capillary was deep in the beaker containing full of water which was placed on heating plate with magnetic stirrer. Heating and stirring was started slowly at fixed speed. The temperature at which material moves along the capillary tube was considered as melting point.

Breaking Point: This test was carried out to find out the value of maximum load that lipstick can withstand before it break. This test gives strength of lipstick. Prepared herbal lipstick was held horizontally in a socket inch away from the edge of support. The weight was gradually increased by a specific value (10 gm) at specific interval of 30 second and weight at which breaks was considered as the breaking point.

Softening Point: Lipstick should be able to withstand range of conditions to which it will be subjected in the consumer's handbag. It should be resistant to varying temperature conditions and be just as easy to apply in

hot and as in cold weather. Softening point of lipstick was determined by Ring and Ball method.

Ring and Ball method: A ring or support orifice is taken and prepared herbal lipstick was inserted into it. Extra mass above and below the orifice was removed using a sharp blade leaving a tablet of lipstick fitted into the ring. This was placed in refrigerator (6°C) for about 10 min. Ring was tied onto a stand. A beaker containing 500 mL water at room temperature is placed on a hot plate with magnetic stirrer. A steel ball was delicately placed on the lipstick tablet. The bar with support was then inserted into the beaker till it submerged into it. Heating and slow agitation was then begun. Temperature was monitored using a thermometer. The temperature at which the lipstick mass and steel balls were loosed and falls to the bottom of the beaker was noted as softening point of lipstick.

Surface anomalies: This was studied by the surface defects, such as formation of crystals on surface, contamination by moulds, fungi, formation of wrinkles, exudation of liquid substances and of solid fatty substances, etc.

Aging stability: Prepared herbal lipsticks were stored at refrigerator temperature (4°C), room temperature (20-25°C) and high temperature (30-40°C) for 1h. Various parameters such as bleeding, streaking, catering and blooming were observed.

Perfume stability: The prepared herbal lipsticks were tested after 30 days, to record fragrance.

B. Comparison with marketed formulation

Prepared herbal lipsticks were compared with standard marketed formulation for all evaluation parameters mentioned above.

III. RESULTS AND DISCUSSION

A. Formulation of Herbal Lipstick

There has been rapid boost in use of cosmetics by women. However, the problems caused 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. Herbal lipstick was successfully formulated using natural edible coloring matter like cinnamon bark extract, turmeric powder, cocoa powder as a coloring agent and were used for further evaluation. The substance like Cinnamon bark, turmeric powder, cocoa powder and lemon juice are well known for their medicinal and cosmeceuticals value in the traditional Indian system of medicine. They stimulates cells to provide more elasticity and less wrinkled properties to the skin.

They are used in oils and pastes to improve complexion and the general health of the skin. Most of them have significant antioxidant activity. So, it can be considered as a natural antioxidant and it is well known that the natural antioxidants have beneficial effects on the process of skin aging, skin sun protection or skin cancer [2,5].

Many other studies confirmed that an acute exposure of human skin to UV radiation in vivo leads to oxidation of cellular biomolecules that could be prevented by a prior antioxidant treatment. Hence, there is an increased demand for herbal cosmetics in the world market and they are invaluable gifts of nature.

C. Evaluation of Herbal Lipstick

Results showed that all evaluation parameters of Herbal Lipstick are resemble with standard values and marketed formulation.

Table 2: Evaluation of Herbal Lipstick.

Sr. No.	Parameter	Herbal Lipstick Formulation	Marketed Formulation	Standard Values
1.	Color	Wine Red	Red	-
2.	Texture	Smooth	Smooth	Smooth
3.	pH	6.3	6.6	6.4
4.	Melting point	60-64°C	62-64°C	60-66°C
5.	Breaking point	250 gm	140 gm	-
6.	Softening point	60°C	62°C	50-60°C
7.	Surface anomalies	No defects	No defects	No defects
8.	Aging stability	Smooth	Smooth	Smooth
9.	Perfume stability	+++	+++	+++

IV. CONCLUSION

Study concluded that herbal lipstick can be successfully formulated using different natural ingredients such as white bees wax, butter, Castrol oil, coconut oil, olive oil, Vanilla & rose essence, Cinnamon bark extract, turmeric powder, cocoa powder and lemon will be better option for synthetic coloring agents which may arise different side effects. Consumers can take safe and effective advantage of this herbal lipstick after thorough clinical trials.

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