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RESEARCH ARTICLE

FORMULATION AND EVALUATION OF HERBAL LIPSTICK USING ROSA 'MISTER LINCOLN'

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ABSTRACT: Objectives: The objective of the present study was to synthesis a lipstick with natural color pigment - anthocyanin which extracted from Rosa 'Mister Lincoln' and studies its color stability during storage period. **Materials and Methods:** Different organic ingredients such as beeswax, Shreeji Wax, vanilla essence, castor oil, olive oil, lemon juice and Anthocyanin extracted from Rosa 'Mister Lincoln' was used for the formulation of herbal lipstick. **Results:** The Physico-chemical properties of the synthesized lipstick such as spreadability, skin irritation test, and breaking point, surface anomalies, melting point, and perfume stability, homogeneity and color uniformity were determined and compared with commercial lipsticks. The stability of the synthesized lipstick found to be stable under dark condition while color loss was greater for lipstick in light condition. **Conclusion:** Due to the low pigmentation from method, Anthocyanin is suggested incorporate in to lip balm application. This study has proven that Anthocyanin could replace synthetic dye in cosmetics industry for lip balm application.

KEYWORDS: Anthocyanin, Organic ingredients, Rosa 'Mister Lincoln' and lip balm.

INTRODUCTION:

Herbal cosmetics [1-4] are defined as the beauty products which having desirable physiological activity like enhancing, smoothing appearance, healing, conditioning properties due to the presence of herbal ingredients. These are purely made by herbs and shrubs and thus are side effects free. These products provide nutrients and other useful nutrients to the body. Herbal lipsticks are the natural products that are prepared by using herbal ingredients. These products moisturize and smoothen your lips and also impart color to lips by using pigments. Rose flowers grow in many different places with different colors usually red in color. Anthocyanins [5-10] are responsible to produce red color in Rose's which are belonging to the family of flavonoids. These anthocyanins are obtained from anthocyanins by adding sugars. Anthocyanins are present in the cell vacuoles which are generally water-soluble pigments. Additionally, anthocyanin pigments have been used as antibacterial agent.

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MATERIAL AND METHODS [10-15]

Selection of herbs: The rose flowers were selected as herbs in the formulation of herbal lipsticks due to their tackling and softening effect on lips.

Collection of plant material: The rose flowers were collected from the local market and their petals were used in the formulation of herbal lipsticks.

Extraction of color pigment: Coloring agent Anthocyanin can be obtained from rose petals by milling followed by pressing, filtration and obtained filtrate was concentrated by using double boiling method.

Methodology [10-38]

The herbal lipstick using Rosa 'Mister Lincoln' flower was formulated as per the following formula:

Table 1: List of ingredients for formulation of herbal lipstick

Ingredients	Composition per lipstick	Importance
Bees Wax	4.5 gm	**Provide hardness and glossy**
Shreeji Wax	3 gm	**Used as emollient**
Castor Oil	6 ml	**Aid in blending**
Olive Oil	1 ml	**Used as moisturizer**
Fragrance	Few drops	**Used to provide fragrance**
Lemon Juice	Few drops	**Used as anti-oxidant**
Anthocyanin (Rose)	2 ml	**Used as natural colorant**

Figure 1: Formulated lipsticks of rose flower

Method of preparation: Formulation of herbal lipstick was carried out according to the general procedure of lipstick formulation. In this procedure, oil phases such as olive oil and castor oil were heated in a beaker at 60º-70°C by using heating mantel. Simultaneously, bees wax and Shreeji wax were taken in another beaker and melted at 60º-70°c by using heating mantel. At the same temperature, the contents of beaker containing melted wax were added to the beaker containing heated oil phases and thoroughly mix the contents until we get a homogenous mixture. In a beaker, colored pigment, vanilla essence and lemon juice as a preservative were added and mixed thoroughly. Above formed mixture was added to the mixture of oils and waxes. The molten mixture was poured into lipstick moulds and kept aside at room temperature for solidification. Upon solidification lipsticks were collected from the moulds and packed in the lipstick case.

Evaluation of herbal lipsticks: [10-38]

Evaluations of formulated herbal lipsticks were done by following methods:

Melting point: The formulated herbal lipstick was taken in a crucible and subjected to double boiling in order to notify the melting point. By using thermometer, the temperature at which the lipstick starts to melt was noted.

Spreadabilty: The formulated herbal lipstick was tested for spreadability to examine whether the lipstick producing greater friction or not during the rubbing process on the skin.

Breaking point: The breaking point test was conducted to determine maximum pressure withstand by the lipstick during application on lips. This test was performed by hanging the weights on formulated herbal lipsticks until it breaks.

Surface anomalies: Surface anomalies were evaluated by visualization of physical appearance of lipsticks in order to determine surface irregularities.

Skin irritation test: Skin irritation test for formulated herbal lipstick was performed by

applying it on skin for 5 mins to detect the presence of any side effects like itching, redness and rashes on skin.

RESULTS:

It is very important to ensure the uniformity standard of the produced lipsticks. Hence, the lipsticks produced were evaluated on its spreadability, melting point, breaking point, surface anomalies and skin irritation test and the result were tabulated in **Table 2**.

The spreadability test for F3, F5, F9 and F10 lipsticks were excellent as no fragment upon spreading with any deformation of lipstick was not observed. The melting point of lipsticks indicates the safe limit of storage. The standard melting point of a commercial lipstick is above 50°C in order to remain its rigid structure and do not melt in room temperature. Since the melting point of lipsticks - F7, F8, F9, F11 and F12 determined are more than 50°C, the synthesized lipsticks – F7, F8, F9, F10, F11 and F12 were consider achieved the requirement for safe limit storage. The breaking points of the synthesized lipsticks were fall on 105 g to 110 g which were slightly higher than the breaking point of a commercial lipstick of 95 g. The ideal softening and rupture point in a lipstick is achieved by holding a good balancing between all ingredients in lipstick formulation. The most tedious part of formulating lipstick is finding appropriate ratio of wax in relation to oil in the lipstick formula. As wax in relation to oil increase, the melting point and the hardness of the lipstick will increase but at the same time, facilitating sticks breakage. The results of melting point and breaking point of the synthesized lipstick - F9 show that the formulation of lipstick was with appropriate wax to oil ratio. For surface anomalies test, no fungi and crystallization were detected in the surface of lipstick. Lastly, the synthesized lipsticks were applied on skin at back arms and skin behind the ear for 5 minutes to test for skin irritation as the skin area at those locations are the most appropriate location to test for skin irritation. The results showing no skin irritation was observed as all ingredients used in the formulation are natural ingredients. Besides the evaluation mentioned above, the lipsticks were evaluated on color uniformity by visual inspection. The color of the synthesized lipsticks – F7, F9 and F11 are uniform and stable under room temperature. Lastly, the odors of all lipsticks are pleasant throughout the storage period.

These results of all the lipstick formulations indicated that when compared with formulations of paraffin wax, the formulations with shreeji wax give best results. Moreover, among all the formulation, the formulation F9 meets all parameters in the commercial formulation standard.

TABLE 2: Evaluation of Formulated Anthocyanin Lipsticks at room temperature

Evaluation Parameters	Standard Commercial Lipstick	Anthocyanin Lipsticks											
		F1	**F2**	**F3**	**F4**	**F5**	**F6**	**F7**	**F8**	**F9**	**F10**	**F11**	**F12**
Spreadability	E	I	I	E	U	E	U	I	U	E	E	U	**I**
Melting Point (°C)	Above 50°C	30	20	42	38	48	37	52	50	51	48	51	**50**
Breaking point (g)	95	60	45	50	55	90	48	100	98	110	110	111	**110**
Surface Anomalies	No	No	No	No	Yes	No	Yes	No	Yes	No	No	Yes	**No**
Skin irritation	No	No	No	No	No	No	No	No	No	No	No	No	**No**

DISCUSSION:

The present work formulation and evaluation of herbal lipsticks [10-38] was intended to formulate a lipstick using herbal ingredients with expect to reduce the side effects as produced by the available synthetic ones. The prepared formulations were evaluated (**Table 2**) for spread ability, melting point, breaking point, surface abnormalities and skin irritation and it was found that formulation F9 was best among all. Hence, from present research it was concluded that this formulated herbal lipstick has better option to women with minimal side effects through a detailed clinical trial may be done to access the formulation for better efficacy. These eco-friendly, herbal lipstick is made from natural plant extracts that promises to rejuvenate and revitalize skin with new freshness. The present investigation was done to formulate lipstick containing herbal ingredients.

STUDY LIMITATIONS

Due to the low pigmentation of anthocyanin lipstick, the anthocyanin is suggested to incorporate into lip balm formula instead of lipstick formula. Overall, the results show that anthocyanin is potential to be used as alternative to synthetic dye in cosmetic industry.

CONCLUSION:

This research work was concluded that the use of herbal ingredients in the formulation of lipstick with diminished or no side effects when compared to commercial lipsticks. It also provided the evidence that the formulated herbal lipstick matches with standard lipstick by showing positive results to the performed evaluation tests. Finally, we recommend this formula can be used for formulation of standard herbal lipstick.

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