Research Article

Innovations in Herbal Lipsticks by *Canna indica* and *Royal poinciana*

Tole S.B., Joshi A.A., Dake T.S., Chavan V.B., Chede D.C., Chavan P.S.
ASPM'S K.T.Patil College of Pharmacy, Osmanabad, India.
***Corresponding author's E-mail:** shobhatole@gmail.com

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ABSTRACT

Now a day's women of all age group need the protection to the lips, this demand was fulfill by a cosmetic product and that is lipstick. It contains pigments, oils, waxes and colorant, which become synthetic chemical substances. Now we refer herbal cosmetics for the purpose of protection to skin. Herbal cosmetic is in rising demand in the world market as these are the priceless gift of nature with enhanced activity and lesser or no side effects. So, in present research work this task was applied for the preparation of herbal lipstick. Firstly, the extract of flower of Royal Poinciana and Canna Indica as a colorant, were applied for the formulation of herbal lipstick in combination with bees wax, white soft paraffin, lanolin, castor oil, vitamin E and strawberry essence. The formulated lipstick successfully evolved on the basis of melting point, breaking point, spreadability or consistency, skin irritation and also antimicrobial activity of two lipsticks are well reported, showing safeness of this product is primordial to mankind and civilization.

Keywords: Herbal Lipstick, Maceration, Royal Poinciana, Canna Indica, Evolution test, Cosmetic product, Anthocyanin.

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INTRODUCTION

Cosmetic Production & formula development has evolved over the years from the days of Galen (150 AD) to the present era of automation & computerization[1]. So, the word "cosmetics" arise from Greek word "Kosmeticos" means to adorn i.e. used for beautification, improvements or to enhance the appearance of human body[2]. Cosmetics include skin cream, lotion, powder, nail polish, eye and facial makeup. Cosmetic science is a fast moving area, furthermore rapid and extensive changes in increasing constraints and limitations in the choice of cosmetic ingredients and regular pressure from the media force the cosmetic formulation or think differently about his products. Today cosmetics products are widely used by people of every country. Every country's legislation has given a particular definition for cosmetics products. The definition is thus based on the parts of the body to which products are applied and the purposes for which they are applied[1, 2]. So the cosmetics may be applied to skin, hair and nails for the purposes of covering, softening, cleansing, nourishing, waving, setting, modification, preservation, removal and protection. Its classification distributed into four main groups i.e. cosmetics for skin, hair, nails & hygiene[3].

Now day's herbal cosmetics are popular and are favored over chemicals, as these products afford nutrients to the body, boost health and are free from synthetic chemicals and have no side effects. In earlier times, herbs were used for both medicinal purposes as well as for beautification, fresh and dried form these are the two forms of herbal can be used by mashing or directly applying to the body with or without using other ingredients, but herbal cosmetics cannot products composed of plant materials in totality or cosmetic base containing plant materials like extracts, tinctures, distillates etc [2, 3]. In present research paper herbal lipstick are prepared and successfully done the all evolution parameter. Lipstick is composed of coloring materials, dispersed in a blend of oils and waxes. A good lipstick should be smooth, pleasant odor, shine appearance, easy to apply leaving a thin film on lips.

Herbal lipsticks having minimum side effects, as it is made up of natural ingredients or nutrients, so it is safe to use that keep lips healthy.[3] So ethanolic flower extract of Brassica Oleraceae were mark as ingredients for formation of herbal lipstick[4]. Among comparing the review on herbal lipstick, one more showing that anthocyanin pigment obtained from Rosa Kordessii[5] and also lipstick was prepared by natural edible coloring agent like cinnamon bark powder, turmeric powder, and cocoa powder as a coloring agent[6].

In present research work ethanolic extract of flowers of Royal Poinciana and Canna indica separately were used for the formulation of two herbal lipsticks. Firstly, apply these flower extract for the formation of two herbal lipstick that are not taken by any other for this purpose and also studied the different evolution test[6]. All the herbal lipstick which are made from whether the extracts of beet root, hibiscus, roses and also pomegranates.[1,6] No any references are found about lipstick preparation from the flowers of Royal Poinciana and Canna indica. The phytochemical study of ethanolic extract of Royal

Poinciana and Canna indica was done successfully for understanding its nutritive value as well as different pharmacological aspects and most important for lipstick preparation is the presence of coloring agent i.e. anthocyanin[5,6]. However, there is the rebound of the use of herbs both as drugs and cosmetics. Human skin acts as a protective barrier, through which natural ingredients penetrate. Therefore consumers always search for natural based cosmetics to avoid allergic conditions[7]. So the present research work was succeeded on the entire motive for herbal cosmetic preparation[8].

MATERIALS AND METHODS

For the formation and evolution of herbal lipstick, we make a plan of work like as collection of all ingredients, preparation of specific formula and evaluation of prepared herbal lipstick for color, ph, melting point, breaking point, force of application and surface anomalies[8].

The following ingredients with its application showing were applied for the formation of herbal lipstick.

1. Bees Wax – Binds oils and higher melting point waxes
2. White soft paraffin – Acts as lubricants and improves spreading properties
3. Lanolin – Blender (Emulsifying agent)
4. Flowers of Canna indica and Royal Poinciana – coloring agent
5. Strawberry essence – Flavoring agent

I. Taxonomical study of Flowers of Royal Poinciana and Canna Indica –

1. Flowers of Royal Poinciana (Delonix regia) –

The plant is also called flamboyant tree, peacock tree. The species Delonix regia belong to family Fabaceae, which bear subfamily caesalpinioideae. The plant is native of Madagascar (fern like leaves – orange red flowers)

In India particularly in Maharashtra the plant is called "Gulmohar" i.e. "Smathers Gold"

The flowers of Royal Poinciana are large with four spreading scarlet or orange red petals up to 8cm long and have also fifth upright petal called standard, which is slightly larger with yellow and white spot. Number of stamens range from 9 to 10, which are completely free whereas the filaments are hairy, villous and red or pink in color.[8]

Figure 1: Flowers of Royal Poinciana (*Delonix regia*)

2. Flowers of Canna Indica – Var. Worszewiczii

Commonly known as Indian Shot, belong to Cannaceae. The plant is native of South America. The plant bearing pale green or purple flaky leaves. The plants form an upright, unbranched stem and overlapping leaf sheaths. The flowers are zygomorphic, large; three fold and long red or yellow orange color[8, 9].

Figure 2: Flowers of Canna Indica

II. Formation of alcoholic extracts of Royal Poinciana and Canna Indica flowers

1. Collection of flowers of Royal Poinciana and Canna Indica
2. Authentication of plant with flowers.
3. Shade drying of flowers of Royal Poinciana and Canna Indica
4. Weighing of shade dried flowers
5. Introduce of shade dried flowers in reflex with aq. Ethanol (70%) up to seven days
6. Collection of extract, filtration, concentrate on rotary evaporator.

III By using digital balance all the required ingredients for lipstick preparation were accurately weighted individually**.**

IV By using molding method, we prepared the herbal lipstick in which all the ingredients were mixed in a definite ratio by melting white soft paraffin wax and bees wax at low flame and then molded in a suitable mold to formulate lipstick[9].

V – Storage – Store in a suitable container i.e. mould was kept in Freeze.

VI –After solidification surface amount was scrapped with blade.

VII- Lipstick were removed from mould and fitted in lipstick container and used for evaluation.

RESULTS AND DISCUSSION

The present research work formulation and evolution of herbal lipstick was done successfully on the basis of four distinct operations namely color, dispersion, mixing, molding and flaming[10]. We formulate two herbal lipsticks using herbal ingredients i.e. extract of flowers of canna indica and Royal Poinciana as a natural colorant. We also performed the evaluation parameters like color, Ph, melting point, breaking point, force of application, surface anomalies and skin irritation on two formulated lipstick[11]. We got satisfactory result on all aspect, which proves success of this research project.

At first collected flower of canna Indica and Royal Poinciana goes under maceration with suitable amount of 70% alcohol in two separate assemblies with incubation period of seven days[12]. Every day we observed that breakdown of flower petals are occurs with changing the original color of flowers of Canna Indica but color of flowers of Royal Poinciana becomes intact with originality. After completion of maceration, whole extract was filtered with whatman filter paper No – 10, whatever the extract we got, from which 25 ml was used for phytochemical test, (Parekh T, Chanda SV, 2007) which summarizes presence of alkaloids, carbohydrates, flavonoids, phenols, amino acids, proteins, saponins, sterols, tannins and the presence of most important constituent which is marked as a colorant for lipstick formation is anthocyanin[7].

According to melting and mold method, two lipstick formations were done successfully with the addition of all the weighted ingredients in beakers and then introduced on small flame of gas. The formulated two lipsticks then evolved for different test[13]. The melting point of lipstick made from Royal Poinciana and Canna Indica shows 60^{O} and 65^{O}, which shows that wax mixture (bees wax and white soft paraffin) are well balanced, due to this the desired melting point was achieved. So the present lipstick formulations have the ability to withstand with also high temperature. These wax mixture with blend of oil such as castor oil also achieved the good viscosity and well balancing the other physical properties such as spread ability and consistency of lipstick was good. When lipstick is applied it provides good film to lips that is proved by good dispersion of castor oil in wax mixture. Here castor oil acts as good eosin- dye-stuff and less prone to rancidity than other oils.[14]

When castor oil is used, vitamin E (0.1%) was added in the formulation as antioxidants. Castor oil act as solvent for eosin. The eosin should be dissolved in castor oil by heating allowing any excess to settle down and then by staining. Here 40% to 50% concentration of castor oil was used in two lipstick formulation.

The formulated two lipsticks showing the effective glossy appearance to lips after application, proves by applicability on different women. This is possible because our formulation contains appropriate mixing of liquid paraffin (White soft paraffin after melting) with 2% isopropyl meristate[15]. The Lanolin in two lipstick formulations achieved the good stability and thicknesses, so covering properties of lipstick are made by lanolin. It is used in very small proportions which successfully avoid the formation of greasy and sticky sticks. The lipstick made by flowers of Royal Poinciana showing red - orange in color where as lipstick made by Canna Indica showing dark – maroon in color. From the beginning natural colorants from plant such as beetroot, annatto, pomegranate, carrot, sapponwood, red sandal wood, strawberry, papaya contributes to natural colorants for lipstick[11, 15] In present lipstick formulation alcoholic extract of flowers of Royal Poinciana and flowers of Canna Indica showing marked presence of anthocyanin, phenolic and also carotenoid content, which are responsible for intense color formation, that are well shown in prepared formulation of two lipstick.

Table 1: Formula for Lipstick formation.

Ingredients	Quantity taken	Uses
White soft paraffin	4 gm	**Base**
Bees Wax	2 gm	**Hardness**
Lanolin	2 gm	**Emulsification**
Flower Extract of Royal Poinciana & Canna Indica	Quantity Sufficient	**Colorant**
Castor Oil	0.5 ml	**Surfactant**
Vitamin E	0.5 ml	**Antioxidant**

Table 2: The following test was performed on two flower extracts of Royal Poinciana and Canna Indica[4]

Phytochemical Test	Generalized principal test	Result	
		Royal poinciana **flower extract**	***Canna indica*** **flower extract**
Alkaloids	Wagner's test	+	+
Carbohydrates	Molisch's test	+	+
Flavonoids	Shinoda test	+	+
Phenols	Ferric Chloride test	+	+
Amino acids and proteins	Ninhydrin	+	+
Saponins	Foam test	+	+
Tannins	Braymer's test	+	+
Anthocyanin	2 ml plant extract + 2N HCL + ammonia	+	+

For safeness and confirmation of all aspects of good manufacturing processes, we did antimicrobial activity of prepared lipsticks using one gram positive bacterial strain (*Bacillus subtilis*), one gram negative bacterial strain (*E.coli*) and one fungal strain (*Aspergillus niger*). The two lipsticks showing good antimicrobial activity. Finally proximate analysis was useful in determining the authenticity and purity of sample and also these values are important qualitative standards. The presence of anthocyanin has been confirmed by the formation of purplish-blue color with extract[7,15]. The extracted anthocyanin is water soluble and has beneficial health effect.

Table 3: Evaluation parameter of formulated Herbal Lipstick[15]

Evaluation Parameters	Observation	
	Royal poinciana	***Canna indica***
Color	Red-orange	Dark Maroon
Ph	6.2	6.3
Melting Point	60	65
Breaking Point	27	26
Force of application	Good	Good
Surface Anomalies	No defect	No defect
Skin Irritation	No irritant	No irritant

Figure 3: Events of Lipstick formation, A – Maceration, B- Concentrated extract, C- Water bath, D- Two lipsticks, E- Applicability, F- spread ability, G-consistency, H- Melting Point & I – Breaking Point

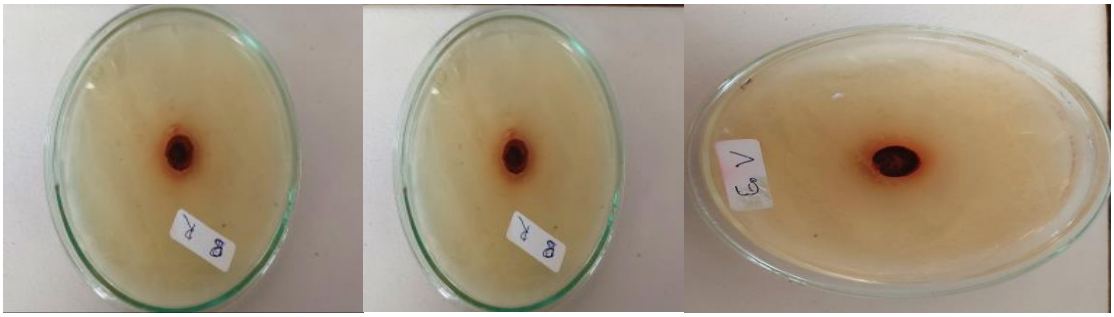

Figure 4: Antimicrobial activities of lipsticks of Royal Poinciana with *E.Coli, Bacillus subtilis and Aspergillus niger.*

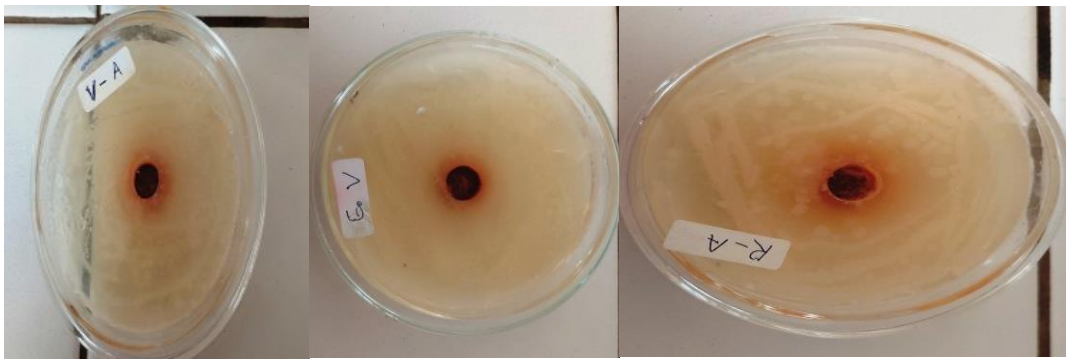

Figure 5: Antimicrobial activities of lipsticks of *Canna indica* with *E.coli, Bacillus subtilis* and *Aspergillus niger.*

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CONCLUSION

The present study proves that extract of two flowers Royal Poinciana and Canna Indica are act as natural coloring agent for the formation of herbal lipsticks. Which is well confirmed by the prepared lipstick was showing excellent properties like shining, spreading, smoothness of lips. The prepared lipsticks were showing no side effects and great acceptability.

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