



“FORMULATION AND EVALUATION OF HERBAL LIPBALM FROM CARROT (DAUCUS CAROTA)”

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ABSTRACT:

Cosmetics used for the different purposes are depends on the type of skin. Cosmetics can be defined as any article intended to be rubbed, poured, sprinkled or sprayed on, or introduced into or applied to the human body or any part of the body for the purpose of cleansing, beautifying, promoting attractiveness or altering the appearance and includes any article intended for use as a components of cosmetics. Herbal Cosmetics are formulated by using different cosmetic constituents to form the base in which one or more ingredient of natural origin are used. Lip balm formulations are most widely used to enhance the appearance of lips and gives occurring base, oils, color, flavoring agent etc. Carrot moisturizes your lips and help to get rid of pigmentation. It is a perfect skin tonic. Thanks to beta-Carotene as well as Vitamins A, B, C, D, E. Also the bees wax, and rose water and glycerol are used in this formulation. The primary purpose of lip balm is to provide an occlusive layer on the lip surface to seal moisture in lips and protect them from external exposure. Dry air, cold temperatures, and wind all have a drying effect on skin by drawing moisture away from the body. Lips are particularly vulnerable because the skin is so thin, and thus they are often the first to present signs of dryness. Lip balm prepared from the previously mentioned components may be more effective for treating a variety of lip problems.

KEYWORDS: Cosmetics, beta-carotene, herbal cosmetics.

INTRODUCTION:

People's anxiety about using organic sources has been particularly high because many marketed chemical cosmetics include dangerous synthetic excipients. Since lips lack oil glands, it is crucial to give them additional moisture and protection all day long. Traditional lip balm frequently contains hazardous chemical perfumes and colors, hydrogenated oils, alumina, paraben, and petrolatum synthetic waxes. Since users frequently eat lip balm, this poses a serious problem for health regulators. Ingredients with medicinal qualities that enhance topical action and offer defense against degenerative skin conditions are known as cosmeceuticals. These components were used in the current experiment because they had fewer adverse effects. Often the lip balm is eaten by the user, thus it becomes major issue for health regulator. Cosmeceuticals are the ingredients that have medicinal properties that benefits topical action and also provide protection against degenerative skin condition. The present work was carried out by using these ingredients that have less side effects. Products used to protect lips rather than to decorate them are well known as lip balms. They form an adherent, moisture resistant film of oily substances. Herbal lip balms are a well-known way to adorn side effects of conventional lip balm. They create an oily layer that is sticky and locks the moisture into lips, usually without any coloring.

HERBAL COSMETICS:

Herbal extracts are utilized in cosmetic products these days to enhance attractiveness and beauty. Herbal cosmetics are categorized by dosage form, such as creams, powders, soaps, solutions, etc., as well as by the body part or organ they are intended for application, such as cosmetics for the mouth, nails, skin, and hair, etc. Creams are emulsions that are semisolid and are meant to be applied to the skin or mucous membranes. A vanishing cream is a low-fat moisturizer that absorbs into the skin. It softens skin, leaving nothing behind. Herbal cream is an o/w emulsion based preparation containing an oil phase into the aqueous phase. Depending on the proportion of water to grease, cream can be water miscible and washed away easily or be thick and sticky. It is perhaps the commonest prescribed topical medicament. As it is less oily, messy and sticky, most patients find it more user-friendly.

LIP BALM:

- Lip balm is a waxy substance applied to the lips to keep them moist.
- Lip Balm was created to protect the lips from external influences such as the cold of winter and prevent dry, chapped lips. Protecting the lips helps prevent irritation and infection.
- Lip Balm Prevents saliva from wetting the skin repeatedly.
- It also reduces the pain associated with chapped lips.
- The ingredients used to prepare the lip balm maintain the moisture of the lips and promote the healing of chapped lips.

Lip balm was first marketed in the 1880s by Charles Browne Fleet, though its origins may be traced to earwax. More than 40 years prior to the commercial introduction of lip balm by Fleet, Lydia Maria Child recommended earwax as a treatment for cracked lips in her highly-popular book. The purpose of all lip balms, even those called salves or butters, is to protect the lips. They contain a moisturizing ingredient (such as petroleum jelly, Shea butter, or lanolin) that prevents water loss. Wax is added to help lip balm stick to lip.

History of lip balm:

The earliest records of a remedy for dry lips date from 40 B.C. to the Ancient Egyptians. At this time, a therapy resembling lip balm was made using beeswax and additional natural substances including olive oil and animal fats. This ointment was mostly utilized by the wealthy and influential, including Cleopatra. Lip care stayed mostly unchanged for hundreds of years—that is, until the creator in late 1870. Vaseline is a novel invention that Robert Chesebrough patented. Charles Brown Fleet invented what is now known as Chapstick roughly ten years later.

Types of lip balm:

1. **Lip balm with a UV filter:** While this type of balm is suitable for use throughout the year, it is particularly helpful in the summer or when traveling to regions with higher solar activity. (For instance, mountain ski resorts).
2. **Nourishing lip balm:** Winter is the ideal season for this kind.
3. **Moisturizer:** This balm absorbs too rapidly in the cold, so if you use it in the winter, your lips can split. This type of lip balm is good for dry lips. All year long, you can apply hydrating lip balm.
4. **Lip balm with medication:** Use caution when applying it. It functions as an antibacterial and softening drug.
5. **Tinted lip balm:** This is a year-round accessory.

Application of lip balm:

Lip balms are products that are put to the lips to shield them from the elements and stop them from drying out. There are already a lot of chemical-based lip balms in the market from brands like Blistex, Himalaya, The Body Shop, and Nivea, among others. Since lip balm is a cosmetic form similar to lipstick, references to lipstick in the cosmetic literature apply despite the paucity of data on this kind of formulation reported in the literature. Similarities also exist with regard to the needs of organoleptic and stability, such as resistance to temperature changes, palatable flavor, safety, smoothness during application, adhesion, and ease of purposeful removal.

Advantages of lip balm:

- Using a lip balm can help preserve the lips' natural health and attractiveness. Lip balms with sunblock have been shown to shield lips from UV radiation.
- Men and women alike can utilize these goods, as they are not gender-specific. Lip balm
- Products aid in preventing dryness, chapping, and cold sores on the lips.
- The product should not cause friction or dryness when it comes into contact with the skin. It should instead allow a uniform layer to form over the lips, protecting the labial mucous from environmental factors like pollution, dryness, and UV radiation. It also feels renewed and refreshed, and it helps with lip-related symptoms like cold, flu, and allergies.

Dis-advantages of lip balm:

- Lip balms with inferior components have the potential to cause severe lip damage. Lips that use these balms may get parched.
- Addiction to lip balms is another common side effect associated with their use. In contrast
- Homemade lip balms typically disappear off the lips more quickly than those created in a lab. Therefore you must frequently reapply.

Plan of work:

1. Phase I- Selection of topic.
2. Phase II- Collection of all herbal ingredients and prepare suitable formula.
3. Phase III- formulation of suitable lipbalm.
4. Phase IV- Evaluation of herbal lipbalm.

DRUG AND EXCIPIENT PROFILE:**CARROT:**

- **Scientific name:** *Daucus Carota* subspecies sativus.
- **Biological source:** Carrot (*Daucus carota*) is native from Europe and west and central Asia and was probably domesticated in Afghanistan.
- **Kingdom:** Plantae (plants)
- **Division:** Magnoliophyta (flowering plants)
- **Class:** Magnoliopsida (dicotyledons)
- **Family:** Apiaceae (carrot family)

USES OF CARROT:

- Improves Skin
- Improves Digestion
- Improves Kidney Function
- Reduces Incidences of Stroke
- Maintains a Healthy Heart
- Improves Liver Function
- Anti-Bacterial & Viral
- Great for Eye Health
- Healthy Teeth
- Anti-Cancer

BEEES WAX:

- **Synonyms:** Yellow wax, *Cera alba*. White wax obtained is known a *Cera flava*.
- **Biological Source:** Obtained from the honey comb of the bees *Apis mellifera* and other species of *Apis* belonging to the family Apidae, order Hymenoptera,
- **Geographical source:** It is produced in France, Italy, West Africa, India.

**USES OF BEESWAX:**

- Preparation of ointments.
- Plasters & polishes, manufacture of candles.
- Moulds & dental, electronic industries.
- Also used in cosmetics for preparation of lip- sticks and face creams.
- Pharmaceutically, it is an ingredient of paraffin ointment I.P.

OLIVE OIL:

- **Synonyms:** Oleum Olivae
- **Biological source:** it is a fixed oil expressed from the ripe fruits of *Olea europaea*.
- **Family:** Oleaceae
- **Geological source:** native to Palestine and countries near to Mediterranean sea. Cultivated in USA and southern Australia Largest producers are Italy, Spain, Greece.

USES OF OLIVE OIL:

- Under eye treatment
- Acts as a sunscreen
- Get rid of wrinkles
- Anti-aging Effects
- Make up remover
- Conditions hair
- Prevents heart diseases
- Sun tan removing agent & Health.



- Soothen cracked skin.

VITAMIN E:

- Vitamin E is naturally occurring anti-oxidant.
- It is a fat soluble vitamin. It is also known as tocopherols, tokos-child birth, pheros to bear, ol-alcohol.
- It is also known as "anti-sterility/anti-infertility vitamin" because it helps in normal reproduction in many animals and humans. It is also known as a beauty vitamin.

Uses:

- Cardiovascular diseases
- Inflammatory diseases
- Radiation damage
- Diabetes mellitus
- Lipid disorders
- Eye diseases
- Neurological diseases
- Bone diseases

ROSE WATER:

- Rose water is prepared by steeping rose petals in water. Sometimes, a by- product of the process of extracting rose oil is also used in the place of rose water.
- There are a number of rose water benefits which make it a popular ingredient in cuisines and religious rituals.
- Rose water for skin and rose water for face are two of rose water's most well-known uses.

Uses:

- Helps balance and tone oily skin.
- Soothes and cools dry and Sensitive skin.
- Cleanses and purifies Normal skin.
- Tones and rejuvenates mature skin.
- Help reduce inflammation of skin with acne or eczema and heal better.
- May be used as an aftershave to soothe irritated skin.
- Helps heal sunburns, cuts and wounds.
- Rose water helps to balance the pH of the skin.



GLYCEROL:

- Formula: C₃H₈O₃
- Density: 1.26 g/cm³
- Molar mass: 92.09382 g/mol.
- IUPAC ID: propane-1,2,3-triol
- Boiling point: 290 °C
- Classification: Alcohol, Polyol C₃H₈O₃

Uses:

- Hydrate the Outer Layer of the Skin
- Relieve Dry Skin
- Healing Properties
- Moisturizer
- Protects The Skin Barrier
- Exfoliates Anti-Aging Smoothens the Skin
- Soothen the Skin
- Improves Complexion



MATERIALS AND METHODS:

Ingredients- Bees Wax, Olive Oil, Carrot Extract, Vitamin E, Rose Water, Glycerol.

Equipments- Measuring cylinder, Beaker, Mortar pestle, Conical flask, Funnel, Lipbalm beaker, Whatman filter paper.

Instruments- Refrigerator, Water bath, pH meter, U.V cabinet.



Fig. Ingredients used in the formulation of Lipbalm.



Fig. Instruments used in the formulation of Lipbalm.

METHODOLOGY:**METHOD OF EXTRACTION:**

- Fresh carrots are taken and their upper layer is removed by the help of peeler.
- The peeled carrot is grated evenly then the mixture was poured into a fine muslin cloth and was squeezed to separate the juice from the seeds.
- The juice was collected from the beaker and stored in the fridge for the further use.



Fig. Extraction of carrot juice

METHOD OF PREPARATION:**PREPARATION OF HERBAL LIPBALM:**

Weight



Add bees wax and olive oil



Add Vitamin E, beet root juice, rose essence, olive oil

↓ stirred

Homogenous mixture

↓ room temperature

Air dried



Applying glycerin Filled mould into ice bath for 10 minutes.

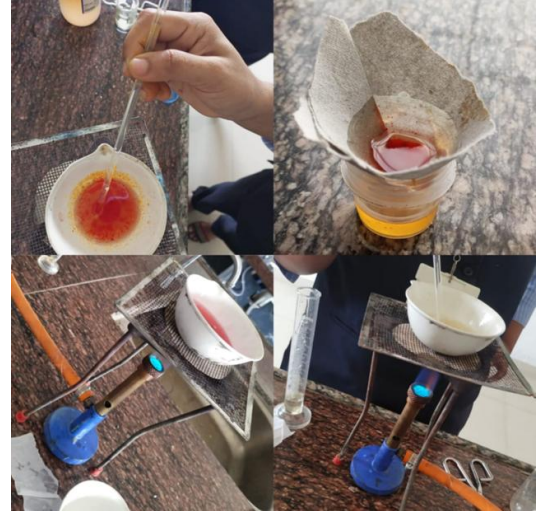


Fig. Method of Preparation of herbal lipbalm.

FORMULATION TABLE:

Sr.No.	Ingredient	Quantity	Uses
1.	Carrot Extract	0.8ml	Coloring Agent
2.	Bees Wax	9.0gm	Impart Glossiness And Hardness
3.	Olive Oil	0.6ml	Moisturizing Agent
4.	Vitamin E	0.5ml	Antioxidant, Maintain the Stability
5.	Rose Water	Q.S	Flavoring Agent
6.	Glycerol	Q.S	Glossy Effect

Table No. 1 Formulation of Herbal Lip Balm



Formulation of herbal lip balm

EVALUATION TEST FOR HERBAL LIPBALM:

1.Organoleptic Properties:

The formulation was studied for physical Appearance, color and odor. These Characteristics were evaluated by physical Observation.

COLOR: Orange.

ODOR: Pleasant like rose.

APPEARANCE: Smooth.



2.pH:

The pH is observed by deeping pH paper in formulated preparation of lip balm and examined the pH.



3.Melting Point:

In a glass capillary tube open at both ends, 10 mm of a lip balm sample is introduced and then placed into an outer capillary filled with water. The latter is acting as a temperature-controlled water bath.

4.Spreadability Test:

Spreadability is determined using a slide. The formulation is sandwiched between two blades and a hud is applied; the recipe has been spread on the slides. Visual observations were made regarding the uniformity of the layer formation.

For this test, the following criteria have been established: G-Good: homogenous,1-Moderate homogeneity; leaves few spots, B-Bad: uneven.



5. Sensitive Skin:

This is done by applying the product as a patch to the skin for 30 minutes and observing for a reaction of:

N-No reaction

R-Skin redness

I-Irritation or itching



RESULT:

Sr.No.	Evaluation Parameter	Observation
1	Melting Point	65 °C
2	Organoleptic Property	
2.1	Color	Orange
2.2	Odor	Pleasant
2.3	Appearance	Smooth
3	Spreadability	Easily spreadable
4	pH Measurement	5.6
5	Skin Irritation	No

Table No. 2 Evaluation Parameter and Result

DISCUSSION:

From the subjective evaluation of lipbalm the results obtained are as follows:

1. The formulated herbal lipbalm was orange in color.
2. The formulated herbal lip balm had rose like pleasant odor.
3. The formulated lipbalm was smooth to touch.
4. The formulated herbal lip balm was easily spreadable and having good consistency.
5. pH of herbal lip balm was 5.6.
6. Irritation was not occurred after apply on the skin.

CONCLUSION:

The aim of current research work was to prepare lip balm by using maximum possible natural ingredients. Mainly carrot extract chosen as a coloring agent, rose water used as a flavoring agent, vitamin E is used as an antioxidant, olive oil was used as moisturizing agent. The lip balm formulation was tested by applying lip balm to a glass slide. The pH of lip balm of 5.6 and melting point of 65°C were obtained. Based on the results of irritation test, the lip balm showed no reaction to erythema, papules, or edema, indicating that it is safe to skin of the lips. The natural ingredients in this study can be used for the formulation and composition of lip balms for tropic to cool regions. Due to least to no side effects of herbal lipbalm it is globally used. Herbal lipbalm contains natural and organic oil which helps to prevent dryness and roughness from the lips. Herbal lipbalms are nutritious to our lips and are also cost effective than chemically prepared lipbalms.

REFERANCES:

1. Mali K. D. *, et.al; **Formulation and Evaluation of Herbal Lip Rouge**. International Journal of Pharmaceutical Sciences Review and Research.
2. Bhandari S. D. et.al; **Formulation and Evaluation of Multipurpose Harbal lip balm** Sys Rev Pharm 2023; 14(1): 23-28

3. Jilsha G et.al; **FORMULATION AND EVALUATION OF HERBAL LIP GLOSS** INDO AMERICAN JOURNAL OF PHARMACEUTICAL SCIENCES 23-28
4. Fernandes AR, **Stability evaluation of organic lip balm**. Brazilian Journal of Pharmaceutical Sciences, 2013; 49; 293-300.
5. Pandit D., et.al; **Formulation and Evaluation of Herbal Lipbalm from the Extract of Papaya**. International Journal of Pharmaceutical Sciences Review and Research (107)
6. Dr. Vishwasrao S., **A Review on Natural Lip Balm**. International Journal of Research in Cosmetic Science. 03 August 2014. ISSN 2277–7172.
7. Dario M.F., et al, **Stability and evaluation of organic Lip Balm**, Braz. J. Pharm. Sci. 2 (2013) 49.
8. Savalkar M.B. et al. **Formulation & Evaluation of Herbal lipstick using Amaranthus dubius**, J. Pharm. Res., 2018, 7(6), 96-98.
9. Sri T. A. et.al; **FORMULATION OF LIPBALM FROM SARI MEAT PAPAYA FRUIT** Journal of Health, Technology and Science (JHTS) (35)
10. Mr. Kore P. S., et.al; **Formulation and Evaluation of Natural Lip Balm by using Rose Petals** International Journal of Advanced Research in Science, Communication and technology.
11. Paithankar S., et.al; **FORMULATION OF NATURAL LIP BALM**. International Research Journal of Engineering and Technology (IRJET)(1009)logy (IJARSCT)(274).
12. Panchal C. et.al; **FORMULATION AND EVALUATION OF HERBAL LIP BALM USING PIGMENTS OF BUTEA MONOSPERMA FLOWER** INTERNATIONAL JOURNAL OF INSTITUTIONAL PHARMACY AND LIFE SCIENCES (21)
13. Kadbhane N. et.al; **Formulation and Evaluation of Lip Balm by Using Moringo Oleifera** International Journal of Research Publication and Reviews (22)
14. Kadu M., et.al; **Review Article Review on Natural Lip Balm** International Journal of Research in Cosmetic Science(1-7)
15. Sanipal R. M., et.al; **Formulation and Evaluation of Natural Lip Balm** International Journal of Advanced Research in Science, Communication and Technology (JARSCT)(450)
16. Nahata A. N., et.al; **Formulation and Evaluation of Lip balm Prepared .Using Various Herbal Entities**. INTERNATIONAL JOURNAL OF CREATIVE RESEARCH THOUGHTS (IJCRT)
17. INTERNATIONAL JOURNAL OF CREATIVE RESEARCH THOUGHTS (IJCRT) JCRT An International Open Access, Peer-reviewed, Refereed Journal et.al; **FORMULATION AND EVALUATION OF LIP BALM BY USING HONEY AND SESAME OIL TO LIGHTEN THE DARK LIPS** WORLD JOURNAL OF PHARMACEUTICAL RESEARCH 710
18. Fernandes A.R., et al, **Stability and evaluation of organic Lip Balm**, Braz. J. Pharm. Sci. 2 (2013) 49.
19. Deshmukh S., et al, **Preparation and evaluation of natural lipbalm from bixa orellana seeds**, Int J Pharm Bio Sci. 4 (2013) 139-144.
20. Mittal B.M., et al, **A Handbook of cosmetics**, first ed., Vallabh Prakashan: New Delhi, India, 2000.
21. Patil P. V, et al, **Formulation and Evaluation of Herbal Lip Balm**, Assistant professor, Student. Pharmaceutics Department, College of Pharmacy Paniv, Malshiras, India.
22. **An Analysis of Health Benefits of Carrot** Varshney K.¹, and Kirti Mishra² 1.2 Assistant Professor, School of Medical and Allied Sciences, Sanskriti University, Mathura, Uttar Pradesh Correspondence should be addressed to Khyati Varshney.
23. Varshney K., et al, **Formulation and Evaluation of Lip balm Prepared Using Various Herbal Entities** Ashokrao Mane College of Pharmacy. Peth-Vadgaon
24. THAKU P.,et.al; **EVALUATION OF YASTIMADHUADI LIPBALM FOR ITS EFFECT ON OSTHASPHTANA** International Journal of Biology, Pharmacy and Allied Sciences (IJEPAS) (367).
25. SHAIKH M. A., et.al; **Design and Evaluation of Herbal Lip Balm by using Beet Root** International Journal of Innovative Science and Research Technology (2210).