

## Impact of COVID-19 on airline industry

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**ABSTRACT:** The lips are a visible and movable part of the mouth that are located on either side of the opening of the oral cavity. They are composed of skin, muscle, and mucous membrane and are responsible for important functions such as speech, eating, facial expressions and are sensitive to touch and temperature. No matter what style of lip color you prefer (sharp, bold and dramatic colors, or more natural and subdued shades that can be translucent), you will instantly feel more beautiful. Even though some older brands of lipsticks use ingredients that can suck moisture from you lips, most of them are very conscientious about hydration and are made to preserve the natural state of your lips. which ingredients are used in our formulation like castor oil, and vitamin E they protect their lips. Lipstick is generally accepted essential and leading makeup device available in variety of luster and texture! It is composed essentially of a oil-wax base, stiff enough to form a stick with a staining dye dissolved or dispersed in the oil, and pigment suspended there in, suitable perfumed and flavored, molded and enclosed in a case the lipstick provides a convenient means of freshening the make-up! Lipsticks impart attractive color, glossy and most appearance to lips, accentuating good points and distinguishing the defects.

**KEYWORDS:** Oral cavity, Lipstick, Lips, Hydration.

### I. INTRODUCTION

#### 1.1 LIPS

The lips are a visible and movable part of the mouth that are located on either side of the opening of the oral cavity. They are composed of skin, muscle, and mucous membrane and are responsible for important functions such as speech, eating, facial expressions and are sensitive to touch and temperature. They are an important cue for speech recognition and are among the primary components of facial expressions. As a result, the details shape of the lip is an important input for system that wish to phoerve, process, and code human communication.



Fig no. 1 Lips

#### 1.2 Anatomy of Lips

The lips serve as organs of prehension, suction and speech. It is composed of the skin, superficial fascia, or bicularis muscle and the muscles inserted around it (arcolar tissue & mucous membrane. The margins of the lips are covered with dry, red mucous membrane. continuous with the skin and containing numerous vascular papillac and touch corpuscles. The mucous membrane internally is reflected from the upper and lower lip upon the gums, and in the median line forms two folds of superiors and inferiors.



Fig. 2 Anatomy of Lips

The areolar tissue or submucous layer contains the coronary vessels which completely encircle the buccal orifice near the free margin of the lips.. The superior labial or coronary vein begins as a plexus in the orbicular is muscle of the upper lip, passes with the coronary artery and drains into the facial vein a little below the alae of the nose of the veins which drain the lower lip the inferior coronary empties into the facial a little below the superior labial: but the chief branch from the lower lip descends as a rule to the submental vein, thence to the facial or often to the anterior jugular.

### 1.3 Functions of Lips

#### Food intake

Because they have their own muscles and bordering muscles, the lips are easily movable. Lips serve to close the mouth airtight shut, to hold food and drink inside, and to keep out unwanted objects.

#### Articulation

The lips serve for creating different sounds mainly labial, bilabial and labiodental consonant sounds as well as vowel rounding and thus are an important part of the speech apparatus.

#### Tactile Organ

The lip has many nerve endings and reacts as part of the tactile (touch) senses. Lips are very sensitive to touch, warmth, and cold.

### 1.4 Lipstick

Lipstick is generally accepted essential and leading makeup device available in variety of luster and texture! It is composed essentially of a oil-wax base, stiff enough to form a stick with a staining dye dissolved or dispersed in the oil, and pigment suspended there in, suitable perfumed and flavored, molded and enclosed in a case the lipstick provides a convenient means of freshening the make-up! Lipsticks impart attractive color, glossy and most appearance to the lips.



Fig.3.Lipstick

It also prevents cracking and chafing of lips to lead bacterial infection. It also provides emollient action to the lips. The formulation of lipsticks consists of oil and wax mixture having desired melting point and viscosity. The range of melting point chosen for this mixture is 55°C to 75°C and most commonly used is 62°C for hot climatic areas. It also contains bromo mixture to impart indelible stain and colors or pigments. The other ingredients, which are used in lipstick formulation, are preservatives, fragrance, surfactant and stabilizers, emulsifiers and antioxidants etc.

### 1.4.1 Advantages of Lipstick

- **Beauty**

No matter what style of lip color you prefer (sharp, bold and dramatic colors, or more natural and subdued shades that can be translucent), you will instantly feel more beautiful. If your goal is to stand out in the crowd, be more beautiful, or you simply need a boost in your confidence, lipstick is a perfect fashion tool for you.

- **Hydration**

Even though some older brands of lipsticks use ingredients that can suck moisture from your lips, most of them are very conscientious about hydration and are made to preserve the natural state of your lips. New brands of lipstick can often contain some form of moisturizing additive. Such as vitamin E or aloe-vera.

- **Sunscreen**

Even in early 20th century, chemist and fashion designers came to conclusion that sunscreen protection is important and that most people leave their sensitive lips up to the mercy of the sun even if they are conscious about protecting the rest of the face. Lipstick manufacturers then added sun protection ingredients to their products, enabling you to protect your lips from sun, drying, wind, and other harmful and aging effects.

- **Posture**

Several studies have shown that women who regularly use lipstick have a better posture in the later years of their life. Women in the ages of 65 to 85 have significantly less problems with their posture and balance.<sup>1</sup>

### 1.4.2 Disadvantages of Lipstick

- **Heavy Metals**

Studies have shown that lipsticks have concerning levels of chromium, cadmium and magnesium. This will result in increasing your risk to dangerous diseases and organ damage.

- **Lead**

It has been revealed that most of the lipsticks have a dangerously high amount of lead. Lead is a neurotoxin and can affect the nervous system. It can also cause brain damage. This is one of the reasons for hormone imbalance and infertility.

- **Formaldehyde and Mineral Oil**

Formaldehyde is a preservative, which is also known as human carcinogen. Wheezing, coughing, irritation of the eyes and skin are other effects of formaldehyde.

- **Parabens and Bismuth oxy chloride**

These are two other ingredients that are used in the making of lipsticks. The harmful effect of lipsticks is due to the carcinogenic property of these two ingredients. The parabens act as preservatives just like the formaldehyde. Though this is used in preserving the lipstick, it is very harmful for the body.

### 1.4.3 Ideal Characteristics of Lipstick

- Smooth and easy to apply. Non-irritant and non-toxic.
- Should have attractive colour and shine.
- Free from grittiness and should be non-drying.
- It should have required plasticity. It should have pleasant taste, odour and flavour.
- Don't lose its smooth and shiny appearance during storage.
- Stable during its shelf life- means free from bloom or sweating during storage.
- It should not melt or harden within reasonable variation of climatic temperature.

### 1.4.4 Disorder of Lips

- **Sun Damage**

Sun damage may make the lips, especially the lower lip, hard and dry. This type of damage can be reduced by covering the lips with a lip balm, lip jellies, lip gloss etc.

- **Inflammation:**

The corners of the mouth may become painful, irritated, red, cracked, and scaly.

- **Swelling:**

An allergic reaction can make the lips swell

## II. MATERIAL AND METHOD

### 2.1 Castor oil

Common name: Castor oil plant  
Synonym: Tricorn  
Kingdom: Ricinus  
Family: Spurges  
Biological Source: Seeds of Castor oil plant  
Genus: Ricinus  
Species: Ricinus



Fig. no. 4. Castor Oil

Castor oil has long been used commercially as a highly renewable resource for the chemical industry. It is a vegetable oil obtained by pressing the seeds of the castor oil plant (*Ricinus communis* L.) that is mainly cultivated in Africa, South America, and India. Major castor oil-producing countries include Brazil, China, and India. This oil is known to have been domesticated in Eastern Africa and was introduced to China from India approximately 1,400 years ago. India is a net exporter of castor oil, accounting for over 90% of castor oil exports, while the United States, European Union, and China are the major importers, accounting for 84% of important castor oil.

### 2.2 white bees wax

White beeswax has many functions. Usually it can be used in industrial production and can be made into a variety of cosmetics with excellent effects. For example, people use lipstick, hair wax and hair gel and other items have white beeswax. In addition, beeswax can also be made into dental trays or candles, and can be made into dyes.



Fig. no.5. White Bees Wax

Often, Beeswax is used in makeup products because it's a natural emulsifier, allowing the liquid and oil components of makeup to bind together and hold. It increases the thickness of solid products such as lipstick, giving them structure and keeping them solid to allow for smooth application.

### 2.3 Cetyl alcohol

It is common for Cetyl Alcohol to be wrongly understood as the type of alcohol that has

drying effects on the skin, such as rubbing alcohol; however, on the contrary, Cetyl Alcohol is skin-friendly with hydrating, conditioning, and softening properties that benefit both skin and hair. It is an alcohol that is derived from a fat, such as a vegetable oil like Coconut Oil or Palm Oil; hence it is also called Palmityl Alcohol.



**Fig.no.6.Cetyl Alcohol**

#### 2.4 Petroleum jelly

Petroleum jelly, petrolatum, white petrolatum, soft paraffin, or multi-hydrocarbon, is a semi-solid mixture of hydrocarbons (with carbon numbers mainly higher than, originally promoted as a topical ointment for its healing properties.



**Fig.no.7. Petroleum jelly**

Petroleum jelly is a mixture of hydrocarbons, with a melting point that depends on the exact proportions. The melting point is typically between 40 and 70 °C (105 and 160 °F). It is flammable only when heated to liquid; then the fumes will light, not the liquid itself, so a wick material is needed to ignite petroleum jelly. It is colorless (or of a pale yellow color when not highly distilled), translucent, and devoid of taste and smell when pure. It does not oxidize on exposure to the air and is not readily acted on by chemical reagents.

#### 2.5 Methylene paraben

Parabens or p-Hydroxybenzoates are derivatives of p-hydroxybenzoic acid and are used in industry, particularly in pharmaceutical, cosmetics and food, due to their appealing characteristic of acting as preservatives and antimicrobial compounds.



**Fig. no.8 Methyl Paraben**

However, these preservatives may be harmful to consumers due to their tendency to induce allergic contact dermatitis.

#### 2.6 Strawberry Essence

A substance (usually a liquid) that is taken from a plant or food and that has a strong smell or taste of that plant or food. Strawberry essence is a highly concentrated flavour extracted from fresh strawberries onto an alcohol base or synthesized artificially using chemical compounds. It is a pale straw coloured liquid with the aroma of fresh strawberry puree.



**Fig.no.9 Strawberry Essence**

#### 5.7 Vitamin E oil

Vitamin E is fat-soluble, which means it has the ability to penetrate deep down into your skin and preserve the lipids in your lips. This makes it a great hydrator, as it seals moisture inside your lips and aids in slowing down dehydration, too. Vitamin E can also help to close up those painful cracks in the skin that are caused by dryness and cold weather.



**Fig. no.10 Vitamin E Oil**

### Preparation of Lipstick

- Weigh the quantity of castor oil and white bees wax. Bees wax and castor oil was melted from 64°C.
- Cetyl alcohol and petroleum jelly was added. Continuously stirring with glass rod.
- At the end of formulation methyl paraben, vitamin E, and strawberry essence is added.
- After that the product will be poured into the mold.
- Allowed to get a consistency at a room temperature only.

S. No.	Ingredients	Quantity
1	Castor oil	12
2	White bees wax	6
3	Cetyl alcohol	1
4	Petroleum jelly	1
5	Vitamin E	1
6	Methyl paraben	0.05
7	Strawberry essence	q.s

**Table no.1 Formula for preparation of lipstick**

S. No.	Ingredients	Role Of Ingredients
1	Castor oil	Moisturising
2	White bees wax	Thickner
3	Cetyl alcohol	Texture
4	Petroleum jelly	Smoothing
5	Vitamin E	Antioxidant
6	Methyl paraben	Preservative
7	Strawberry essence	Flavoring agent

**Table no.2 Material used in the preparation of Lipstick**

### III. EVALUATION PARAMETERS

The prepared lipstick evaluated for its physical properties like colour, odour, ph, melting point, spreadability and viscosity.

#### 1. Test of spread ability

The test for spread ability was performed by applying the product on glass slide at room temperature repeatedly to observe uniformity in the formulation of protective layer and whether the stick fragmental deformed or broke during application for appropriate results of different formulation. For this test, the following criteria.... Do not leave fragments, perfect application and no deformation of lipstick.

#### 2. Melting point

To determine the melting point, the lipstick was melted and molten preparation was filled into the capillaries and was allowed to cool to regain its original nature. Then capillary was coupled with the thermometer and this coupled system was immersed in water at controlled temperature. The temperature at which the lipstick was observed as fully molten that temperature points was noted as its melting point.

#### 3. Solubility test

The formulation of lipstick was dissolved in various solvents like acetone, hexane, petroleum ether, water, alcohol etc. & the solubility was observed.

#### 4. Ph parameter

The pH of lipstick was determined in order to investigate the possibility of any side effect. As an acidic or alkaline pH may cause irritation of lips, it was determined to keep the pH of lipstick as close to neutral as possible. The pH study was carried out by dissolving 1 gm of sample into 100 ml water. The pH measurement was done using pH meter.

#### 5. Skin irritation test

It is carried out by applying product on the skin for 10 minute.



**Fig.11.Melting Point**



**Fig. no.12. solubility test**



**Fig.no.13. Spreadability test**

1.	Colour	Dark red
2.	Irritation	No irritation
3.	pH measurement	5.5 <sup>0</sup> C-5.6 <sup>0</sup> C
4.	Melting point	55-65 <sup>0</sup> C
5.	Spreadability	Good

**Table 2. Evaluation parameters of lipstick**

#### IV. CONCLUSION

The research it was concluded that the use of natural colors in lipstick formulation having no or minimum side effects. Natural ingredients like castor oil, beeswax, etc. were used in the preparation of lipstick with strawberry essence as a coloring agent. This lipstick shows good properties like shining of lips, spreading & smoothness of

lips. The research finding that also provides a guideline on the effect of ingredient towards the physical properties and consumer acceptance of the lipstick formulation. Hence the use of natural color is a step towards healthy cosmetics and can be widely utilized by women with great pleasure.

#### V. RESULT

It was found that Lp-3 is having satisfactory results among the all formulations. Lp-3 having the Excellency in colour appearance that is dark red, which is highly acceptable for lip cosmetics. Along with colour, it also has the perfume stability. Perfect application and no deformation on spreading which proves its good spreadability. The melting point of the formulations was found to be good in the range of 55-65°C. The pH of all the formulations was excellent and found to be in the range of 5.5-5.6. From the current studies it was concluded that the formulation will remain stable.



**Fig no.14 Formulated lipstick**

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