



# COMPARISON BETWEEN HERBAL AND CONVENTIONAL KAJAL

<sup>1</sup>Ms. Vaishnavi A. Khakre <sup>2</sup>Ms. Snehal K. Godase <sup>3</sup>Ms. Priya H. Kapase,

<sup>1</sup>Student, <sup>2</sup>Student, <sup>3</sup>Assistant professor,

<sup>1</sup>B. Pharmacy Pharmaceutics,

S.S.P. Shikshan Sanstha's Siddhi College of Pharmacy, Pune, India

**Abstract:** Traditionally Kajal is known as Surma or Kohl which is used as an eye liner. Designing Ayurvedic Kajal with medicinal plants as a cosmetic product for beautification was thought of as a novel and an innovative technique. The main advantages of these cosmetic products are more patient compliance, water resistant property, stability and of course economical to formulate. Looking at that the present study was carried out with the aim of formulation of Ayurvedic Kajal with the help of two medicinal plants viz. Eclipta alba (EA) and Vernonia cinerea (VC) and evaluate their potential for sustained ocular delivery. Standardization of the herbs was performed based on different physiochemical parameters and revealed the values were within the prescribed limits. Ingredients used for this present investigation was standardized using TLC method whereas process standardization was carried out with organoleptic characters and was resulted similar characters in terms of color, odor and consistency. Furthermore, product consistency was standardized by penetrometer test, moisture content test, TLC of the different extracts, microbial contamination and finally skin toxicity test. Different extracts like methanolic extract, lamp black extract, methanolic Kajal extract and hexane extracts for both the plants were carried out and revealed good results with all the extracts except.

**Index Terms – Kajal, Natural, Medicinal plant.**

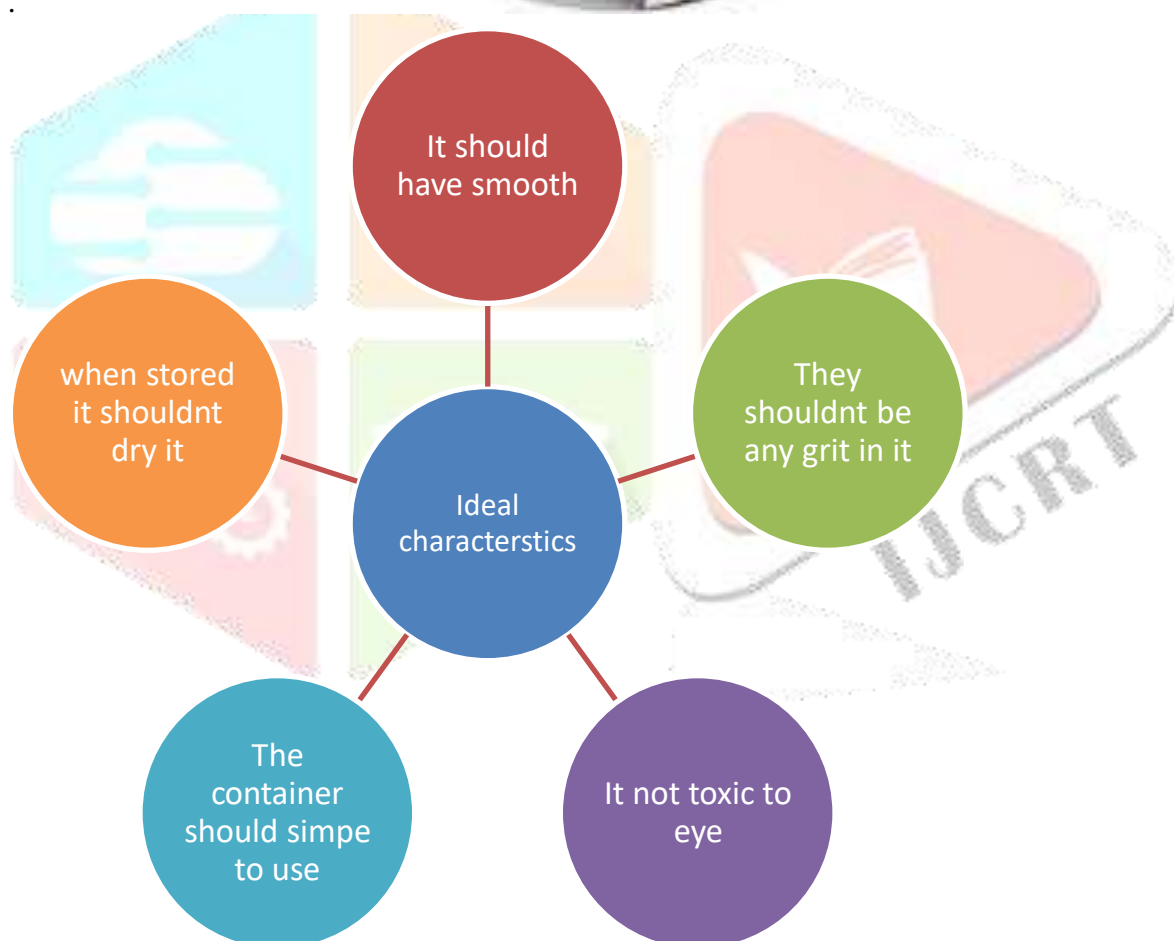
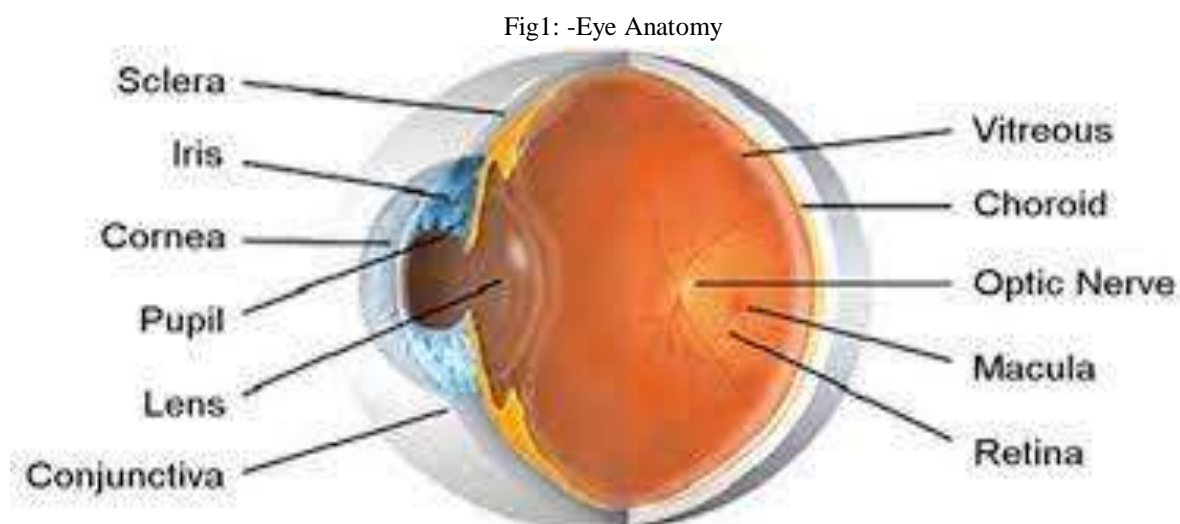
## 1. INTRODUCTION

Kajal is worn for a variety of reasons, including culture and beauty, to prevent "evil eyes." People use kajal in the eyes of children to drive away evil as a symbol of protection. In the Ayurvedic language, kajal is known as Anjanam or eye ointment. There are many types of medicinal plants used for eye diseases. The fight against eye diseases and side-effect-free chemicals remains a challenge for the healthcare system. However, Ayurvedic herbs have the power to overcome the limitations associated with traditional medicines. For this reason, great efforts have been made to identify new medicinal plants. This is because its effectiveness, side effects are relatively small, and its cost is relatively low. A popular eye product, kohl is described in almost all human cultures as being cool and clean for the eyes and used for the prevention and treatment of eye diseases.

There are number of plants which are used ophthalmic disorders, either single or in compound formulations are present in the Ayurvedic system of medicine, as mentioned in ancient Indian books like Charak Samhita, Sushrut Samhita, Bhav prakasha, Ras Tarang, Nayan Drastam and Astanghriday. Various eye disorders and diseases like Abhishyand (Conjunctivitis), Adhimanth (Glaucoma), Timir (Cataract), etc. have been described in great details<sup>1</sup> in Ayurveda. (Indian system of medicine). Their etiology and treatments have also been described. Use of Various herbal drugs in different dosage forms like extract, arkas (aqueous distillate), kajal (collerium), and fomentation and washing with different extracts have also been prescribed frequently. [2]

### 1.1 EYE ANATOMY

The eye is made up of three coats, which enclose the optically clear aqueous humour, lens, and vitreous body. The outermost coat consists of the cornea and the sclera; the middle coat contains the main blood supply to the eye and consists, from the back forward, of the choroid, the ciliary body, and the iris.[3]



## 1.2 Conventional Kajal Vs Herbal Kajal

### Herbal Kohl

It is worn for a variety of reasons including tradition, beautification, to ward off “evil eye,” the widespread belief That kohl is medically beneficial for the eyes, and finally Because wearing kohl is encouraged within the Sunna, the Traditional behavioral guidelines of the Islamic religionKajal is an eye-driven cosmetic device In reality, Kajal is first cosmetic product used by most people to make the eyes look attractive. The usage of kajal can date its elegance and its therapeutic benefits to more than 5000 years. Kajal was produced from camphor, vegetable oil and ghee originally at home. Kajal was commercially produced Over time. Various natural and industrial goods are produced of commercial kajal Lead has been used widely

in the manufacture of commercial kajal and is hence known to be eye-harmful for commercial kajal. Skin affects not just the structures of the body but also the skin. Consequently, herbal kajal or ayurvedic kajal can be used. Organic kajal, in the sense that it is created using natural ingredients, is 100 percent fresh. This also refers to Kajal Ayurvedic. Eyes with pure rizinic wax, ghee, bronze utensil and camphor may be rendered with ayurvedic Kajal. This can be made with almonds as well. For both of these instances, the kajal is pure for nature and hits the eyes many times.

Ayurvedic kajal has therapeutically beneficial ingredients for the body. The usage of organic kajal hydrates the eyes and hydrates them. The usage of this kajal often removes impurities to freshen the skin. The ayurvedic kajal raises the clarity of the eyes and improves the eye muscles. The usage of the kajal tends to drain tear fluid more rapidly Than by using industrial kajal. Natural kajal often has astringent properties and thus melts in the eyes of tiny red Vessels to stay clean.

Artificial kajal and herbal kajal are two different types of eye cosmetics, each with its own set of characteristics and considerations. Here's a comparison between the two:[4]



## Conventional Kajal

**Ingredients:** Artificial kajal typically contains synthetic chemicals, pigments, and additives that provide the desired color and texture.

**Consistency:** It often has a smooth and creamy texture, making it easy to apply on the waterline or eyelids.

**Texture:** Artificial kajal typically has a smooth and creamy texture, making it easy to apply.

**Longevity:** It tends to have a longer shelf life compared to herbal kajal because of the preservatives used in its formulation.

**Potential Irritants:** Some people may be sensitive to the synthetic ingredients in artificial kajal, which can lead to eye irritation or allergies.

**Intensity:** Artificial kajal may offer more intense and longer-lasting color compared to herbal alternatives.

**Availability:** It is widely available in a variety of brands and price ranges in the market.

## Herbal Kajal

**Ingredients:** Herbal kajal is made from natural ingredients such as herbs, oils, and plant-based pigments. It is often free from synthetic chemicals and preservatives.

**Consistency:** Herbal kajal is often softer and smoother due to the natural oils used, which can make it easier to apply.

**Texture:** Herbal kajal tends to have a slightly grainy or rough texture compared to its smooth artificial counterpart.

**Gentle on Eyes:** Herbal kajal is considered gentler on the eyes and less likely to cause irritation or allergies for most individuals.

**Shelf Life:** It may have a shorter shelf life compared to artificial kajal due to the absence of preservatives, so it may need to be used more quickly.

**Color Payoff:** The color intensity and longevity of herbal kajal may vary from brand to brand, and it may require reapplication throughout the day for a deep black look.

**Limited Options:** Herbal kajal may have fewer brand options and may be relatively more expensive than artificial kajal due to the use of natural, often organic, ingredients.

### 1. Ingredients:

- **Conventional Kajal:** Typically, conventional kajal contains ingredients like soot, camphor, and other chemicals. Some may also include lead, which can be harmful if used in excessive amounts over time.
- **Herbal Kajal:** Herbal kajals are formulated with natural ingredients, often derived from plants and herbs. Common herbal ingredients include almond oil, castor oil, camphor, and herbal extracts. Herbal kajals are usually free from harmful chemicals and may be enriched with vitamins and minerals.



## 2. Formulation:

- **Conventional Kajal:** Conventional kajals may include synthetic additives and preservatives to enhance their texture, color, and shelf life.
- **Herbal Kajal:** Herbal kajals are formulated with a focus on natural ingredients, and they tend to avoid synthetic additives and preservatives. This makes them a preferred choice for individuals who prefer natural and chemical-free beauty products.

## 3. Health Considerations:

- **Conventional Kajal:** Some traditional kajals, especially those containing lead, may pose health risks if used excessively. Prolonged use of kajals with harmful ingredients could lead to issues such as eye irritation or other health concerns.
- **Herbal Kajal:** Herbal kajals are often considered safer for the eyes and skin due to their natural composition. However, it's essential to check the specific ingredients used in each product to ensure they meet your preferences and any potential sensitivities.

## 4. Cultural and Traditional Significance:

- **Conventional Kajal:** In various cultures, conventional kajal has been used for centuries as a traditional cosmetic for eye enhancement and cultural practices.
- **Herbal Kajal:** Herbal kajals align with the growing interest in natural and organic beauty products, appealing to those who seek alternatives to conventional cosmetics with potentially harsher ingredients.

## 5. Manufacturing Process:

- **Conventional Kajal:** Mainstream kajal products are typically manufactured using conventional methods and may involve the use of industrial processes. The focus is often on achieving specific cosmetic effects, such as intense pigmentation and long-lasting wear.
- **Herbal Kajal:** Herbal kajals are produced with an emphasis on using traditional and natural methods of formulation. The manufacturing process may involve grinding and blending natural ingredients to create a product that not only enhances the appearance of the eyes but is also perceived as being more holistic and health-conscious.

## 6. Potential Benefits:

- **Conventional Kajal:** May provide intense pigmentation and long-lasting wear. Some people may find these products suitable for achieving specific cosmetic looks.
- **Herbal Kajal:** Adherents of herbal kajal often appreciate its potential benefits, such as being perceived as milder and more nourishing for the eyes. Herbal ingredients may have additional skincare properties.[5]

## Benefits of Herbal Kajal:

1. **Natural Ingredients:** Herbal kajal is typically formulated with natural ingredients such as herbal extracts, oils, and plant-based compounds, making it a preferred choice for those seeking natural and organic products.
2. **Gentle on the Eyes:** The absence of potentially harmful chemicals, like lead found in some traditional kajals, may make herbal kajal a gentler option, especially for individuals with sensitive eyes or skin.

3. **Skin Benefits:** Herbal kajal formulations often include ingredients that can be beneficial for the skin around the eyes, such as moisturizing oils and soothing herbs.
4. **Aromatherapy:** Some herbal kajals include essential oils for fragrance, providing a subtle aromatherapy effect.



**Fig: - Herbal Kajal**

### **Benefits of Conventional Kajal:**

1. **Intense Pigmentation:** Conventional kajal is known for its deep, intense pigmentation, providing a bold and dramatic look to the eyes.



**Fig: - Pigmentation**

2. **Long-Lasting:** The formulations of conventional kajal often make it long-lasting, staying in place for extended periods without frequent reapplication.



**Fig: - Long-lasting**

3. **Availability:** Conventional kajal is widely available in various brands and is a common cosmetic product in many cultures.

### **Considerations:**

- **Skin Sensitivity:** Individuals with sensitive skin or eyes may find herbal kajal to be a more suitable option due to its natural composition.

- **Personal Style:** The choice between herbal and conventional kajal may also depend on the desired look. Those who prefer a bold, dramatic appearance may lean towards conventional kajal, while those seeking a more natural look might opt for herbal formulations.
- **Cultural and Regional Preferences:** Cultural or regional preferences may influence the choice between herbal and conventional kajal, as both have their place in various beauty traditions.

The choice between artificial kajal and herbal kajal ultimately depends on your personal preferences and any sensitivities you may have. If you have sensitive eyes or prefer natural and chemical-free cosmetics, herbal kajal may be a better choice. However, if you prioritize long-lasting and intense color, you may opt for artificial kajal. Always read the product labels and ingredients list to make an informed choice and consider doing a patch test if you have sensitive skin or eyes. If you have sensitive eyes or prefer natural ingredients, herbal kajal may be the better option for you. However, if you prioritize long-lasting and versatile makeup, artificial kajal might be more suitable. [VI]

## 2.4 COMPOSITION

### ❖ *Conventional Kajal:*

The composition of artificial kajal, also known as traditional or commercial kajal, can vary between brands and products. However, I can provide a general overview of the typical ingredients found in many commercial kajal formulations. Keep in mind that some brands may include additional ingredients or variations in their formulas. Here are common ingredients found in Conventional kajal: [VII]

- Carbon Black or Pigments:** Carbon black is a common ingredient used to provide the deep black color in kajal. Some products may also contain other pigments to create different shades, such as brown or blue.



**Fig: - Carbon Black**

- Binders and Emollients:** Various binders and emollients are used to give the kajal its smooth and creamy texture. These can include ingredients like beeswax, paraffin wax, or synthetic waxes.



**Fig: - Bees Wax**

- iii. **Oils:** Oils are often added to kajal to improve its application and texture. These may include mineral oil, castor oil, almond oil, or other vegetable oils



**Fig: -** castor oil

- iv. **Preservatives:** To extend the shelf life of the product, preservatives may be included. Common preservatives used in cosmetics include parabens, phenoxyethanol, or other synthetic preservatives.
- v. **Fragrances:** Some kajal products may contain fragrances or scents to enhance the user experience. Fragrance ingredients are typically listed separately on the product label.
- vi. **Other Additives:** Depending on the brand and formulation, kajal may contain additional ingredients like antioxidants, vitamins, or botanical extracts for skincare benefits or to improve product stability.

It's important to note that the specific formulation of artificial kajal can vary significantly between brands and even between different products within the same brand. Therefore, if you have specific concerns about the ingredients in a particular kajal product, it's advisable to check the product label or contact the manufacturer for detailed information.

Additionally, individuals with sensitive skin or allergies should be cautious and consider doing a patch test before applying any new cosmetic product to the delicate eye area to ensure there are no adverse reactions.[VIII]

#### ❖ *Herbal kajal:*

Herbal kajal, also known as natural kajal or organic kajal, is made from natural ingredients and botanical extracts, and its composition typically avoids synthetic chemicals and fragrances. Here are common ingredients found in herbal kajal:

- i. **Almond Oil:** Almond oil is a common ingredient in herbal kajal. It is known for its nourishing properties and is used to provide a smooth texture to the kajal.



**Fig:-**Almond oil



- ii. **Castor Oil:** Castor oil is another common base oil used in herbal kajal. It helps in giving the kajal its consistency and can be beneficial for the skin.



**Fig:-** Castor oil

- iii. **Ghee (Clarified Butter):** Ghee is sometimes used in herbal kajal formulations for its moisturizing properties and to improve the kajal's texture.



**Fig:-** Ghee

- iv. **Camphor:** Camphor is used for its cooling and soothing effects on the eyes. It can provide a refreshing sensation when applied.



**Fig:-** Camphor

- v. **Herbs and Botanical Extracts:** Herbal kajal may contain a variety of herbs and botanical extracts, such as amla (Indian gooseberry), triphala (a combination of three fruits), and other natural ingredients. These ingredients are often added for their potential benefits for eye health and skin.



**Fig:-**Herb Extract

- vi. **Natural Pigments:** To provide color to the kajal, herbal versions often use natural pigments like carbon black, soot, or mineral-based pigments derived from sources like iron oxides.



**Fig:-Iron oxide**

- vii. **Beeswax or Plant-Based Waxes:** These waxes are used to give the kajal its structure and help it glide smoothly during application.



**Fig:-Bees wax**

- viii. **Minerals:** Some herbal kajal products may include powdered minerals like zinc oxide or talc to improve texture and consistency.



**Fig:-Zinc Oxide**

- ix. **Essential Oils:** Essential oils, such as lavender oil or rose oil, may be added for their fragrance and potential soothing effects.



**Fig: - Rose oil**

- x. **Other Natural Additives:** Depending on the specific brand and formulation, herbal kajal may include additional natural additives like honey, neem oil, or aloe vera for their potential skincare benefits.



**Fig:-Honey**

It's important to note that the exact composition of herbal kajal can vary between brands and products, and some formulations may include additional botanical extracts or unique ingredients for specific purposes. Herbal kajal is generally favored by individuals looking for a natural and gentle alternative to traditional kajal products, especially if they have sensitive eyes or skin. As with any cosmetic product, it's a good practice to read the product label to understand the specific ingredients in the herbal kajal you choose. [IX]

## 2.5 Types

### ❖ *herbal kajal:*

Herbal kajal, also known as natural or organic kajal, comes in various types and formulations, each with its own set of ingredients and properties. These types are often designed to cater to different preferences and needs. Here are some common types of herbal kajal:

- i. **Traditional Herbal Kajal:** This is the most common type of herbal kajal, made from a combination of natural ingredients like almond oil, castor oil, ghee (clarified butter), camphor, and various herbs. It is typically used for enhancing the eyes and can have a cooling and soothing effect.
- ii. **Ayurvedic Kajal:** Ayurvedic kajal is formulated following the principles of Ayurveda, an ancient Indian system of medicine. It may contain ingredients like triphala (a combination three fruits), amla (Indian gooseberry), and other herbs known for their eye-soothing and nourishing properties.



**Fig: - Ayurvedic kajal**

- iii. **Mineral-Based Herbal Kajal:** Some herbal kajal products incorporate mineral pigments such as carbon black or powdered minerals like zinc oxide for color and texture. These formulations aim to combine the benefits of natural ingredients with the staying power of mineral pigments.



**Fig:-Zinc oxide**

- iv. **Vegan and Cruelty-Free Kajal:** For those who prefer vegan and cruelty-free products, there are herbal kajal options available that do not use any animal-derived ingredients and are not tested on animals.



**Fig: -Vegan**

- v. **Hypoallergenic Kajal:** Hypoallergenic herbal kajal is formulated to minimize the risk of allergic reactions. It is often free from common allergens and harsh chemicals, making it suitable for individuals with sensitive skin and eyes.



**Fig:-Hypoallergenic Kajal**

- vi. **Waterproof Herbal Kajal:** Some herbal kajal products are designed to be waterproof or water-resistant, ensuring that they stay in place even in humid conditions or when exposed to moisture.



**Fig:-Waterproof kajal**



- vii. **Smudge-Proof Kajal:** Smudge-proof herbal kajal is formulated to resist smudging and running, making it suitable for long-lasting wear throughout the day.



**Fig:-Smudge Proof**

- viii. **Herbal Kajal with Additional Benefits:** Certain herbal kajal formulations may contain additional ingredients like vitamins, antioxidants, or botanical extracts that claim to offer extra benefits to the skin around the eyes, such as anti-aging or moisturizing properties.[X]

It's important to note that the specific ingredients and properties of herbal kajal can vary between brands and products. When choosing a herbal kajal, consider your personal preferences, skin type, and any specific requirements you may have, such as waterproof or hypoallergenic options. Always read the product label and description to understand the ingredients and benefits of the herbal kajal you're interested in.

#### ❖ **Conventional Kajal:**

Artificial kajal, also known as commercial or traditional kajal, comes in various types and formulations to cater to different preferences and makeup needs. Here are some common types of artificial kajal:

- i. **Traditional Kohl Kajal:** This is the classic black kajal that has been used for centuries in various cultures. It typically contains carbon black as the primary pigment and may include binders, oils, and other ingredients for texture and application.
- ii. **Colored Kajal:** Colored kajal comes in a variety of shades beyond traditional black. Common colors include brown, blue, green, and gray. These kajals are often used to create colorful eye looks or to match different outfits.



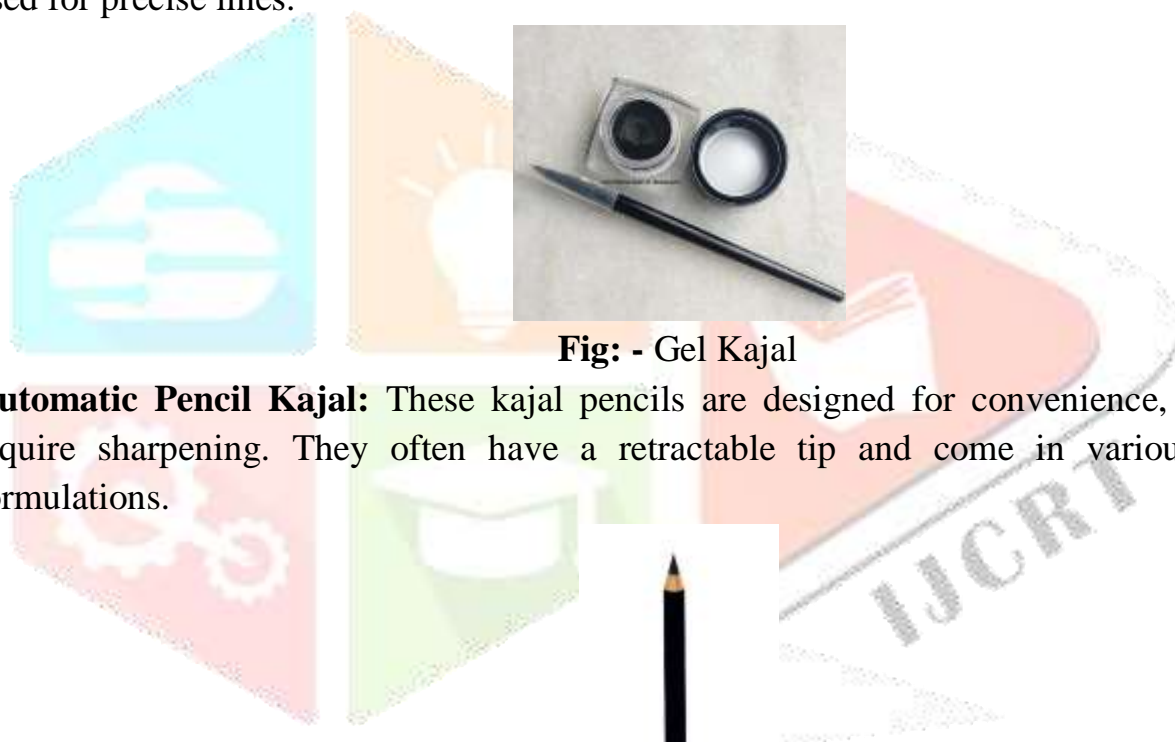
**Fig: - Color Kajal**

- iii. **Waterproof Kajal:** Waterproof kajal is formulated to resist smudging and running, even when exposed to water or humidity. It's a popular choice for long-lasting wear, especially in hot and humid climates.



**Fig: -** Water proof Kajal

- iv. **Gel or Cream Kajal:** Gel or cream kajal comes in a pot or pencil format and typically has a smooth and creamy texture. It's easy to apply and can be smudged for a smoky eye effect or used for precise lines.



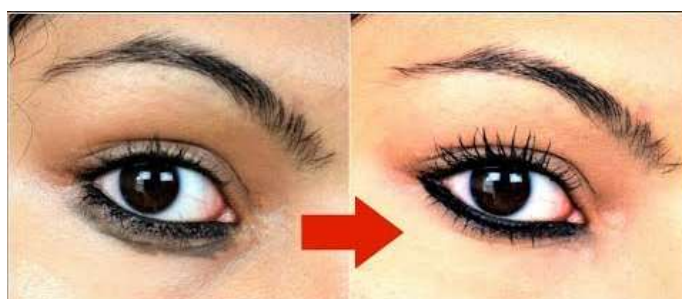
**Fig: -** Gel Kajal

- v. **Automatic Pencil Kajal:** These kajal pencils are designed for convenience, as they don't require sharpening. They often have a retractable tip and come in various colors and formulations.



**Fig:-**Pencil kajal

- vi. **Smudge-Proof Kajal:** Smudge-proof kajal is formulated to resist smudging throughout the day, keeping your eye makeup looking fresh. It's a good choice for those who want a clean and polished look.



**Fig: -** Smudge proof kajal

- vii. **Long-Wear Kajal:** Long-wear kajal is designed to stay put for extended periods without fading or smudging. It's ideal for special occasions or long days when you need your eye makeup to last.
- viii. **Matte Finish Kajal:** Matte kajal provides a non-shiny finish, making it suitable for those who prefer a more understated or natural look. It's less reflective than glossy kajals.
- ix. **Kajal with Added Skincare Benefits:** Some kajal products are formulated with ingredients like vitamins, antioxidants, or moisturizers to provide skincare benefits to the eye area while enhancing your makeup.
- x. **Scented Kajal:** Scented kajals may have a pleasant fragrance added to enhance the user experience. Common scents include floral, herbal, or oriental notes.



Fig: - Scented Kajal

- xi. **Customizable Kajal:** Certain kajal products come with built-in smudging tools or dual-ended pencils with different colors or textures for versatile eye makeup looks.[XI]

It's important to consider your specific makeup preferences, skin type, and the occasion when choosing an artificial kajal. The type you select will depend on factors like the desired color, texture, staying power, and any special features you require, such as waterproof or smudge-proof formulas. Always read the product label and description to understand the characteristics of the artificial kajal you're interested in.

## 2.6 preparation method

The preparation methods for conventional kajal and herbal kajal differ significantly due to the nature of their ingredients. Please note that the following methods are general and may not represent every formulation. The actual manufacturing process can vary between brands. It's also important to note that making kajal at home may not guarantee the same quality or safety as commercially produced products. Always ensure the safety and hygiene of the ingredients used.[XII]

## Traditional/Conventional Kajal:

### Ingredients:

1. Lamp or candle flame
2. A small metal or earthenware plate

**Method:****1. Prepare the Metal Plate:**

- Place the metal plate over the flame of a lamp or candle.



**Fig:-**Prepare metal plate

- Allow the metal plate to get very hot. The soot produced by the flame will start to collect on the plate.

**2. Collect Soot:**

- Hold the metal plate at an angle, allowing the soot to collect on one edge of the plate.



**Fig:-** Collect Soot

**3. Scrape and Form Kajal:**

- Using a spatula or a tool, carefully scrape off the collected soot from the metal plate. This collected soot is what forms the basis of traditional kajal.



**Fig -** Scape and Form Kajal



#### 4. Storage:

- Allow the collected soot to cool. It can then be stored in a small container, often made of wood or metal, for use.[XIII]



Fig: - Storage

#### Herbal Kajal:

##### Ingredients:

1. Almond oil
2. Aloe vera gel
3. Beeswax or carnauba wax
4. Camphor
5. Natural pigments (optional)
6. Essential oils (optional)

##### Method:

###### 1. Prepare a Double Boiler:

- Set up a double boiler to melt the beeswax or carnauba wax. This involves placing a heatproof bowl over a pot of simmering water.

###### 2. Add Ingredients:

- Add almond oil, aloe vera gel, and the chosen wax to the double boiler.
- Optionally, you can add natural pigments for color and essential oils for fragrance.

###### 3. Melt and Mix:

- Heat the ingredients until the wax is fully melted and all ingredients are well combined. Stir the mixture thoroughly.

###### 4. Add Camphor:

- Once the mixture is well-mixed, add a small amount of camphor for its soothing properties.

###### 5. Pour into Containers:

- Pour the liquid kajal mixture into small, clean containers for storage.

###### 6. Cool and Solidify:

- Allow the kajal to cool and solidify before using. Once set, it should have a smooth texture.

Remember, these are basic methods, and specific recipes can vary. Additionally, if you are making herbal kajal at home, it's crucial to ensure that the ingredients used are safe and suitable for your skin. Always patch-test any homemade cosmetic on a small area before using it more widely. If you have specific skin conditions or concerns, consulting with a dermatologist is advisable.[XIV]

### Important Considerations:

- **Hygiene:** Both in the collection of soot for conventional kajal and the preparation of herbal kajal, hygiene is crucial to ensure the safety of the product.
- **Quality Control:** Commercially produced kajals undergo rigorous quality control to meet safety standards. Homemade formulations may lack this level of quality assurance.
- **Skin Sensitivity:** Homemade or commercially produced herbal kajal may be preferable for those with sensitive skin, but it's essential to know the specific ingredients and potential allergens.[XV]

### 3. Conclusion

kajal is a traditional eye makeup product with a rich history that spans various cultures. It is known for its ability to enhance the eyes and create dramatic, expressive looks. Kajal is available in different types, including both artificial and herbal varieties, each offering distinct benefits and characteristics.

Artificial kajal, also known as commercial or traditional kajal, is typically made with synthetic ingredients and comes in various forms, such as waterproof, smudge-proof, and colored options. It is favored for its wide range of colors and long-lasting properties. However, it may contain synthetic chemicals and preservatives, which some individuals may want to avoid.

On the other hand, herbal kajal, made from natural and botanical ingredients, is preferred by those seeking a more natural and gentle alternative. Herbal kajal often includes oils like almond oil or castor oil, as well as herbs and other soothing ingredients. It may be free from synthetic dyes and fragrances, making it suitable for sensitive eyes.

Whether you choose artificial or herbal kajal, the type you select should align with your personal preferences, makeup needs, and any skin sensitivities you may have. Always check the product label for specific ingredients and properties to ensure it meets your requirements.

Regardless of the type, kajal remains a popular and versatile makeup product, cherished for its ability to define the eyes and create stunning eye makeup looks. Its rich, cultural significance and enduring popularity make it a timeless addition to beauty routines around the world. [XVI]

### REFERENCE

- [1] Sweta Roy, et al., Herbal Kajal/Kohl: An Overview. IJSET - International Journal of Innovative Science, Engineering & Technology, Vol. 7 Issue 7, July 2020
- [2] A.R. Ali, O.R. Smales, M. Aslam, "Surma and lead poisoning", British Medical Journal, Vol. 2, No. 6142, 1978, pp. 915-6.
- [3] A. Nir, A. Tamir, N. Zelnik, T.C. Iancu, "Is eye cosmetic a source of lead poisoning?" Israel Journal of Medical Sciences, Vol. 28, No. 7, 1992, pp. 417-21.
- [4] Parry C, Eaton J. Kohl: A lead- hazardous eye makeup from the third world to the first world. Environmental Health Perspectives.
- [5] Gupta R, Ahmad H, Sehgal S, Dwivedi H, International Journal of Phytocosmetics and Natural Ingredients 2016

- [6] Waghulde S, Pawar A, Kadav M, Khade P, Kale M, Tekade B, Gorde N, Naik P. Konkan Gyanpeeth Rahul Dharkar College of Pharmacy and Research Institute, Karjat, University of Mumbai
- [7] The Textbook of Cosmetics formulation, manufacturing and quality control. By PP SHARMA vandana publications Delhi-110034 5th edition ; 459
- [8] Sandford M.T, Alfred D. The Fine Structure Of The Wax Gland Of The Honey Bee (Apis Mellifera) Apidologie, Springer Verlag, 1976,7 (3).
- [9] Cynthia Cobb, medically reviewed, DNP, APRN, WHNP-BC, FAANP-by Ana Gotter – Updated 2019.
- [10] Randive D. J, Bhinge S.D , Jadhav. N . Bhutkar M. A, Shirsath M.k. Assessment of Antimicrobial Efficacy of Kohl / Kajal Prepared by different Indian methods against selected microbial strains. International Journal of Current Pharmaceutical Research ,2020 12
- [11] Varpe P. V, Telangi G. M ,Wakale M.T, Jadhav A. P, Lokhande R. Formulation and Evaluation of Medicated Herbal Kajal. International Journal of Scientific Research in Science and Technology Print ISSN: 2395-6011 | Online ISSN: 2395-602X (www.ijrst.com) Doi : <https://doi.org/10.32628/IJSRST2293115>
- [12] Gupta B. P, Mishra A, Formulation & preliminary evaluation of herbal kohl. International journal on current trends in drug development & industrial pharmacy ,2019.3,
- [13] Sohail T, Atiq-ur-Rahman, Imran H , Yaqeen Z , Fatima N , Zakir-ur-Rahman , Khula Shireen .Toxicological Studies Of Popular Eye Cosmetic Used World Wide, Bangladesh Journal of Medical science,2019,18.
- [14] Chirstine Tara Peterson et al., Therapeutic Uses of Triphala in Ayurvedic Medicine Journal of Alternative and Complementary Medicine J Altern Complement Med. 2017 Aug 1; 23(8): 607– 614
- [15] The Textbook of Cosmetics formulation, manufacturing and quality control. By PP SHARMA Vandana publications Delhi-110034 5th edition ; 459
- [16] Medically reviewed by Debra Rose Wilson, Ph.D., MSN, R.N., IBCLC, AHN-BC, CHT- By Valencia Higuera2020