

Herbal Kajal/Kohl: An Overview

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ABSTRACT

Kajal is historically called kohl or surma and is used as an eye-catcher. A revolutionary technique and a novel are conceived of as the production of herbal kajal with medicinal plants for enhancement. The key benefits of these cosmetics items are greater patient conformity, water-resistant properties, durability and cost-efficient shaping curve. Two medicinal plants with the help of viz. The aim of *Rosa rubiginosa* and Triphala for the production of herbal kajal was to evaluate their potential for sustained ocular delivery. Standardized herbs were performed using specific physiochemical parameters to determine the values within the specified limits. The herbal kajal has been evaluated in relation to reference products based on selected criteria with its anti-microbial ability.

KEYWORDS: Kohl, kajal, *Rosa rubiginosa*, Triphala, herbal kohl

1.0 INTRODUCTION

The eyes are the essential connections between the inner and outer worlds. Pitta dosha stands for the aspect of fire and light that governs our eyes in Ayurveda. So, in our body system, eyes are very necessary organ. Vedic science provides numerous normal, healthy and efficient strategies for the treatment and embellishment of the skin. With the aid of ayurvedic medicine, numerous herbs and flora have been used to create Ayurvedic cosmetics that not only embellish the face, but also shield it from any adverse effects on the body. Ingredients from plant products are often used in cosmetics that are ideal for moisturizing, whitening, coloring and sun screening, vitamins, immuno-stimulants or cleaning. Kajal 's position in eye products cannot be disregarded because it is one of them. Kajal is used to shield the "evil eye" for several separate grounds including custom, embellishment. There is a broad belief that kohl is medically beneficial for the eye and that the traditional behavioral guidelines of Islamic religion are ultimately encouraged to use kohl in the sunnah.

1.1 History

There are several plants that are used as ophthalmic disorders. As stated in ancient Indian books such as Charak Samhita, Sushrut Samhita, Bhav Prakash, Ras Tarang, Nayan Drastam and Astanghriday, either single or compound formulas are present in the Ayurvedic medicines framework. Several eye problems and diseases have also been defined in detail in Ayurveda (Indian medical system). Their etiology and diagnosis have also been identified. Numerous eye problems such as abhishyand (conjunctivitis), adhimanth (glaucoma). Specific herbal remedies were often commonly recommended for various dosage types such as powder, arka (aqueous distillate), kajal (collerium) and fomentation and washing with various extracts. In this area, it is also essential to use not only animals for laboratory research but also materials and ingredients extracted from animal sources. The medicines and cosmetics act are connected with the safety and price of goods produced and marketed in India. There is therefore a primary need for regulation for 'natural' products used in various preparations. Of late, standardization is the key principle which is able to establish confidence and faith in the goods and improve consumer importance. Both the customer and the professional are also awaiting manufacturer 's confirmation of product consistency, health and performance.

1.2 Herbal ingredients to be used

Consequently, older guidelines for cosmetic formulations of herbs for particular diseases cannot be recognized unless properly checked. *Rosa rubiginosa* and *Triphala* herbs were chosen in this analysis in order to formulate kajal from various extracts. Polyherbal composition is well established from Ayurveda triphala. *Triphala* is an Indian System of Medicine (ISM) Rasayana treatment. This comprises of 3 specimens of *Embolica officinalis* Gaertn (Euphorbiaceae), *Terminalia bellerica* Lin (Combretaceae) and Combretaceae *Terminalia chebula* (Combretaceae), each of which has a proportion comparable to that of (1:1). Tannin, Gallic Acid, Chebulagic Acid, Phenols and Glycosides are the most commonly found polyphenolic compounds in plant extracts. *Triphala* is most frequently linked with phenolic acids, flavonoids and tannins. *Triphala* is also used in all eye conditions including conjunctivitis treatment and progressive myopia, early glaucoma stages and cataracts as described by Mahajan et al.; *Triphalaghrita* provides protection against start delays and cataract progression at a dose of 1080 mg. Anti-characteristics may also benefit from antioxidant activity Gallic acid, esogic acid and ascorbic acid. Rose water has historically been used to relieve constipation, nausea, swelling and to reduce throat infection. Once used as eye drops, however, it performed as found in the analysis to treat eye problems.

1.3 Effects of herbal ingredients in Kajal

The herbal treatment contained rose extracts was used to treat and used eye drops for patients with dry eyes, conjunctivitis and pterygium. The reductions are also seen in postoperative cataract cases. So, their health is greatly changed. Of course, water is good for the rosy eyes. The effects of rose water for eyes are: eyes are cool, skin is annoyed, cell loss is protection, dark circles are blinding, the eye is comfortable. eye washing is calming. Medications Kajal was thought to be a revolutionary solution as the cosmeceutical drug in the fight against eye infections and enzymes, as kajal is most effective in the maquillage of the skin. Looking at the present study, the aim of the preliminary Ayurvedic kajal, called soot / lamp black, was to prepare a contemporary formulation, prepared by two herbs namely pink rubyose and triphala, with a common identity, physical evaluation and safety toxicity study.

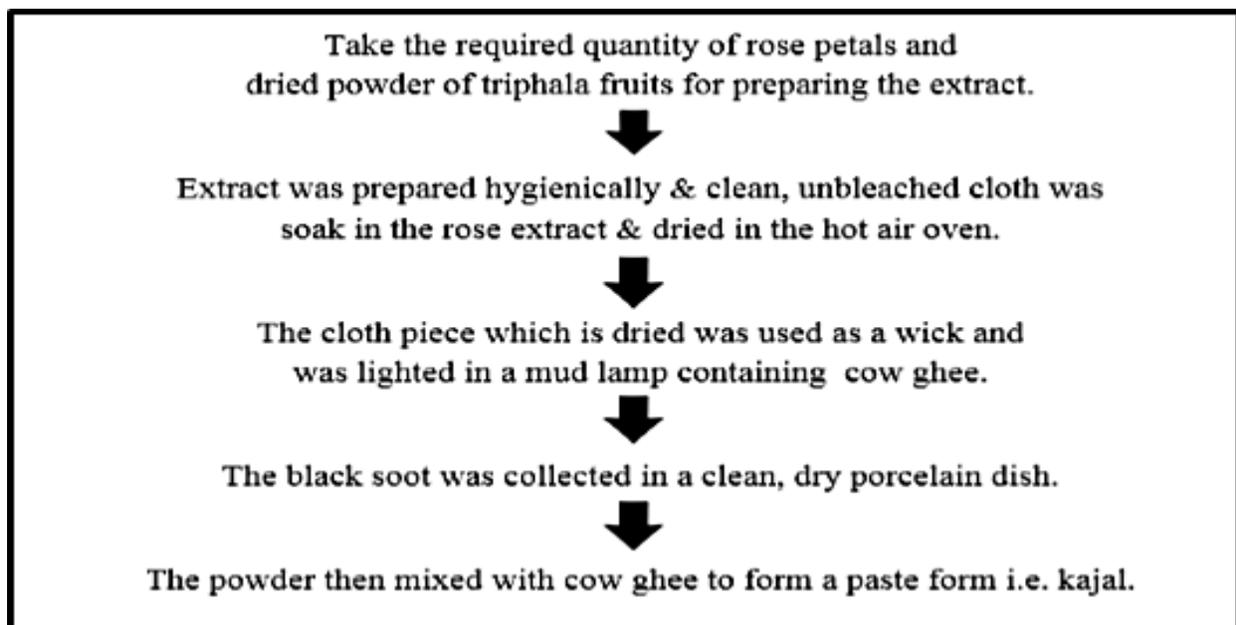


Figure 1: Preliminary Ayurveda formulation of kajal

2.0 REVIEW OF LITERATURE

Kohl or surma is a typical artificial skin that frequently produces high amounts of lead (Pb) in the Middle East, Asia, Pakistan and parts of Africa. We use the words kohl and surma in this paper interchangeably for ease of usage. Kohl is widely used in Germany, the United States and other areas of the world by emigrants from these countries. By comparison to mascara used on epidermal eyelid surfaces, kohl is added on the conjunctive palpebral. Kohl is often added as an astringent to the preservation stump of premature infants as well as to the eyes of toddlers and young children to promote healthier eyes in conventional Middle Eastern medicine. Its use is an antiquities, religious and medicinal practice which dates back centuries [1-4]. Nevertheless, the usage of kohl is inherently dangerous, as certain formulations involve large amounts of Pb. Many studies show strongly, and several countries have therefore implemented state regulations concerning their importation and labeling and the use of public education, as well as Pb-containing kohl is a major source of Pb exposure in women and children.

2.1 Actions taken by different countries against lead

Throughout the Middle East, India and Pakistan, pb contamination is an increasingly recognized problem for public health [5-14]. Pb is an omnipresent contaminant to which humans are subjected from soil, air and water throughout their lives [15]. Extensive Pb-induced toxicity research over the last 40 years have demonstrated that Pb is harmful to fetus, child, pre-teen, and aged adult nervous and neuroendocratic systems [16–19] and that Pb induces renal and cardiovascular toxicity [20]. During the first two years of development, the human brain is more prone to Pb damage. This age reflects the physiological immaturity of the mind and bowel, which enhances Pb's buildup and comportations such as mouthing and crawling. In the United States (U.S.) blood lead amount (BPb) of significance is 10 $\mu\text{g} / \text{dl}$ or higher (U.S. Centers for Disease Control, 1991) for children who cause an assessment of environmental toxicity, parent involvement and PbB management. Children are associated with PbBs above 10 $\mu\text{g} / \text{dl}$, with decreased IQ scores, less attention, and increased aggression. In fact, there was a gap in pubertal development in girls with 3 $\mu\text{g} / \text{dl}$ [17].

2.2 Etiology & Pathology by lead

Pb is involved in the etiology or the pathology of nerve system protein folding disorders, including Alzheimer's Disease (AD), Parkinson's Disease and cataracts, along with its developmental neurotoxicity. There is also little epidemiological Pb toxicity analysis in the Middle East but researchers and public health authorities are starting to investigate this area. Elevated PbB, in accordance with results in the United States and a combined foreign study, is associated with cognitive disabilities in school girls in Egypt, for example. Moreover, high PbB is correlated with the delayed initiation of puberty, as well as with laboratory rodent experiments, among males and females in Egypt, in line with studies in Russia, South Africa and the USA. Furthermore, elevated PbB is correlated with high blood pressure in Saudi Arabian women after menopause [7] which indicates that the possibility of Pb toxicity is not limited to girls. While employees in some construction, mining and manufacturing sectors may be at risk for occupational exposure, Pb is mostly faced by food and water in the general public. Meat, climate, water, and sediment or dirt are the main possible exposure routes for babies and young children. Traditional medication and cosmetics such as kohl are two more potential causes of exposure, which are essential because they are voluntary and avoidable exposures. Several experiments have demonstrated that Pb crosses the placenta and that maternal PbB interacts strongly with umbilical cord PbB. The body weight of the mother of Pb is also partly transferred to the child. A variety of Middle East scholars called for rigorous policy controls for the processing and labelling of carbon emissions, quality management and stronger public awareness on its risks. Kohl is not approved by the US Food and Drogen Administration and subject to import alerts such as the Import Alert for the "Eye Area Cosmetics Containing Kohl, Kajal, or Surma Detainment without Physical Examination" issued by the United States Food and Drugs Administration on 27 March 2012.

Similar prohibition on the usage of kohl or alert customers about its use by the Us, Canada, France and other nations. "Remove pigment chemicals not allowed in the area of the skin, such as 'permanent' eyelid tints and kohl, which are not licensed for use in the area of the eye. Be especially cautious to keep kohl away from babies, because studies have connected it to lead to poisoning.

3.0 ADVANTAGES/DISADVANTAGES OF HERBAL MEDICINE

Over several centuries, herbal medicines have been in usage. Several benefits of herbal remedies and demerits are here. Today the world prefers alternative medicines such as ayurvedic, naturopathic, homeopathic and herbal medicines. It can be noted that such drugs were used thousands of years before. Archeological evidence suggests that herbal plants were used as part of traditional medicine by civilizations of the past. The earliest documents concerning herbal medicines were published in China and date from 2800 BC. Herbal medication has been used to cure a number of diseases for about 5000 years. Today, as a separate industry, it was developed as many people prefer herbal medicine over synthetic medicine.

3.1 Herbal medication advantages

Herbal treatment is safer and healthier than allopathic drugs obtained. Another benefit with herbal products is that without a prescription it can be bought. We can be sold in every wellness store. Herbal medicine and medicines for certain conditions are more effective than allopathic medicines. The pharmacist could prescribe certain adverse side effects of the chemical medicine. Many natural medications and treatments have no adverse consequences, however. However. For some, the pharmaceutical items are weaker than allopathic.

3.2 Benefits of herbal ingredients

Herbal medication may be easily used to detoxify the body naturally. The herb can be used to purify the spinal cord, increase digestion and food absorption and strengthen the immune system, including Plantago, psyllium seeds, rhouber juices, aloe vera, alfalfa juice, chlorella, carrot concentrates and garlic, among others. Many stomach conditions including colitis, indigestion, peptic ulcers and bowel disease can be treated with herbs. Herbal treatment, like ginger, capsicum, garlic, and motherwort, tends to regulate the circulatory issues, such as asthma, varicose ulcers, etc. Different herbal medicines are used for the prevention of coronary heart disease and for rising serum cholesterol. The origin of multiple health issues is obesity. Herbal medicines may lead to weight loss and appetite control. Herbal Medicine

3.3 Disadvantages of herbal products

Disadvantages Herbal Medicine has some demerits much like other kinds of complementary healthcare. All of them are here. It will take some time to treat natural medication and supplements. You have to have tremendous courage. Herbal treatment includes many components to making sure you will not get allergic to the body. A significant thing to note here is that natural treatments and medications can induce adverse side effects under some circumstances. These side effects cannot be readily reported, but they may take months or even years. During the early phases, it is best to avoid using the herbal remedy if you don't agree with it. Remember that there is no law governing the herbal medicine industry. Therefore, for herbal products, there is no consistency control. There are very few effective herbal medicine practitioners and it's best to get an effective practitioner before you continue with herbal medicine.

4.0 ARTIFICIAL KAJAL VS HERBAL KAJAL

4.1 Artificial Kajal and Herbal Kajal

Kajal is an eye-driven cosmetic device. In reality, Kajal is the 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.

The 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 resinic 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 [21].

The advantages of organic kajal hold the eyes clean the following are:

- **Rich in Vitamin E:**

It is reported to be very good for the eyes the ayurvedic kajal, made from pure rice oil. The best source of vitamin E is Castor Oil in its purest form. This tends to clear the skin, thickens and fades the eyelashes. Some of the principal benefits of organic kajal is to relieve pain in the skin. It helps rid your body of exhaustion and keeps your body clean.

- **Anti-Bacterial:**

Copper is renowned for its soothing properties and is considered to be a purifier for the processing of organic kajal. Copper helps hold the body clear of foreign diseases and make-up. This allows the lens and eye muscle to be reinforced and calm. This therefore manages to improve the vision.

- **Relaxes Irritated Eyes:**

Bronze and silver are typically used in the growth, restoration and reproduction of Ayurvedic kajal. They also lead to the treatment of skin allergies. Both act to calm and over rub the enlarged and stressed blood vessels and thereby enhance optimal eye health.

- **Cool Eyes:**

Camphor is the herbal kajal's primary component. This tends to calm the body and relieves the skin of pain. This aims to reduce mild eye eruptions and also promotes eye protection.

- **Keeps Dark Circles Away:**

Another component used in the processing of Ayurvedic kajal is ghee. Through soothing it, Ghee keeps dark circles down. It extracts the minute builder contaminants hidden under both the top and bottom eyes of salt deposits from tears. The Ayurvedic Kajal is also a way to hold the eyes clear of diseases and healthy.

4.2 Disadvantages of Artificial Kajal

In Kajal & Surma you will find these gorgeous eyes typical Indians. "kajal" initially begins as a home remedy rather than as a makeup. Products that had significant effect on eye infections include magnesium, copper sulphate and other herbal plants. Trachoma was very widespread at the time in North India and this region of Asia: conjunctivitis, corneal ulcer and other blinding infections. Health assistance and medications were not easily accessible or were not

commonly available. Kajal had significance in this scenario and had the function of shielding our eyes as propagated by our great grandmothers.

The kajal components were empirically picked or identified. The preparation of kajal was rough and the concentration of each material and its true effect on the eye could not be established. That's still the case right now.

Today "Kajal" loses its importance and function due to the existence of good medicines at exact doses and the carefully studied impacts on the eyes and disease. Kajal is also widely used by women as an enhancer of appearance.

Kajal can be harmful to the skin. Any of them show below:

- Conjunctivitis - chemical, toxic & infective
- Allergy
- Toxicity / Chemical Reaction
- Meibomitis
- Styte & Hordeolum - infections of the glands of the eye lids
- Corneal ulcer - which can potentially lead to blindness
- Uveitis - certain chemicals in kajal can incite inflammation inside the eye
- Glaucoma - some constituents can increase eye pressure leading to glaucoma
- Dry Eye - regular use of kajal can be associated with scarring of tear / lacrimal glands causing dry eye syndrome
- Conjunctival discoloration

5.0 ATTITUDES AND BELIEFS REGARDING KOHL USAGE

Many nations have not discussed a centuries-old past with kohl and its social and scientific importance and are thus therefore quickly addressed. The usage has a long past, as is documented in the archeological record of Ancient Egypt's Middle or New Kingdom c. Two hundred and forty to c. 1070 B.C. 1070 and in Islamic religious and historical texts. The Hadith of the Prophet Mohammed (Peace be upon him in Islam) says: "Using kohl made of eyebrow, it hms the skin, improve and raise the development of eyebrows" (Hadith 1). Ancient Egyptians used kohl to enhance appearance, shield their eyes from glare, and from illness and hold the "evil eye" away from them. Some texts indicate that kohl was an antimony (Sb) cosmetic used centuries ago. Just one study of 18 analyzed ancient Egyptian kohl contained Sb. In comparison, only small or minimal levels of Sb were contained in two trials in over 100 conventional kohl tests. There is not yet a sample of early Islam. "The explanation why antimony / antimony (tri)sulphide / stibnite (tri) has been used in ancient Egypt as an eye cosmetology is mainly that of philology," according to Hardy et al. (2006) [22].

Table 1: Frequency & percentage of respondents according to type of cosmetics [23]

	Frequency	Percentage (%)
Lipstick	10	2
Kajal/Eyeliners	22	44
Blusher	11	22
Foundation	3	6
Eyeshadow	4	8
Total	50	100%

As per the survey done it was found that Kajal/Eyeliner is the most widely used cosmetic, i.e. 44% & foundation the least used, i.e. only 6%.

In Egypt, the ancient term for the darkened eye and in particular for the black shape was 'midst' (mesdemet) and in Coptic it was 'cthm,' then 'stemma,' and then 'stibium' in Latin (Roman). The last term was later used for the antimony factor and the stibnite for its sulphide material. There is data to indicate the possible antibiotic activity of black eye cosmetics used by ancient Egyptians. The 52 samples from the antique Egyptian machine containers preserved in the Louvre museum in Paris are chemically analyzed to demonstrate that they contain 4 Pb based chemical products: natural galena (PbS) and cerussite (PbCO₃) and manmade laurionite (Pb (OH)Cl) and phosgenite (Pb₂Cl₂CO₃). All chloride compounds are of concern since in a lacrimal fluid atmosphere they can produce a limited concentration of free Pb ions (Pb₂⁺). The researchers assessed enhanced development of nitric oxides by cultured keratinocytes, which were handled with 0.2 and 0.4µM Pb acetate in aqueous solution by means of platinized carbon fiber microelectrodes. NO activates bacteria macrophages, which implies that Pb₂⁺ has potential benefit in the body. However, there have been no records of the presence or lack of laurionite in conventional kohl formulations. We therefore don't know whether modern Pb-based carbons possess Little ability and their antibacterial possible properties. This observation also confirms earlier findings that Pb does NOT in vitro macrophages in rodent.

6.0 CONCLUSION

Standardization in the form of organoleptic characters of triphala and rubiginosa Rosa plants was done, and the same characteristics were identified in the official PP for both products. Similarities were observed for specific proximal parameters in the values for both species. The chromatographic profile of plants extracts shows that the Rf values in the duos are identical when they are detected and isolated in various mobile phases. Subsequent microbial studies have shown the health of Kajal products in both plant products to be deficient in the microbial load. Such tests have concluded that the herbal kajal formulated is healthy and is one of the herbal cosmetic items available.

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