

Journal of Pharmaceutical Advanced Research**(An International Multidisciplinary Peer Review Open Access monthly Journal)**Available online at: www.jpardonline.com**Exploring Herbal Kajal: Benefits, Ingredients, and Performance****Payal Sahu¹, Shikha Sahu¹, Bhuneshwari Sahu¹, Suchita Wamankar^{2*}, Rajesh Kumar Nema²**¹Rungta Institute of Pharmaceutical Sciences and Research, Kokha, Kurud, Bhilai, Chhattisgarh-490024, India.²Rungta Institute of Pharmaceutical Sciences, Kokha, Kurud, Bhilai, Chhattisgarh-490024, India.

Received: 08.11.2024

Revised: 20.11.2024

Accepted: 26.11.2024

Published: 30.11.2024

ABSTRACT:

Previously called as eyeliner or surma, the purpose of kajal is to draw attention. The concept of making herbal kajal using medicinal herbs for improvement is novel and inventive. These cosmetics' primary benefits are enhanced patient compliance, longer durability, water resistance, and a reasonably priced shaping curve. Rosa rubiginosa and triphala were used to produce herbal kajal with the intention of assessing its possibility of long-term ocular administration. Identical herbs remained carried out using particular to ascertain the values within the given limits, use physiochemical parameters. The anti-microbial ability of the herbal kajal has been estimated in relative to situation products based on specific standards.

Corresponding author:

Ms. Suchita Wamankar
Associate Professor
Rungta Institute of Pharmaceutical Sciences,
Kohka, Bhilai, Chhattisgarh, India.
Tel: +91-9893477847
E. Mail ID: suchitawamankar@gmail.com

INTRODUCTION:

The eye is the vital assembly among the external and internal worlds. According to Ayurveda, the pitta dosha is a representation of the fire and light element that controls our eyes. Those eyes are therefore an essential organ in our body. Vedic science suggestions several safe, effective and natural methods to maintain and enhance the appearance of your eyes. With the help of Ayurvedic research, numerous plants and herbs were used to make Ayurvedic cosmetics, which enhanced skin attractiveness and shielded the body from outside effects. For practical determinations such as nourishing, lightening, colouring, sun cream, antioxidants, immune stimulants, laxative, thickening, and stabilizers, plant components are also used in cosmetics ^[1].

Keywords: Kohl, Kajal, Rosa Rubiginosa, Triphala, Herbal Kohl.

One cannot overstate the importance of kajal because it is a component of eye products. Kajal is worn for a number of reasons, such as tradition, style, and protection from the "evil eye." The sunna, which is the Islamic faith's traditional code of conduct, states that applying kohl is advised and believed to protect the eyes [2]. The Charak Samhita, Sushrut Samhita, Bhav Prakasha, Ras Tarang, Nayan Drastam, and Astanghriday are among the ancient Indian texts that state variety of herbs, either alone or in combination formulations, are used to treat an eye condition. In the Indian medical system known as Ayurveda, numerous eye conditions and disorders have been thoroughly documented, including Adhimanth (glaucoma), Timir (cataract), Abhishyand (conjunctivitis), and others. The causes of the treatments have also been described. Additionally, it has been standard practice to provide a range of herbal remedies (collerium), fomentation, and extract-based washing [3]. This issue encompasses the usage of materials and substances obtained from animal sources in addition to the use of animals in scientific testing. The quality and standards of pharmaceuticals and makeup's made and retailed in India are addressed under the medications and makeup's Performance [4]. Many cultures use kajal, also known as kohl, as a traditional eye cosmetic to enhance the appearance of the eyes. Kajal has historically been made from natural ingredients and is believed to have both medicinal and aesthetic uses. Growing awareness of the potential health risks associated with synthetic chemicals in cosmetics has led to an increase in the use of herbal formulations. Herbal kajal is a safer and more ecologically friendly choice because it is created from plant-based ingredients. Herbal kajal is a natural alternative to synthetic eye cosmetics, offering both beauty and care for the eyes. It is designed to define and enhance the eyes while providing nourishment and protection through ingredients like almond oil, castor oil, camphor, and ghee. Known for its cooling and soothing effects, herbal kajal can help reduce eye strain and fatigue, making it ideal for long use. Free from harmful chemicals, it is particularly suitable for sensitive eyes and those prone to allergies. Rooted in Ayurvedic tradition, herbal kajal is also believed to offer medicinal benefits, such as improving eyesight, preventing infections, and protecting the eyes from environmental pollutants. Additionally, it provides a natural, elegant look, making it a holistic choice for both beauty and eye care [3,4].

History:

Many plants are used to cure eye conditions. According to ancient Indian books including Astanghriday, Ras Tarang, Bhav Prakash, Charak Samhita, and Sushrut Samhita, ayurvedic medications are based on single or compound formulations. The Indian medical system, Ayurveda, has also provided detailed definitions for a number of eye diseases and conditions. Additionally, the cause of diagnostic stakes remained established. Several eye conditions, like conjunctivitis (abhishya and adhimanth) and glaucoma. For various dose forms, certain herbal medicines common recommendations included the use of powders, arka (water-based distillates), kajal (eye ointment), as well as fermentation and cleansing with various herbal extracts. In addition to utilizing animals in laboratory research, it is essential in this sector to use substances and materials obtained from animal sources. The Medicines and Cosmetics Act has to do with the cost and security of goods manufactured and marketed in India. Regulation of 'natural' materials used in various treatments is consequently essential. These days, standardization is the key concept that can increase consumer importance and foster product trust. Professionals and consumers also want the manufacturer to confirm the product's efficacy, safety, and consistency [5].

The Benefits and Drawbacks of using Herbal Kajal:

For centuries, people have been using herbal remedies. The use of herbal treatments has the following benefits and drawbacks: These days, alternative medicine is more common and includes naturopathy, ayurveda, homeopathy, and herbal therapies. These drugs were used hundreds of years ago, it should be noted. Ancient societies used herbal plants as part of their traditional medical practices, according to archeological data. In China, the first documented accounts of herbal treatments date back to approximately 2800 BC. The use of herbal treatments to treat a range of ailments dates back about 5000 years. Nowadays, it has grown into a separate sector since many people favor herbal treatment over synthetic medication. Advantages of using herbal medicines Compared with allopathic medications, herbal treatment is safer and more healthful. Another benefit is that herbal products are available in all health stores and can be bought over the counter. While many natural medications and therapies have no negative side effects, some people find that allopathic remedies are more effective than effects of the chemical medication [6-12].

Benefits of medicated Herbal Kajal ^[13-17]:

Medicated kajal, also known as herbal kajal, is a type of eye makeup that is made with natural ingredients and medicated herbs. There are several benefits associated with using medicated kajal.

Soothing and cooling effect:

Herbal medicines like rose water, camphor, and aloe vera have a cooling impact on the eyes that can lessen fatigue and eye strain.

Anti-bacterial and anti-inflammatory properties:

Certain herbs, like triphala, which are utilized in medicated kajal, have anti-inflammatory qualities that can help lessen inflammation and prevent eye infections.

Nourishing and moisturizing:

Ingredients like coconut oil and almond oil, which are frequently found in herbal kajal, can aid in moisturizing and nourishing the area surrounding the eyes.

Anti-oxidants properties:

Herbal kajal contains several ingredients like almond powder, helps protect against damage from environmental pollutants and reduce the appearance of dark circles and fine lines around the eyes.

Safe for sensitive eyes:

Generally, medicated kajal can offer a number of advantages for the health and appearance of the eyes; however, it is crucial to select a high-quality product that is made with natural and safe ingredients. Medicated kajal is frequently made with natural ingredients, making it a safer option for those with sensitive eyes or those who are prone to allergies.

Advantages and Disadvantages of Herbal Medicine used in preparation of Kajal ^[18-20]:

Herbal remedies consumer mainly used for ages. Here are a few advantages and disadvantages of using herbal therapies. Alternative therapies, including Ayurveda, homeopathic, naturopathic, and herbal remedies, are preferred worldwide these days. It should be mentioned that such medications were in use thousands of years ago. The use of herbal plants in traditional medicine by ancient societies is suggested by archeological data. In 2800 BC, the first written records of herbal remedies were published in China. For approximately 5000 years, herbal remedies have been used to treat a variety of illnesses. Since many people prefer herbal medicine to synthetic medicine, it was developed as a separate industry today.

Advantages of Herbal Medicine:

Although many natural medicines and therapies don't have any adverse effects, some people find that pharmaceutical products are less effective than allopathic ones. One benefit of herbal products is that they are accessible in all wellness stores and may be bought without a prescription. The chemist may prescribe specific harmful chemical side effects treatment, and herbal medication and pharmaceuticals as well as particular illnesses are more efficient than homeopathic remedies.

Disadvantages Herbal Medicine:

Drawbacks Like other forms of alternative medicine, herbal medicine has drawbacks. They're all here. Treating natural supplements and medications will take time. You must possess extraordinary bravery. Numerous elements are included in herbal treatments to ensure that you won't develop any allergies. It's crucial to keep in mind that prescription medications and natural therapies might also have unfavourable side effects. These side effects may not be reported for months or even years. It is advised to refrain from using the herbal remedy in the beginning if you disagree with it. Recollect that here are no rules that regulate the herb medication manufacturing. Consequently, there is no control over consistency for herbal goods.

Artificial Kajal and Herbal Kajal ^[23-25]:

The eyes are the source of power for the cosmetic device Kajal. Actually, the first cosmetic product was kajal most individuals use to improve the expression of their eyes. Over 5000 years ago, people used Kajal for its beauty and therapeutic benefits. Kajal was originally made at home with ghee, vegetable oil, and camphor. Kajal evolved into a commercial product throughout time. Numerous industrial and natural items are made from commercial kajal. Since lead is commonly used to make salable kajal, it is recognized to be harmful to the eyes. Skin affects the body's structures as well as the skin itself. Subsequently, kajal that is herbal or ayurvedic may stay used. Given that natural elements were used in its creation, the organic kajal is a brand-new product. The same is true of Ayurvedic Kajal. Using pure rizinic wax, bronze tools, ghee, and camphor, Ayurvedic Kajal can be used to make eyes. This can also be made with almonds. In each of these situations, the kajal continually hits the eyes and is pure for nature. The body can benefit from the medicinal properties of the ingredients in Ayurvedic kajal. The

organic kajal is used to hydrate the eyes. This kajal is commonly used to remove impurities from the membrane. Eye clarity is enhanced by the ayurvedic kajal by strengthening their muscles. Compared to utilizing an industrial kajal, tear fluid inclines to channel more quickly while using a kajal.

Natural In the little crimson eyes, kajal softens blood vessels to keep them clean since it often has astringent properties [21-22]. Some rewards of utilizing carbon-based kajal to keep the eyes fresh are as follows:

Rich in Vitamin E:

The ayurvedic kajal, which is prepared from pure rice oil, is said to be highly beneficial for the eyes. Castor oil in its purest form is the richest source of vitamin E. In addition to thickening and fading the eyelashes, this tends to cleanse the skin. Among the main advantages of organic kajal.

Anti-Bacterial:

Is to alleviate skin discomfort. It keeps your body clean and helps you get rid of fatigue. In the production of organic kajal, copper is regarded as a purifier and is well known for its calming qualities. Copper keeps the body free of external substances and illnesses. This makes it possible to soothe and strengthen the eye muscle and lens. As a result, this helps to enhance vision.

Relaxes Irritated Eyes:

Ayurvedic kajal is usually grown, restored, and reproduced using bronze and silver. Additionally, they result in the management of skin allergies. Both works to promote the best possible eye health by relaxing and massaging the swollen and strained blood vessels.

Calm Eyes:

Camphor remains the primary component in herbal kajal. This usually calms the body and reduces skin irritation. The goal is to lessen mild ocular breakouts and promote eye safety.

Prevents Dark Circles:

Alternative section utilized in the making of Ghee is the kajal of Ayurveda. Ghee calms it, which lessens shadowy circles. It eliminates the tiny impurities that are unseen beneath the tears' upper and lower salt deposits' eyes. Another way to maintain the eyes healthy and disease-free is to wear an Ayurvedic kajal.

***Disadvantages of Artificial Kajal* [26-32]:**

These beautiful eyes, which are present in Kajal and Surma, are characteristic of Indians. "Kajal" was first

applied as a home remedy rather than a cosmetic. Eye infections are significantly impacted by products such as copper sulphate, magnesium, and other herbal plants. In this part of Asia and North India at the time, trachoma—which encompasses conjunctivitis, corneal ulcers, and other illnesses that cause blindness—was rather prevalent. Health care and medication were either hard to come by or in short supply. According to what our great-grandmothers had taught us, kajal was crucial in this case and protected our eyes. Kajal's constituent parts were found or chosen by empirical means. Because of the crude kajal preparation, it was impossible to ascertain the concentration of individually ingredient and how it actually affects the eye. That is still the case now. In the present era, "Kajal" has lost its meaning and function because of the availability of precise dosages of powerful pharmaceuticals and their well-studied effects on diseases and the eyes. Kajal is also commonly used by women to enhance their appearance. Kajal could be harmful to some skin.

Other disadvantages of kajal are given below:

- Conjunctivitis: Can be chemical, toxic, or infectious in nature.
- Allergic Reactions.
- Toxicity or Chemical Reactions.
- Meibomitis.
- Dry Eye: Frequent use of kajal may lead to scarring of the tear or lacrimal glands, potentially causing dry eye syndrome.
- Conjunctival Defection.

RESULT AND DISCUSSION:

Herbal kajal offers a refreshing and natural alternative to traditional eye makeup, making it an excellent choice for those seeking safer, gentler products for their eyes. With its blend of nourishing herbs and oils like castor oil, almond oil, and ghee, herbal kajal not only enhances the beauty of the eyes but also provides added care, moisturizing, and protection against irritation or pollution. The absence of harmful chemicals like parabens, preservatives, and synthetic dyes further contributes to its appeal, especially for people with sensitive eyes or those who are conscious of their environmental impact.

When it comes to performance, herbal kajal is designed to deliver deep, rich pigmentation with long-lasting wear, without compromising on eye health. While it may not always provide the same intense, bold finish as conventional kajal, its smooth application and ability to

nourish the delicate skin around the eyes make it a worthwhile choice for daily use. Additionally, the eco-friendly and sustainable nature of many herbal kajal brands offers an added layer of appeal for conscious consumers.

Ultimately, herbal kajal is more than just a beauty product. It's a holistic approach to caring for your eyes while achieving a timeless, elegant look. Whether you are looking to switch to natural beauty products or simply want a gentler and nourishing option for your eyes, herbal kajal is definitely worth considering.

CONCLUSION:

The triphala and rubiginosa Rosa plants' organoleptic qualities were standardized, and the official PP for both products found the identical traits. For many proximal characteristics, there were similarities between the values for the two species. When plant extracts are identified and isolated in different mobile phases, the chromatographic profile reveals that the Rf values in the duos are the same. The health of Kajal products in both plant items has been found to be lacking in the microbial burden by subsequent microbial tests. According to the results of these tests, the herbal kajal formulation is safe and one of the herbal cosmetics that are available. In India, herbal cosmetics provide medical care for more than 70% of the population. The ingredients used in the formulation of herbal kohl are chosen with scientific deliberation. A range of natural components, including plant parts like leaves, oils, waxes, and natural colours and scents, are used to make herbal kajal products. Among the many advantages of herbal kohl are its affordability, safety, and lack of adverse environmental consequences. Furthermore, compared to synthetic makeup, it has a promising future. If these herbs are appropriately regulated and standardized, the herbal cosmetics industry will expand substantially and dramatically.

ACKNOWLEDGMENT:

The authors thankful to Rungta Institute of Pharmaceutical Sciences and Research, Bhilai, Chhattisgarh and Rungta Institute of Pharmaceutical Science, Bhilai, Chhattisgarh for providing necessary facilities and database.

REFERENCES:

1. Tamir NA, Zelnik N, Iancu TC. Is eye cosmetic a source of lead poisoning? Israel J Med Sci, 1992; 28(7): 417-421.
2. Parry C, Eaton J. Kohl: A lead- hazardous eye makeup from the third world to the first world Environ Health Prospect, 1991; 94: 121-123.
3. Gupta R, Ahmad H, Sehgal S, Dwivedi H. Formulation, Preliminary Evaluation and Antimicrobial Activity of a Herb based Kohl. Int J Phytocos Nat Ingrid, 2016; 3(1): 5-15.
4. Waghulde S, Pawar A, Kadav M, Khade P, Kale M, Tekade B, *et al.* Formulation Development of Patient Friendly Dosage Form for Eye Drug delivery: Kajal. The 22nd International Electronic Conference on Synthetic Organic Chemistry, Proceedings, 2018; 9(1): 5663.
5. Varpe PV, Telangi GM, Wakale MT, Jadhav AP, Lokhande R. Formulation and Evaluation of Medicated Herbal Kajal. Int J Sci Res Sci Technol, 2022; 9(3): 565-571.
6. Boseila SA, Gabr AA, Hakim IA. Blood lead levels in Egyptian children: influence of social and environmental factors. Am J Public Health, 2004; 94(1): 47-49.
7. Jain P, Ahuja Y, Chadha K. MILAP Cosmetics: Expanding Horizons & Exploring New Markets. J Manag Public Policy, 2019; 11(1): 39-46.
8. Hardy AD, Walton RI, Vaishnay R, Myers KA, Power MR, D. Pirrie, Egyptian eye cosmetics (Kohls): Past and present. Physical Techniques in the Study of Art, Archaeology and Cultural Heritage, 2006; 1: 173-203.
9. Bansal R. Consumer Behavior towards Herbal Cosmetics in India. Int Symposium Fusion Sci Technol, 2016; 5: 18-22.
10. Tomoum HY, Mostafa GA, Ismail NA, Ahmed SM. Lead exposure and its association with pubertal development in school-age Egyptian children: pilot study. Pediatr Int, 2010; 52(1): 89-93.
11. Rahman HA, Al-Rashidi, Khan AR. Association of maternal blood lead level during pregnancy with child blood lead level and pregnancy outcome in Kuwait. Ecol Food Nutr, 2012; 51(1): 40-57.
12. White LD, Cory-Slechta DA, Gilbert ME, Tiffany-Castiglioni E, Zawia NH, Virgolini M, *et al.* New and evolving concepts in the neurotoxicology of lead. Toxicol Appl Pharmacol, 2007; 225 (1): 1-27.
13. Saisha CS, Gholve YN, Kasliwal RH, Dinesh R. Formulation, Development and evaluation of *Aloe vera* herbal kajal, World J Pharmacy Pharm Sci, 2024; 13(5): 628-638.

14. Roy S, Chand B. Herbal Kajal/Kohl: An Overview. *Int J Innov Sci Eng Technol*, 2020; 7(7): 338-345.
15. Gujar SV, Bhosale SS, Walunj SJ, Paimode SP, Hawaldar SS, Shinde HS, *et al.* Formulation and evaluation of Herbal Kajal by using Indian Traditional Method. *Afr J Biol Sci*, 2024; 6(Si2): 2663-2187.
16. Kajal A, Kishore L, Kaur N, Gollen R. Therapeutic agents for the management of atherosclerosis from herbal sources. *Beni-Suef University J Basic Appl Sci*, 2016; 5(2): 156-169.
17. Randive D, Bhinge SJ, Jadhav N, Bhuktar MA. Carbon Based Kajal Formulations: Antimicrobial Activity and Feasibility as a Semisolid Base for Ophthalmics. *J Pharm Res Int*, 2020; 32(13): 62-74.
18. Gupta R. Formulation, preliminary evaluation and antimicrobial activity of a herb based kohl. *Int J Phytocosmet Nat Ingredients*; 2016, 3(1): 5-15.
19. Al-Ashban RM, Aslam H, Shah AH. Kohl (surma): a toxic traditional eye cosmetic study in Saudi Arabia. *Public Health*, 2004; 118(4): 292-298.
20. Gupta BP, Mishra A. Formulation & preliminary evaluation of herbal kohl. *Int J Curr Trends Drug Develop Ind Pharmacy*, 2019; 3(1): 17-19.
21. Gupta R, Ahmad H, Sehgal S, Dwivedi H. Formulation, Preliminary Evaluation and Antimicrobial Activity of a Herb Based Kohl. *Int J Phy Nat Ingr*, 2016; 3(5): 1-5.
22. Sahoo BN, Balasubramanian K. Photoluminescent carbon soot particles derived from controlled combustion of camphor for superhydrophobic applications., *RSC Adv*, 2014; 4: 11331-11342.
23. Nadkarni AK, Phimbi S. *Indian Materia Medica*, II: 87-90, Kaushal D. Fashion for your eyes only. *The Tribune India*, Online edition; 1954; 5: 1-2.
24. Parry C, Eaton J. Kohl: A lead- hazardous eye makeup from the third world to the first world. *Environ Health Perspect*, 1991; 94: 121-123.
25. Mahmood ZA, Zoha SMS, Ghani U, Hasan K, Ali MM, Jahan O, *et al.* Kohl (Surma): Retrospect And Prospect. *Pak J Pharm Sci*, 2009; 22(1): 107-122.
26. Ng A, Evans K, North RV, Jones L, Purslow C. Impact of eye cosmetics on the eye, adnexa, and ocular surface. *Eye Contact Lens*, 2016; 42(4): 211-220.
27. Patel Y, Wamankar S, Pal S, Chouhan B, Dewangan H, Parveen S, *et al.* *In-situ* gel as an alternative approaches for intranasal drug delivery system. *J Pharm Adv Res*, 2024; 7(4) : 2247 -2256.
28. Sahu B, Sahu J, Kumar D, Wamankar S, Nema RK. The role of biomarkers in the field of pharmaceuticals. *J Pharm Adv Res*, 2023; 6(11): 1970-1979.

Conflict of Interest: None

Source of Funding: Nil

Paper Citation: Sahu P, Sahu S, Sahu B, Wamankar S*, Nema RK. Exploring Herbal Kajal: Benefits, Ingredients, and Performance. *J Pharm Adv Res*, 2024; 7(11): 2489-2494.