

Formulation and Evaluation of Herbal Facewash From Watermelon Seed

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ABSTRACT:

The purpose of this study was to determine the activity of the extract of watermelon Seed oil for the used in cases like eczema and other skin condition where skin is dry,Dull and itchy Skin moisturizing and antiaging can provide a moisturizing effect on the skin. One of the natural ingredients that can be made into facewash preparations is the seeds of watermelon (*Citrullus Lanatus*) because it contains a lot of citrulline, vitamin A, vitamin B2, vitamin B6, vitamin E, vitamin C, and protein, beta-carotene, lycopene, and water. Watermelon seed oil (*Citrullus lanatus* L.) which is from the family of Cucurbitaceae was extracted, characterized and investigated for its suitability in skin-care products.

KEYWORDS: Antioxidant, Watermelon seed oil, Antiaging, eczema

against UVR. Recent research has been developed to assess if lycopene has potential for prevention of skin cancer.[2]



I. INTRODUCTION:

Watermelon consumption results in generation of organic waste in the form of seeds and peels. We have evaluated the fatty acid profiles and antioxidant content of watermelon (Kinnaree cultivar) seed oil. It contains lycopene which gives antioxidant activity. Antioxidants also play a beneficial role in skincare in combating free-radicals resulting from sun damage and pollutants. Lycopene is a compound in the carotenoid group with an extreme antioxidant action which accumulates in the skin due to its hydrophobic structure [1]. Lycopene is a powerful antioxidant both in vitro and in vivo against the oxidation of proteins, lipids, and DNA, and it has been identified as one of the most potent scavengers of singlet species of oxygen free radicals—the highest among the carotenoids. At low oxygen tension, it can also scavenge peroxy radicals, inhibiting the process of lipid peroxidation. [2] Lycopene was reported as the most quickly depleted antioxidant in skin upon exposure to solar radiation and might play a role of protection

Watermelon seed oil contains a high concentration of linoleic acid, an important fatty acid. Linoleic acid is recognised to aid in the maintenance of the skin's barrier function, the regulation of sebum production, and the overall health of the skin. Oleic acid is found in watermelon seed oil in smaller amounts than linoleic acid. It contributes to the oil's moisturising properties. Vitamin E, a potent antioxidant found in watermelon seed oil, guards the skin from oxidative stress brought on by free radicals. Vitamin E also benefits skin health by assisting in the maintenance of its natural moisture balance. Magnesium contributes to the nourishing properties of the oil and may help soothe the skin. [3] Iron is essential for overall skin health and may help to maintain a healthy complexion. Potassium is a mineral that helps the skin retain moisture and promotes skin health. Watermelon seed oil contains phytosterols, which are plant compounds with anti-inflammatory properties. Phytosterols can be used to soothe and calm the skin, reducing redness and irritation. Watermelon seed oil may contain additional phytonutrients that contribute to its potential skin and hair benefits. [3]

The watermelon fruit (*Citrullus lanatus*) seeds were obtained from discards of fruits and prepared

for use by decoating, sun drying and grinding. Light yellow coloured oil was obtained by solvent extraction using n-hexanethen they were stable at room temperature for seven days, or following repeated cycles of heating and cooling. This work demonstrates the potential for watermelon seed oil to be employed in skincare product formulations, which could maximize agricultural profit and minimize environmental waste. [3]

II. MATERIALS AND METHOD:

The fruit seeds were obtained from local fruit vendors, prepared for use by decoating, sundrying and grinding

METHOD:

1. The grounded sample of watermelon seeds, 50g was weighed into an empty thimble which was placed in a Soxhlet extraction set. 250 ml of n-hexane solvent was then poured into the extraction flask. The bottom of the extractor.
2. Containing the sample was connected to the extraction flask and placed on the heating mantle. As temperature increased steadily n-hexane boiled and formed a vapor which was condensed by the condenser formerly attached to the extracto and then dropped into the thimble dissolving and extracting oil present in the powdered seeds.
3. The extraction was carriedout continuously for 6 hours.
4. After the extraction procedure, the thimble was removed then the n-hexane formed a vapor which

condensed and was collected in the receiver of the Soxhlet extractor while the oil remained in the flask allowed to cooled and weighed.

5. The procedure was repeated for the remaining grounded sample of the watermelon seeds, and the oil was obtained. [4]



Soxhlet Extractor

FORMULATION OF HERBAL FACEWASH:

Watermelon seed extract derived from lycopene provides antioxidant effects and treats eczema and other ailments. For this purpose, we created a facial cleansing gel and used Carbopol as a gelling agent. Use triethanolamine as alkalinizing agent to achieve good stability. The addition of propylene glycol also has a softening effect on the skin. Add sodium lauryl sulfate to create foam. This is an application.

Table no 1: Formulation table for herbal face wash (50 ml)

SR NO	NAME OF INGREDIENTS	QUANTITY FOR 50ML	USES
1.	Extract of watermelon seeds	0.5 gm	Antioxidant
2.	Carbopol940	0.0025gm	Gelling agent
3.	Propyl paraben	1 gm	Preservative
4.	Triethanolamine	1 ml	Neutralizer
5.	Propylene glycol	1ml	Humectants
6.	Sodium Lauryl sulphate	1gm	Foaming Agent
7.	Bentonite	0.015 gm	Anti-static agent
8.	Distilled water	Q.S	Vehicle
9.	Rose water	Q.S	Flavouring agent

EVALUATION OF HERBAL FACE WASH

Physical evaluation:The developed exfoliant was inspected for its homogeneity, color, syneresis, and presence of lumps by visual inspection after it has

been set in the container. The color was found to be yellow with slightly nutty and pleasant odor. The gel showed good homogeneity with the absence of lumps and syneresis.

pH:The pH of the gels was determined using digital pH meter. The pH value of the exfoliant was 7.3 which is considered acceptable to avoid the risk of irritation on application to the skin.

Spread ability:The spread ability is very much important as shows the behavior of gel that comes out from the tube. It is used to identify the extent of spread ability by the gel on the skin.

Irritability: A small amount of gel was applied externally on the skin surface for few minutes and checked for reactions on the skin. It was found to be non-irritant.

Wash ability:Small amount of gel was applied externally on the skin surface, and it was washed with running water. It was found to be easily washable.

Foam ability: A small amount of gel was taken in a measuring cylinder, and it was shaken for 5 min and the foam stability of the gel was measured.

Grittiness: Exfoliant needs to have abrasive property so to satisfy that the coffee seeds were powdered and passed through sieve no 30 such that the preparation has no gritty particles.

Table no 2: Evaluation Table

FORMULATION	COLOUR	ODOUR	CONSISTENCY	PH	SPREADABILITY	WASH ABILITY	GRITTIENESS	FOAM ABILITY
Formulated	Pale yellow	Slightly nutty	Semisolid	7.3	Easily spreadable	Good	No gritty particles	Good
Marketed	yellow	pleasant	Semisolid	7	Easily spreadable	Good	No gritty particles	Good

III. RESULTS AND DISCUSSION:

Herbal face wash was prepared and evaluated. It contains extract of watermelon seed which possess antioxidant and skin lightening property. It also contains lycopene for protection of skin and shows strong antioxidant property.. Suitable base materials such as gelling agent, preservative, neutralizer, and foaming agent were selected and incorporated into the extract to design a suitable herbal gel. Evaluation parameters such as color, odor, consistency, and pH were checked. The formulation was found to be slightly alkaline which is compatible with skin, easily spreadable, and non-irritant to the skin.

IV. CONCLUSION:

The present work was attempted to make a herbal Face wash using suitable base to form a gel. Since watermelon seeds are natural antioxidant agent, they are incorporated into the formulation which increases the efficiency of the product. Various parameters have been evaluated providing satisfactory result and improve the appearance of the skin without any side effects.

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