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Formulation and Evaluation of Herbal Face Scrub by Using Moringa Leaves

[1]Mr. Yashkumar Katariya,[2] Mr. Tandale P.S.,[3] Dr. Garje S.Y.,[4] Dr. Sayyad G.A.

[1234]Shri Amolak Jain Vidya Prasarak Mandal's Collage of Pharmaceutical Science and Research Centre, Kada Maharashtra, India, 414202

ABSTRACT :

Interest in herbal formulations has grown as a result of the rising demand for natural and environmentally friendly skincare products. The creation and assessment of a herbal face scrub utilizing Moringa oleifera leaves—which are prized for their potent antibacterial, anti-inflammatory, and antioxidant qualities—are the main objectives of this study. Dried and powdered Moringa leaves were added to a foundation made of natural exfoliants and binding agents such oatmeal, honey, and aloe vera gel to create the face scrub. Numerous physicochemical characteristics, such as pH, texture, spreadability, grittiness, and stability, were assessed for the developed formulation. Tests for skin irritation and microbiological load were also carried out to guarantee efficacy and safety. The findings demonstrated that the face scrub made from moringa had favorable cosmetic qualities, did not cause any negative skin reactions, and effectively exfoliated the skin without the use of artificial chemicals. According to this study, moringa leaves may prove to be a useful component in the creation of herbal skincare products, especially exfoliants for the face.

Introduction :-

Consumer preferences for natural and herbal cosmetics have significantly changed in recent years because of their low risk of adverse effects, environmental sustainability, and skin compatibility. Harsh chemicals found in many synthetic skincare products can irritate skin, trigger allergic reactions, or damage it over time. Because of this, the cosmetics industry is putting more and more emphasis on using plant-based and herbal ingredients in skincare products.

Native to regions of Africa and Asia, Moringa oleifera is a highly prized medicinal plant that is also referred to as the drumstick tree or miracle tree. Vitamins A, C, and E, minerals, polyphenols, and flavonoids are among the many bioactive substances found in its leaves. These substances have potent antibacterial, anti-inflammatory, and antioxidant qualities. Because of these qualities, moringa leaves are a great option for use in skincare products, especially in exfoliating formulas such as face scrubs.

Face scrubs, which are intended to eliminate dead skin cells, unclog pores, and encourage smoother, healthier-looking skin, are a crucial component of skincare regimens. Adding Moringa leaves to a face scrub improves its exfoliating properties while also nourishing the skin and aiding in the treatment of acne, dullness, and uneven skin tone.

The purpose of this study is to create a safe and efficient herbal face scrub with powdered Moringa leaves and additional organic components. To ascertain the formulation's potential as a natural substitute for traditional face scrubs, its physicochemical characteristics, stability, and overall performance will be assessed.

Benefits of Scurbbing on Skin :-

- Provides individuals with a clean complexion free of dirt, oil, sweat, and other impurities.
- Scrubbing can help to free skin from dry spots caused by irritated skin and can assist in managing irritated skin more effectively
- Exfoliation can also help to restore a healthy glow to the skin. Additionally, exfoliation can help to remove dark patches on the skin, particularly on the knees, elbows, and knuckles.
- Exfoliation is an effective way to remove all the dust that accumulates in the skin's pores.

Formulation Table :-

Sr.No.	Ingredients	Formulation 1 (20gm)	Formulation 2 (20gm)
1	Moringa Leaves Powder	5gm	5gm
2	Sandlewood Powder	5gm	5gm
3	Poppy Seeds	1gm	1gm
4	Tragacanth Gum	1gm	1gm
5	Honey	3gm	3gm
6	Almond Oil	2ml	2ml
7	Rose Water	q.s.	q.s.

Method and Prepartion :-

- **Preparation of Moringa Leaf Powder -**
  Collect fresh Moringa leaves and wash thoroughly. Then leaves were shed-dry for seven days. Then leaves grind into powder using mixer grinder. Then this powder pass through sieve for uniform particle size.

- **Hydration of Tragacanth Gum -**
  Soak 1gm of tragacanth gum in small amount of rose water for 6 to 12 hours.
  Stir it until the it forms small gel.

- **Combine the Dry Components -**
  In a sanitized bowl add 5gm of moringa leaf powder, 5gm of sandalwood powder and 1gm of poppy seeds and mix it well.

- **Add Liquid Ingredients -**
  To dry mixture, add 3gm of honey, 2ml of almond oil with rose water. Add hydrated tragacanth gum and mix all components well until you obtain smooth, paste like scrub.

Fig – Formulation of Herbal Face Scrub

Evaluation Test :-

The prepared face scrub was evaluated for various parameters such as organoleptic properties, pH, irritability, washability, grittiness, extrudability, foamability and spreadabilty was found to be satisfactory.

Organoleptic properties include -

- Color : Visual examination uncovered that the face scoub was light green in variety.
- Odour : The smell of plan was cheaked by utilization of readiness available and feels the aroma of scent.
- Consistency : By visual inspection, the face scrub consistency was found to be semi-solid and smooth.
- Both uniformity and Texture : A small measure of the pre-arranged claen was tired by squeezing it between the thumb and forefinger.
- **pH –**
  pH paper was used to measure the pH og the gel that was made. The pH was found to be between 5-6.
- **Irritability –**
  It was found to be non-irritating when a small amount of preparation was applied to the hands dorsal area and left on for short time. There is neither oedema nor oedema.
- **Washability** –
  This test was carried out on skin directly. The skin was found to be clear and clean after applying preparation and rising it off with regular water.
- **Grittiness** –
  This test is performed to cheak the presence of small gritty particles in the formulated scrub.
- **Extruadability –**
  A limited quantity of gel was put in foldable balm tube. The other end was left open while one end was sealed off. On the shut side, a little strain was applied. Both the amount of gel that extruded and amount of time it took were recorded.
- **Foamability –**
  To measure the foam, a small amount of scrub was mixed with water in a graduated measuring cylinder.
- **Spreadability –**
  Spreadability has a significant impact on how the gel behaves when it exits the tube. It is utilized to ascertain the extent of the gel's skin-spreadability. Over a small sample that had been deposited on the slide, a glass slide with a weight of 100 g was placed. A glass slide with a small sample on it and another slide above it were used.The slide received a weight of one hundred grams.
  The gel to fan out on the slide was not entirely settled to be 3 cm in 40 seconds. The following formula was used to determine the a mount:
- $S = m \times l/t$
- Whereas, S = Spreadability
- m = Weight Placed on slide
- l = length of slide

  t = time taken in seconds

***Result* :-**

Parameters	**F1**	**F2**
Color	**Green**	**Light Green**
Odour	**Pleasant**	**Pleasant**
Texture	**Good**	**Good**
Consistency	**Good**	**Good**
Spreadability	**Easily Spreadable**	**Easily Spreadable**
Foamability	**No**	**No**
pH	**6.1**	**6.8**
Grittiness	**Yes**	**Yes**
Washability	**Easily Washable**	**Easily Washable**

Conclusion :-

The formulation and evaluation of a herbal face scrub using moringa leaf powder have demonstrated promising results in enhancing skin health through natural and cost-effective means. Bioactive substances including phenolics, flavonoids, terpenoids, saponins, tannins, glycosides, and alkaloids are abundant in moringa leaves and contribute to its antibacterial, anti-inflammatory, and antioxidant qualities. These qualities are advantageous for lowering pigmentation, shielding the skin from oxidative stress, and enhancing general skin health.

In conclusion, the herbal face scrub made from powdered moringa leaves offers a natural way to take care of your skin and is a good substitute for artificial cosmetics. By utilizing the medicinal qualities of moringa leaves, the composition satisfies consumer need for sustainable and herbal cosmetics. To improve the formulation and confirm its effectiveness in clinical trials, more research and standardization are advised.

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