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Preparation and Application of Aloe vera Gel containing Acid

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ABSTRACT :-

Aloevera commonly known as Barbados or Curacao Aloe is an herbal medicine with a long tradition of use by a variety of cultures. Aloe vera is a characteristic item which can be utilized in cosmetic application. Aloe vera has more attention to preparation of nutritional medicinal and cosmetic products. Aloe vera gel to treat burn wounds, genital herpes, and seborrheic dermatitis have been shown in clinical trials. It is act as skin healer and prevent injury of epithelial tissues, cures acne and pimples also gives a youthful glow to skin .Herbal gel was used to treat a skin condition by formulation and evalution on the basis of pharmaceutical assesment .Our study has evaluated all the test like pH determination, skin irritancy, smoothness, absorption test, etc. Aloe vera gel is one of the product prepared from aloe vera itself. The gel consist primarily of water and the rest include various vitamins, amino acids, enzymes, harmones, minerals and sugars, most of which are found in human body.

Keywords :- Beauty, Skin,Herabal Aloe-vera gel, Honey.

Introduction

The use of natural products in the prevention and treatment has increased recently and cloud be of benefit to low socioeconomic level in urban and rural communities[1]. The Aloe-vera plant has stiff grey-green lance-shaped leaves containing clear gel in a central mucilaginous pulp, benefits associated with Aloevera have been attributed to polysaccharides contained in the gel of the leaves[2]. Plant extracts represent a continuous effort to find new compound against pathogens. Approximately 20%of plants found in the world have been submitted to pharmacological or biological test, and a substantial number of natural and semi synthetic resources introduced new antibiotics [3]. According to world health orgnisation , medicinalplants would be the best source for obtaining a variety of drugs[4]. The bitter yellow latex of pericyclic tubules in the outer layer of leaves contain derivative sofhydroxyanthracene, anthraquinone and glycosides aloin A and B from 15-40% in different investigations[5]. growths and their stabilization may lead to promotion of prolong stimulation of granulation tissue[6].The *Aloe vera* gel has been revealed by a number of in vitro and in vivo studies through bradykinase activity .The peptidase was isolated from aloe and shown to break down the bradykinin,an inflammatory substance that induces pain[7]. Aloe vera extract have antibacterial and antifungal activuties , which may help in the treatment of minor skin infections , such as boils and benifn skin cysts and have been shown to inhabit the growth of fungi that couse tinea[8].Aloin its gel are used as skin tonic against pimples. Aloe vera is used also for soothing the skin ,and keeping the skin moist to help avoid flasky scalp and skin in harsh and dry weather. The aloe sugars are also used to moisturising preparations [9].Several ingredients in aloe vera gel have been shown to be effective antiviralagent . Acemannan reduced herpes simplex infection in two cultured target cell lines [10].Lectins, fractions of aloe vera gel ,directly inhabited the cytomegalovirus proliferation in cell culture,purhabs by interfering with protein synthesis [11].Logical that the mucilaginous gel of Aleo vera plant, which is essential a polysccharide, holds secrete to Aloe vera's medicinal properties. Many researches such as Collins and Collins7. It is impossible to prevent contamination by the leaf exudates during commercial extraction of Aloe vera gel. It is also believed that the intact leaves anthraquinones and may diffuse into the gel from the bundle sheath cells [12]. The scintific name of aloevera is Aloe barbadensis Miller, and plant belongs to the lily family. It bears a rosette of thick ,green leaves at its base[13].Researcher are looking into the biological activity of several. Component are found in aloe vera leaves including acetylated mannans, polymannas, anthraquinone, glycosides, anthrones, and various lectins.kn integrity, moistures , erythema and ulcers are all things that can be helped with aloevera[14].smoothness of lotion formulation was assessed through touch examination . Where in we can test the texture of gel. We recorded whether the gel felt smooth , clumped homogeneous ,or harsh.[15].South Africa ,Madagascar, and Arabia are home to the vast majority of worlds 300 known species of aloe[16].When it comes to maintaining good skin , Alovera is widely believed to be one of the oldest plants utilized by humans. According to research, this plant has been utilized in herbal medicine since the first century [17]. Aloe vera has hypothesized physiological and pharmacological capabilities .Due to its widespread culinary application ,the extraction of aloe vera juice from leaf pulp has exploded into a global industry .In particular , aloe vera has been used to create health drinks that don't require frequent restroom breaks[18].

Figure 1. Cut of the alovera leaves

Figure 2. ALovera leaves

Figure 3. Leaf under cold water

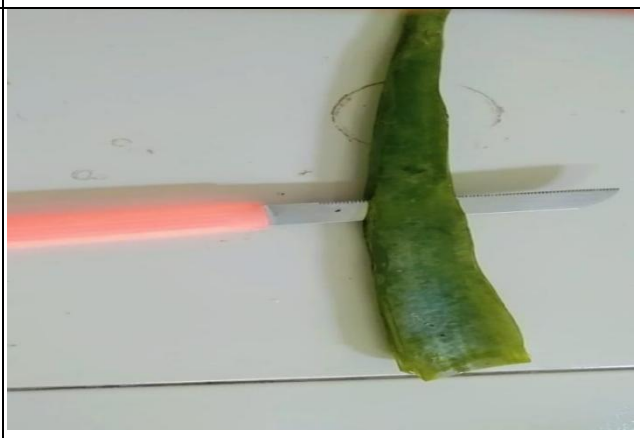

Figure 4. Slice of outer layer

Figure 5. Scooping the Gel

Figure 6. Homogenization Gel

Figure 7. Herbal Alovera Skin Gel

Figure 8. Herbal cosmetic cream

Synthesis of Preservative (Citric acid)

1. 50ml lemon juice extracted from the lemon and then filtered
2. In 60ml distilled water, 8g NaOH was dissolved.
3. Also prepared solution of 10g $CaCl_2$ in 60ml distilled water.
4. NaOH solution and $CaCl_2$ solution were added in lemon juice.
5. After this addition, calcium citrate precipitate was obtained then filtered and collected.
6. 100ml dil. H_2SO_4 was added in precipitate and stirred vigorously.
7. Filtered the solution and heated for 2-3hours.
8. Cooled the solution in ice cold water for 24hours, crystals were separate out. Filtered it and dried it.
9. Recrystallised in alcohol.

Mp:152,

FTIR spectra of citric acid crystals revealed major peaks at 3328, 2668, 1755, and 1207 cm^{-1}depicts stretching of -OH, C-H, C-C, and C=O respectively. A peak at 3328 cm^{-1} represents the presence of moisture[19]. The peaks at 2618, 1728 and 1208 cm^{-1} represent the vibrational motions of functional group stretching in citric acid molecule[20]. However, the characteristic absorption band at 1256 cm^{-1} corresponds to the CH_2 stretching vibration in citric acid crystals.

Synthesis of Aloe-vera gel

1] Aloe vera leaf was washed with water to remove all dirtyness and dried it with clean cotton cloth.
2] Further ,we cut the leaf to equal parts and collected the pulp in a container.
3] By using a mixer grinder aloe vera pulp is converted into the juice (liquid).
4] Filtered juice was heated for 2-3 minutes to remove the remaining pulp, maintaining the temp at 50-60°C.
5] In a 20 ml water 1gm of agar-agar powder was added and dissolved completely .
6] Boiled the beaker for a few minutes and further immediately transferred the 30 ml aloe vera juice into the hot solution of agar-agar.
7] Now, 0.5gm citric acid was added as a preservative in the solution and added 2ml of almond oil and rose water and stirred continuously.
8] Cool the liquid at room temperature and then the liquid is converted into gel.

Synthesis of Herbal Cream

4 table spoon Aloe vera gel were added in a bowl, further added 2 table spoon almond oil, 4 table spoon rose water, and 2 vitamin-E capsules.
2] Stirred vigorously for 3-4 minutes and herbal Creamis formed.

Benefits of Aloe-vera

Soothes Burns
Heals Wounds
Eases Intestinal Problems
Reduces Arthritic Swelling

Gum Infections

Evaluation of herbal Cream

Evaluation research means the purpose of providing information that will be use in decision making.

1.Absorption test

Absorption test was done by applying the cream on to the skin and rubbed until it gets completely absorbed.

2.Skin Irritancy test

The irritation test was checked by applying cream on hand's back skin for 10 minutes checking the itching ,swelling on the skin. No irritation was observed.

3. pH test

The pH value of herbal cream was determined by using digital pH meter.

4. Smoothness

The smoothness of cream is observe by rubbing the cream through the fingers so we check the smoothness of cream

Conclusion

In this project we can prepare the aloe vera gel and used in herbal cream. Aloe vera is used in gels to make them work better together with cream and to keep the skin wet. Herbal cream formulation are becoming more popular all over the world .It is very good combination to make a herbal cream with Aloe vera, honey and turmeric powder. Aloe vera makes the skin more wet and smooths out rough spots, cracks, and cuts. Due to its anti-inflammatory, anti-acne, anti-oxidant, anti-diabetic, non-irritant, and deeply penetrating qulities, aloevera gel and cream helps to nourish the skin.

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