



Formulation and Evaluation of Herbal Facewash

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Abstract

Herbal items have turned into a thing of worldwide significance both medically and financially. In spite of the fact that use of these natural items has expanded, their quality, wellbeing and proficiency are serious worries in industrialized and non-industrial nations. The current exploration has been attempted with the plan to form and assess the unadulterated natural definition. The herbal cleanser was figured out by adding the concentrate of Turmeric, Aloe vera and coffee in Methyl cellulose base and the natural face wash gel was planned. The physicochemical boundaries of plans (Actual assessment, pH, Frothing capacity and froth) not entirely settled. The results showed that detailing have pH level almost equivalent to skin pH, It is great to Froth file. Further details have read up for eye and skin disturbance on creature model and result showed that there was no skin bothering to creatures. The herbal face wash planned by hydro alcoholic concentrate of turmeric, orange strips, espresso is exceptionally useful and gives no side effect. The plants have been taken in this article having better antioxidant, antimicrobial and furthermore mitigating properties. All ingredients fixing utilized in this definition effectively accessible in market of encompassing area. Skin is the piece of body and face skin is the more touchy and furthermore significant for person to show up attractive. The natural plan was assessed by various sort of boundary like-appearance, colour, pH, viscosity, odour, solvency and so on: after plan assessment of definition is fundamental for to measure the wellbeing and viability of planned item any other way it might cause different unsafe effect.

Keywords: Herbal Gel; Herbal Facewash; Alovera Gel; Coffee Powder

Introduction

Herbal beauty care products are or Natural cosmetics. Natural beauty care products will be items which are used to clean and embellish the skin. The fundamental advantage for utilizing a natural restorative is that it is unadulterated and significantly affects the human body; rather enhance the body with supplements and other helpful minerals [1]. The skin and hair magnificence of people relies upon the wellbeing, propensities, routine work, climatic conditions and support. The skin because of unnecessary openness to intensity will get dried out during summer and causes wrinkle, spots, imperfections, pigmentation and sun related burns. The limit winter make harms the skin as breaks, cuts, maceration and diseases. The skin sicknesses are normal among all age gatherings and can be because of openness towards microorganisms, com-

pound specialists, organic poison present in the climate, and furthermore to a stretch out because of lack of healthy sustenance [2]. Cleanser is a strong item produced using oil through saponification, a cycle that requires scathing pop or on the other hand potash. On account of the harsh soft drink that can be gotten from normal salt, how much cleanser that can be made inexpensively is limitless. The magnificence and skincare industry has seen a huge shift towards regular and natural items as of late, determined by purchasers' developing inclination for more secure, eco-accommodating other options. Among these items, natural facewash gels have acquired enormous ubiquity because of their delicate yet powerful purifying properties and the huge number of advantages they offer for skin wellbeing. Home grown facewash gels are figured out utilizing

a mix of organic concentrates, rejuvenating balms, and other normal fixings known for their skin-supporting properties [3,4]. The Indian natural medication industry is viewed as one of the most established frameworks of clinical consideration on the planet. Its foundations can be followed back to antiquated India, where the utilization of spices for restorative objects was referenced in the Vedas, an old strict text. Ayurveda and Unani, two old recuperating techniques, used spices and regular items to address different ailments. Regardless of being seen as a new pattern by Western clinical professionals, plant removes are still regularly utilized in most recommended prescriptions today. The worldwide local area presently perceives the advantages of this conventional type of medication, bringing about a critical ascent popular for Indian home grown drugs. This area has encountered a yearly development pace of almost 30%, with a flood in interest for natural fixes, skincare items, and cosmetics. This flood sought after for normal items has been seen as of late. The skin is an essential and broad organ of the body, and it assumes a critical part in characterizing human character, particularly the skin on the face, which is delicate and frequently thought to be an agent boundary. The state of an person’s skin can likewise be a sign of their in general well-being. The structure of the skin incorporates different materials like starches, amino acids, and lipids. Beauty care products have been created to address different skin concerns, like diminishing kinks, battling skin break out, and controlling oil emission. These items mean to work on the appearance and surface of the skin, prompting a more energetic and better looking appearance. In any case, it is fundamental to pick beauty care products that are protected and compelling, as certain items might contain hurtful synthetic compounds that can harm the skin in the long run [5,6].

Turmeric (*Curcuma longa*)

Turmeric (*Curcuma longa*) *Curcuma longa* comprises of dried as well as new rhizomes of the plant. It is utilized as clean, expectorant, topping or zest. It is rich in cancer prevention agents; research directed has illustrated utilizations of turmeric in the treatment of joint pain, liver illnesses, Alzheimer and wretchedness the executives. It is a profound yellow-to-orange powder that comes diminish the quantity of bright B (UVB)- instigated sun related burn cells in mice [7].

Family – Zingiberaceae.

Uses – it is use as anti- inflammatory and anti-septic agents.

Coffee (*Coffea Arabica*)

It contains caffeine and chlorogenic corrosive. The caffeine in espresso works by animating the focal sensory system (CNS), heart, and muscles. Chlorogenic corrosive could influence veins and how the body handles glucose and digestion. Individuals most normally drink espresso to increment mental readiness.

Family- Rubiaceae.

Uses – uses as anti-ageing agent, to treat acne, as exfolient etc. [8].

Aloe vera (*Aloe barbadensis*)

GhiuKumari (Aloe Vera) is a most shrewd combination of an anti-toxin, an astringent coagulating specialist, an aggravation inhibitor and a development trigger (likewise called a wound hormone), whose capability is to speed up the mending of harmed surfaces [9]. It is utilized for torment help and mending of hemorrhoids, applied remotely what’s more, inside its likewise utilized for burn from the sun, scratch and a purifying cleanse for the body or skin. It is a guide to developing new tissue and lightening the development of skin malignant growth brought about by the sun.

Family – Liliaceae.

Uses – used as moisturizing agents [10].

Materials and Methods

Table 1: List of herbal Ingredients [11].

S.N.	Ingredients	Quantity	Used as
1.	Extracted Aloe vera	0.8g	Antibacterial
2.	Coffee powder	2.2g	Antioxidant
3.	Turmeric powder	0.7g	Anti-inflammatory

Table 2: List of Chemicals.

S.N.	Ingredients	Quantity	Used as
1.	Glycerin	1.2ml	Humectant
2.	SLS	1.1 g	Surfactant
3.	Methyl-p-hydroxy benzoate	1.2g	Preservative
4.	Rose oil	Q.s.	Flavour

Procedure

- Ethanolic concentrate of Turmeric, espresso and concentrate of aloe vera was arranged by hot extraction strategy utilizing water condenser.
- Required amount of methyl paraben disintegrate in refined water by warming on water bath.
- Then the arrangement ought to be cooled and required measure of sodium lauryl sulfate ought to be added.
- Further adequate concentrates amount of Turmeric, Espresso, Aloe vera ought to be blended also, add glycerine with consistent mixing.
- Then, at that point, add rose oil drop wise for fragrance and made the gel with required amount of water [12,13].



Figure 1: Turmeric powder.



Figure 2: Aloe vera (Extracted).



Figure 3: Coffee powder.

Chemicals used in formulation

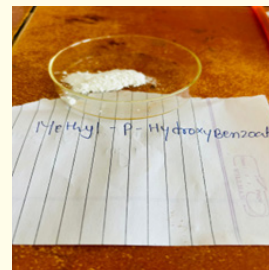


Figure 4: Methyl-p- benzoate.

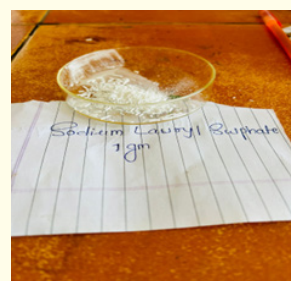


Figure 5: SLS (sodium lauryl sulphate).



Figure 6: Glycerin.

Evaluation

Physical test

Actual boundaries, for example, variety and appearance were checked. Estimation of pH: The pH of 10% planned item arrangement in refined not entirely set in stone at room temperature 25°C. Decide percent of solids contents: A perfect dry vanishing dish was gauged and added 4 grams of figured out items to the vanishing dish. The dish and figured out items were gauged [14]. The definite load of the planned items was determined just and put the vanishing dish with figured out items were put on the hot plate until the fluid part was vanished. The weight of the figured out items just (solids) in the wake of drying was determined [15].



Figure 7: Physical test.

Foaming test

Chamber shake technique was utilized to test for the frothing capacity. 50 ml of the 1% figured out items arrangement was set into a 250 ml graduated chamber, covered with one hand and shaken for multiple times. After 1 min of shaking, the all out volume of the froth content was recorded. Froth solidness was esteemed by recording the froth volume after 1 min and 4 min of shake test [16].

Skin sensitivity test

The guinea pigs were partitioned into 5 gatherings (n=3). On the earlier day of the analysis, the hairs on the posterior area of guinea pigs were eliminated. The creatures of gathering I was filled in as expected, with practically no treatment. Animal Bunch II, III and IV were applied with Face wash gel, Cleanser and cleanser detailing separately. These were applied onto naked skin of creatures of groups [17]. A 0.8% v/v fluid arrangement of formalin was applied as a standard aggravation on creature GroupV. The creatures were applied with new fix/ formalin arrangement as long as 72 hours lastly the application locales were reviewed by a visual scoring scale, consistently by a similar examiner. The erythema scale was as per the following: 0, none; 1, slight; 2, clear cut; 3, moderate; and 4, scar arrangement [18].

Eye aggravation test

Creatures (pale skinned person bunnies) were gathered from creature house. Around 1% figured out items arrangements was trickled into the eyes of five pale skinned person hares with their eyes held open with cuts at the cover. The dynamic harm to the rabbits eyes was recorded at explicit spans over a normal time of 4 seconds. Responses to the aggravations can incorporate enlarging of the eyelid, aggravation of the iris, ulceration, draining (dying) and blindness [19,20].

Washability

The definition has been utilized on the skin and afterward effortlessly checked in the wake of washing with water.

pH

Utilizing a computerized pH meter aligned at steady temperature, the pH of 1% of the hydro happening is determined [21].



Figure 8: Ph test.

Spreadability

Spredability demonstrate the constraint of the area in which the gel spreads effectively on the skin or the impacted part. The organic accessibility of the usefulness to make a gel likewise relies upon the worth of the expansion. By slides spelability two seconds, put the second slide to slide out of prison, it shows under a specific weight [22]. Diminish the time expected to isolate the two slides, a decent spreadability. Home grown gel was planned in one of the slides. The other was put on top of the slide gel, like a gel sandwich between the two slides on the 6-centimeter slide on the slide. The heaviness of 100 gms was set in the upper slide with the goal that the gel between the two slides were squeezed equally with a slim layer [23].

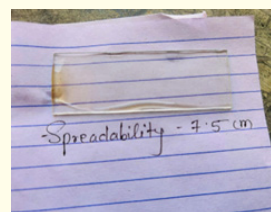


Figure 9: Ph test.

Result and Discussion

Physical test [24,25]

Morphological testing was conducted on herbal face pack. parameters were shown. The shade of formulation was a light yellow color. The smell of cooked formulations were pleasant, acceptable, and good, which is alluring to restorative plans. Smoothness and texture was in compliance with the cosmetic’s requirements. formulations.

Table 3: Physical parameters.

S. no.	Parameters	Result
1	Appearance	Clean
2	Odour	Pleasant
3	Texture	Fine
4	Color	Maroon
5	Smoothness	Smooth

Irritancy test

Irritation test of herbal facewash is given below, this formulation does not irritate skin or face after use [26].

Table 4: Irritancy test.

S. no.	Parameters	Result
1.	Swelling and Redness	No
2.	Itching	No
3.	Irritation	No

Stability test [27,28]

Stability evaluation shows the changes of physical like color, odour, texture etc., and chemical like ph at normal room tem. And high temp.(40 C). testing parameters and changes are given below in table.

Table 5: Stabilities study.

S. no.	Parameters	Room temp.	High temp.(40 C)
1.	Ph	6.8 ± 0.12	6.6 ± 0.12
2.	Odour	No changes	No changes
3.	Color	No changes	No changes
4.	Texture	Good	Good

Conclusion

A figured out natural face wash gel containing turmeric powder, aloe vera concentrate, and orange strip remove was effectively created utilizing carbapol as a gelling specialist [29]. In the belief that natural remedies are more acceptable, that they are less hazardous and have fewer negative effects than synthetic ones [30]. The market for herbal products is expanding in the global market. The use of herbal face packs to increase blood flow circulation, muscle rejuvenation, and support for maintenance the skin’s elasticity and clean its pores of dirt. It is a successful attempt we made to develop the herbal face pack. We found after evaluating that excellent properties for face packs that do not irritate the skin and remained constant throughout stability storage conditions. It has been discovered that an herbal face mask having the potential to effectively produce a glowing effect skin. The study as a whole is useful for supporting the product. claims because of the beneficial effects it has on humans. The definition was exposed to different assessments counting tone, scent, consistency, pH, spreadability, laundability, abrasiveness, and froth capacity, which yielded satisfactory outcomes [31,32]. These discoveries propose that the pre-arranged plan may be successful for its expected use, yet further testing might be essential before it tends to be used in reasonable applications. Natural face washes are utilized to revive the muscles, keep the skin versatile, dispose of stuck-on grime, and upgrade blood flow. Home grown based beauty care products enjoy the benefit of being nontoxic. It sustains the skin on the face [33]. The face wash gives the skin the important nourishment. It supports the expulsion of scars, imprints, and pimples. Skin is peeled by face washes, which likewise have a cooling, endlessly calming influence on the skin. They do as such in the fastest time to bring back the skin’s normal brilliance. Normal utilization of regular face wash upgrades the appearance and surface of the skin [34]. The effect of contamination and cruel circumstances on the skin can be moderated by utilizing face wash on a standard basis.” They help in keeping skin cells flexible and forestall the skin from maturing excessively fast. Normal face can be utilized to effectively control wrinkles, scarcely discernible differences, and skin releasing. We found extraordinary characteristics in the face wash in our study, however more examination is expected to decide its full potential as a restorative. Normal prescriptions are currently generally perceived since they are less inclined to make adverse consequences than items with a synthetic base and are more secure. To meet the requests of the

extending worldwide market, various home grown definitions are required. It is an effective endeavor to make a home grown face wash with various plants that have remedial benefits [34].

Bibliography

1. Meena KR., et al. "Antimicrobial activity of Aegle marmelos (Rutaceae) plant extracts". *International Journal of Medi Pharm research* 2 (2016): 01-05.
2. Ghotkar MN., et al. "Formulation and Evaluation of Herbal Facewash for Acne". *Asian Journal of Pharmaceutical Analysis* 8.4 (2018): 183-185.
3. Dubey V and Tiwari M. "Comparative Study of different Herbal Brands: An Appraisal". *International Journal of Pharmacy and Life Sciences* 11.9 (2020).
4. Yadav N and R Yadav. "Preparation and evaluation of herbal face pack". *International Journal of Recent Science Research* 6.5 (2015): 4334-4337.
5. Koli DS., et al. "Formulation and evaluation of herbal anti-acne face wash". *The World Journal of Pharmaceutical Sciences* 5.6 (2016): 2001-200.
6. Prabha N., et al. "Cosmetic contact sensitivity in patients with melasma: results of a pilot study". *Dermatology Research and Practice* (2014).
7. Loretz L., et al. "Exposure data for personal care products: hairspray, spray perfume, liquid foundation, shampoo, body wash, and solid antiperspirant". *Food and Chemical Toxicology* 44.12 (2006): 2008-2018.
8. Setshego MV. "Ethnopharmacognostic study of folk cosmetics in Vhembe district, Limpopo Province, South Africa (Doctoral dissertation, North-West University (South Africa)).
9. Rasheed A., et al. "Formulation and comparative evaluation of poly herbal anti-acne face wash gels". *Pharmaceutical Biology* 49.8 (2011): 771-774.
10. Shivanand P., et al. "Herbs play an important role in the field of cosmetics". *International Journal of Pharm Tech Research* 2.1 (2010): 632-639.
11. K Yamini., et al. "Preparation And Evaluation Of Herbal Anti-Acne Gel". *International Journal of Pharma and Bio Sciences* (2018): 956-960.
12. Kanlayavattanukul M and Lourith N. "Therapeutic agents and herbs in topical applications for acne treatment". *International Journal of cosmetic Science* 33 (2011): 289-297.
13. Kapoor VP., et al. "Applications of seed gums in pharmaceutical formulations". *Journal of Medicinal and Aromatic Plant Studies* (2000): 22/4A & 23/1A, 42-44.
14. Kubo I., et al. "Naturally occurring anti-acne agents". *Journal of Nature Production* 57.1 (1994): 9-17.
15. Dureja H., et al. "Cosmeceuticals: An Emerging Concept". *Indian Journal of Pharmacology* 37.3 (2005): 155-159.
16. Rasheed A., et al. "Formulation & Comparative evaluation of Poly-herbal anti-acne face wash gel". *Pharmaceutical Biology* 49.8 (2011): 771-774.
17. Rashmi MS. "Topical Gel: A review". *Pharma Review* (2008): 1-3.
18. Aburijat T and Natsheh F.M. "Plants used in cosmetics". *Phytotherapy Research* 17 (2003): 987-1000.
19. Mane PK and Dangare A. "Herbal Face Wash Gel of Cynodon Dactylon Having Antimicrobial, Anti-inflammatory Action". *Pharmaceutical Sciences and Research* 3.1 (2020): 36-43.
20. Ingle A and Meshram MB. "Formulation and evaluation of Ayurvedic face wash". *International Journal of Phytopharmacology* 8.4 (2018): 26-30.
21. Rani S and Hiremanth R. "Formulation & Evaluation of Poly-herbal Face wash gel". *World Journal of Pharmaceutical Sciences* 4.6 (2015): 585-588.
22. Sowmya KV., et al. "Formulation & Evaluation of Poly-herbal Face wash gel". *The World Journal of Pharmaceutical Sciences* 4.6 (2015): 585-588.
23. Ashawat MS and Banchhor M. "Herbal Cosmetics Trends in skin care formulation". *Pharmacogn Review* 3.5 (2009): 82-89.

24. Kanlayavattanakul M., *et al.* "Therapeutic agents and herbs in topical application for acne treatment". *International Journal of Cosmetic Science* 33.4 (2011): 289-297.
25. Chanchal D and Swarnlata S. "Herbal photoprotective formulations, and their evaluation". *The Open Natural Products Journal* 2 (2009): 71-76.
26. Mithal BM and Saha RN. "A Hand book of cosmetics". 2nd edn. (2004).
27. Umadevi M., *et al.* "Rice-traditional medicinal plant in India". *Journal of Pharmacognosy and Phytochemistry* 1.1 (2012): 6-12.
28. Himaja N., *et al.* "Preparation and Evaluation of Poly Herbal Fruit Face Mask". 2.11 (2015): 07-13.
29. Kumar KS., *et al.* "Traditional and medicinal uses of banana". *Journal of Pharmacognosy and Phytochemistry* 1.3 (2012): 51-63.
30. Farheen B and Mohammad I. "Design and Development of Unani Face Pack for Skincare". *European Journal of Pharmaceutical and Medical Research* 3.12 (2016): 627-632.
31. Siddhiqi MA. "Format for the pharmacopoeial analytical standards of compound formulation, workshop on standardization of Unani drugs, Central Council for Research in Unani Medicine 1995". New Delhi. 1995.
32. Banchhor M., *et al.* "Herbal cosmetics: Trends in Skin Care Formulation". *Pharmacognosy Reviews* 3.5 (2009): 82-89.
33. Khandelwal KR. "Practical Pharmacognosy". 12th ed. (2004).
34. Mandeep S., *et al.* "Preparation and Evaluation of Herbal Cosmetic Cream". *Pharmacologyonline* (2011): 1258-1264.