



Formulation and evaluation of herbal face cream with Green tea extract

L. V. Vigneshwaran*, M. Senthil Kumar, K. A. Swetha, S. Sivakumar, R. Priyanka, N. Kathiravan, M. Mathavan

Department of Pharmaceutics, Sree Abirami College Of Pharmacy, Coimbatore - 641021, India.

ABSTRACT



Face cream is a semi-solid preparation for improving skin colour. The purposes of the present research work was to formulate and evaluate herbal face cream with green tea extract, turmeric, aloe vera gel as a skin toner. Herbal creams offer several advantages over synthetic creams. The majority of existing creams which has prepared from drugs of synthetic origin and gives extras fairness to face, but it has several side effects such as itching or several allergic reactions. Herbal creams do not have any of these side effects, without side effects it gives the nourishment to skin. Method carried out to prepare herbal cream was vanishing cream formulation. Firstly, oil phase was prepared, Secondly aqueous phase was prepared. Then aqueous phase was added into the oil phase at 700 c with continuous stirring. Now, once the transfer was completed it was allowed to come at room temperature all the while being stirred. Perfume was added at last just before the finished product was transferred to suitable container. The above prepared herbal cream was evaluated with parameters such as pH, homogeneity by visual and by touch, appearance (colour), rub out (spread ability, wetness), washability, consistency and emolliency. The study suggests that the composition of extract and the base of the cream F1 are more stable and safe.

Keywords: Green tea extract, aloe vera gel, turmeric, vanishing cream..

ISSN: 2581-9143

Research Article

Corresponding Author

Name: L. V. Vigneshwaran

Email: vigneshwaran85@gmail.com

Article Info

Received on: 12-01-2022

Revised on: 22-01-2022

Accepted on: 24-02-2022

DOI: <https://doi.org/10.33974/ijrpst.v3i1.284>



Copyright © 2022, L. V. Vigneshwaran, Formulation and evaluation of herbal face cream with Green tea extract, Production and hosting by Rubatosis Publications.

INTRODUCTION

Creams are emulsions that are semisolid and designed to be applied to the skin or mucous membrane. A vanishing cream is a low-fat moisturiser that dissolves into the skin. It moisturises and softens the skin without leaving a greasy behind [1]. Vanishing creams are emulsion-based o/w treatments with an aqueous and an oil phase. [2] Herbal extracts are now commonly utilised in cosmetic preparations to enhance appearance and attractiveness. Herbal cosmetics are divided into categories

based on the dosage form (cream, powder, soaps, solutions, etc.) and the part or organ of the body to which they will be administered (cosmetics for skin, hair, nail, teeth, and mouth, for example). [3]

Cream can be water miscible and readily washed away, or thick and sticky, depending on the amount of water to grease. It's probably the most commonly recommended topical medication. Most patients prefer it since it is less greasy, messy, and sticky. [4] Traditional medical systems, which had evolved over ages, had been in charge of the world's healthcare until the emergence of the allopathic medical system. Because the latter approach relied on modern biology and chemistry for both discovery and treatment, it was quickly accepted by users, and it currently has a dominant position in the field of health care. [5]

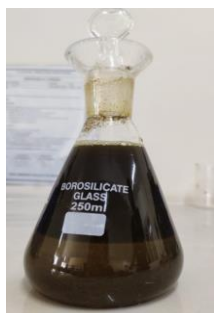
Despite this, traditional medicines, which are typically polyherbal, are gaining in popularity due to the widespread perception that these items are safe, whereas single-molecule based modern pharmaceuticals utilised in the allopathic system can have serious side effects. [6] Sunlight exposure has been identified as a crucial element in the aetiology of the skin's progressive undesirable changes in appearance. [7] Photo chemoprotective agents can protect the skin against the harmful effects of UV radiation induced by the excessive production of reactive oxygen species. [8]

Table 1: Formulation of herbal face cream

S.no	Ingredients	F1	F2	F3	F4	F5
1	Stearic acid (gm)	13	14	15	16	17
2	Cetyl alcohol (gm)	0.1	0.2	0.3	0.4	0.5
3	Potassium hydroxide (gm)	0.1	0.2	0.3	0.4	0.5
4	Sodium carbonate (gm)	0.1	0.2g	0.3	0.4	0.5
5	Green tea extract (gm)	1	1	1	1	1
6	Turmeric (gm)	1	1	1	1	1
7	Aloe vera gel (ml)	2	2	2	2	2
8	Glycerine (ml)	6	6	6	6	6
9	Triethanolamine (ml)	0.2	0.2	0.2	0.2	0.2
10	Water (ml)	qs	qs	qs	qs	qs
11	Lavender oil (ml)	0.5	0.5	0.5	0.5	0.5

Table 2: Evaluation parameters

S.no	Parameters	F1	F2	F3	F4	F5
1	Colour	Puff yellow				
2	Odour	Pleasant				
3	pH	6.5	6.6	6.74	6.75	6.88
4	Viscosity	190 cp	200 cp	210 c	220 cp	230cp
5	Spread ability	5	4	3.8	3.6	3
6	Homogeneity	Good				
7	Consistency	Excellent				

**Figure 1: Extraction of Green tea****Figure 2: Preparation oil phase****Figure 3: Herbal face cream**

OBJECTIVE: The objective of this research work was to develop the cream which does not cause any side effects or adverse reactions. The cream also acts as a skin tone in day-to-day life by giving even skin tone. It also possesses vitamin E which provided required nourishing to the skin.

MATERIALS & METHODS

Dutasteride was obtained as a gift sample from Manish Pharmaceuticals, Bhosari, Eudragit L 100, Poly-

oxy ethylene was gift sample of Bliss chemicals & pharmaceuticals India Ltd. (Thane). Ethanol was purchased from LOBA chemicals and other ingredients used were of Analytical grade.

METHODOLOGY

Green tea (*Camellia sinensis*): Many scientists believe that free radicals contribute to the aging process as well as the development of a number of health problems. Polyphenols present in green tea

helps in anti ageing. Makes your skin looks younger and better and give even skin tone.

Turmeric (*Curcuma longa*): Heals burns, clear acne

Aloe vera (*Aloe barbedensis*): Moisturising agent delivers smoothing property to the skin. Aloe vera gel contains two hormones: Auxin and gibberellins. These two hormones provide wound healing and anti-inflammatory properties that reduce skin inflammation. Aloe is used to effectively heal chronic skin problems, such as psoriasis, acne and eczema.

Lavender oil (*Lavandula angustifolia*): Skin healing, anti-bacterial, antiseptic, perfume

Materials: All crude drugs were collected from Ayurvedic medicine shop and local markets in Coimbatore, Tamilnadu.

Method of Preparation: Steps carried out in the preparation of vanishing herbal cream was as follows.

Preparation of alcoholic extract of crude drugs: Powdered material was extracted with 250 ml of ethanol using maceration for 4hr and extract was filtered through cotton wool. The filtrate was dried and concentrated.

Preparation of oil phase: Stearic acid, cetyl alcohol, potassium hydroxide, sodium carbonate was taken into one porcelain dish and this mixture was melted at 70°C.

Preparation of aqueous phase: Alcoholic extract of crude drugs and add glycerine and triethanolamine were taken into another porcelain dish and heated this mixture at 70°C.

Addition of aqueous phase to oil phase: The aqueous phase was added to the oil phase with continuous stirring at 70°C. Now, once the transfer was completed it was allowed to come at room temperature, all the while being stirred. Perfume was added at last just before the finished product was transferred to suitable container. Then cream was evaluated for various physical parameters.

EVALUATION OF CREAMS

pH: The pHmeter was calibrated and measured the pH by placing in the beaker containing 20mg of the cream. [9]

Spreadability test: 500mg of the cream was sandwiched between 2 slides. A weight of 100gm was placed on upper slide. The weight was removed and extra formulation was scrapped off. The lower slide was fixed on board of apparatus and upper slide was fixed with non-flexible string on which 20g load was applied. Time taken by upper slide to slip off was noted down. [10]

Homogeneity: The test was done by physical touch with hands. [11]

Appearance: The appearance of the cream was found by observing its colour, opacity, etc. [12]

Viscosity: The viscosity of the cream was tested by brook field viscometer at 60 rpm.

RESULTS AND DISCUSSIONS

The herbal face cream was prepared by using o/w emulsion method using mixture of alcoholic extract of crude drugs, including green tea extract, aloe gel and turmeric are used and developed formulations and passes all the evaluation parameters like color, odor, pH, spreadability and viscosity of the prepared herbal face cream. The color of all the formulation was puff yellow and the odour is pleasant. The pH of the formulation was ranges from 6.56 to 6.82. The viscosity of the formulations is ranges from 190 cp to 230cp. The spreadability of the formulation were maintained from 5 cm/s to 3cm/s. Further studies can be carried out on stability, dye test, patch test and skin irritancy test of the cream.

CONCLUSION

It is concluded that the current work done was to formulate herbal face cream. Then the formulated face cream evaluated using various parameters and was found that f1 formulation is satisfied compared to other formulations. Further studies can be carried out on stability, dye test, patch test and skin irritancy test of the cream.

ACKNOWLEDGEMENT

We sincerely express our deep sense of gratitude to The Management, Sree Abirami Institutions and Charitable Trust for providing the required facilities regarding this research and also for their support. We are highly indebted to Dr. M. Senthil Kumar, Principal, Sree Abirami College of Pharmacy who is our inspiration to pursue this undertaking. We are also obliged to our mentor and colleagues. This work would not have been possible without their worthy experience and enormous help.

REFERENCES

1. Pawar, A. P., & Gaud, R. S. (2009). Modern dispensing pharmacy. Career Publications.
2. Das, K., Dang, R., Machale, M. U., Ugandar, R. E., & Lalitha, B. R. (2012). Evaluation for safety assessment of formulated vanishing cream containing aqueous Stevia extract for topical application. Indian Journal of Novel Drug Delivery, 4(1), 43-51.
3. Akhtar, N., Khan, B. A., Haji, M., Khan, S., Ahmad, M., Rasool, F., & Rasul, A. (2011). Evaluation of various functional skin parameters using a topical cream of Calendula officinalis extract. African journal of Pharmacy and Pharmacology, 5(2), 199-206.
4. Ho, K. M. (2006). Proper choice of base of topical medicaments. Medical Bulletin, 11(9), 7-8.

5. Ravindra, R. P., & Muslim, P. K. (2013). Comparison of physical characteristics of vanishing Cream base, cow ghee and shata-dhautaghrita as per pharmacopoeial standards. International Journal of Pharma and Bio Sciences, 4(4), 14-21.
6. Ugandar, R. E., & Deivi, K. S. (2013). Formulation and evaluation of natural palm oil based vanishing cream. International Journal of Pharmaceutical Sciences and Research, 4(9), 3375.
7. More, B. H., Sakharwade, S. N., Tembhurne, S. V., & Sakarkar, D. M. (2013). Evaluation of Sunscreen activity of Cream containing Leaves Extract of *Butea monosperma* for Topical application. International Journal of Research in Cosmetic Science, 3(1), 1-6.
8. Saraf, S., Kour Chhabra, S., Deep Kaur, C., & Saraf, S. (2012). Development of photochemoprotective herbs containing cosmetic formulations for improving skin properties. Journal of cosmetic science, 63(2), 119.
9. Nair, S. S., Mathew, M., & Sreena, K. (2012). Formulation and evaluation of herbal cream containing *Curcuma longa*. International Journal of Pharmaceutical and Chemical Sciences, 1(4), 1-4.
10. Vijayalakshmi, A., Tripura, A., & Ravichandiran, V. (2011). Development and evaluation of anti-acne products from *Terminalia arjuna* bark. Int J Chem Tech Res, 3, 320-27.
11. Bhowmik, D., Gopinath, H., Kumar, B. P., & Kumar, K. (2013). Medicinal uses of *Punica granatum* and its health benefits. Journal of Pharmacognosy and Phytochemistry, 1(5).