

FORMULATION AND EVALUATION OF POLYHERBAL ANTI-WRINKLE CREAM.**Anjali Bhavsar*, Shivendra Raghuwanshi, Sangeeta Diwedi, Sapna Malviya, Anil Kharia****Modern institute of Pharmaceutical Sciences, Indore (453111)***Corresponding Author's E mail: meedaya@gmail.com

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ABSTRACT

Aging is a natural thing that needs different substitutes in the physiology of the skin. The alternative replacement within the physiology of the skin makes the candidate to become old. Application of antiaging formulation is the fine choice even though various methods of treatment are available because it nourishes skin and prevents or repairs excellent lines and wrinkles thus giving young looking appearance. In the study of creams were formulated based on the anti-oxidant potential of herbal extracts and its evaluation. Free radicals are nothing but they are reactive oxygen species. Exercise in high amount can cause over production of free radicals. Free radicals can come into body in anyway like smoking, pollution, poor diet, radiation or pesticides. In latest time antioxidant extracted from herbal natural source and now have wide packages in practise of anti-wrinkle cream due to their clean availability and non-toxicity. There are few creams which have been developed for the cause of treating the ageing face, yet UV damage and secondary symptoms of aging on the face cause them to one of the maximum obvious indicators of age outside the face. The formulation of polyherbal anti-wrinkle cream is monitored under accelerated stability studies over a period of 30 days whilst maintaining the product at 4, 20 and 40 °C.

Keywords: Aging, Antioxidant, formulation, signs of aging.**INTRODUCTION:**

Skin aging problem is the end result of continued "wear and tear" approaches. Chronological aging of skin getting older is a prevalent and inevitable manner, even as in contrast, photoaging effects from the UV rays of sunlight, and the harm will become apparent in sun-exposed skin. The polyherbal preparation of "Anti-Wrinkle cream" is recommended for the management of skin wrinkling. Aging has been categorized into 2 different types, one is chronological skin aging and other one photoaging and both type have different medical and histological features. Chronological skin aging older is a established and inevitable process, characterised preliminary by physiologic alterations in function of the skin. In chronological skin aging getting, keratinocytes are terminally unable to distinguished a functional stratum conium, and the growth of formation of neutral lipids (which is provide to the barrier capabilities) gets slowed, results in dry, pale skin with fine wrinkles.

Creams are homogeneous semi-solid or viscous preparation that possess a enormously fluid consistency and are intended, for external software to the skin or positive mucous membranes for protective, therapeutic or prophylactic functions especially wherein and occlusive effect isn't always necessary.

A wrinkle, also known as a rhytide, is a fold, ridge or crease inside the skin or on fabric. Skin wrinkles normally seem as a result of getting aging procedures inclusive of a glycation, habituated slumbering positions, lack of body mass, or temporary, as a result of extended immersion in water. Age wrinkling inside the skin is promoted with the aid of habitual facial expressions, growing old, solar damage, smoking, poor hydration, and numerous different elements.

Anti-getting old lotions are predominantly moisturizer-primarily based cosmeceutical skin care products advertised with the promise of making the customer appearance younger by way of lowering, overlaying or preventing signs and symptoms of skin growing old. "Anti-Wrinkle cream" is powerful and safe for utilization within the management of facial skin wrinkles.

MATERIALS AND METHODS

Collection: Pomegranate (PunicaGranatum), Watermelon (CitrullusLanatus), Blueberry (VacciniumCorymbosum) and green tea extract.

Materials: Pomegranate (PunicaGranatum), Watermelon (CitrullusLanatus), Blueberry (VacciniumCorymbosum) and green tea extract.

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Methods: (Maceration Process)

The crude drug was extracted by maceration process. In maceration process the crude was dip in solvent (ethanol) for 4hours. After extraction drug was evaporated and extract was collected.

Drying of Crude Drug

The object of drying is to remove sufficient moisture from the product to insure good keeping qualities. The removal of moisture from green drug plants prevents molding, the action of enzymes, and chemical or other changes which are brought about by the presence of excess moisture. To obtain satisfactory results in drying such plants, provision must be made.

- (1) For the continuous flow of air at a suitable rate through the drying material.
- (2) For the control of temperature.

PHYTOCHEMICAL SCREENING

Detection of saponins: Foam test: small quantity of extract was shaken with 2ml of water. If foam produced persists for ten minutes it indicates the presence of saponins.

Detection of proteins and amino acid: Xanthoproteic test: The extracts were treated with few drop of conc. Nitric acid. Formation of yellow colour indicates the presence of proteins.

Detection of tannins: Gelatin test: to the extract 1% gelatin solution containing sodium chloride was added. Formulation of white ppt indicates the presence of tannins.

Detection of alkaloids: extract were dissolved individually in dilute hydrochloric acid and filtered.

Mayer's Test: filtrates were treated with Mayer's reagent (potassium mercuric iodide) formation of a yellow coloured ppt indicates the presence of alkaloid.

Dragendroff's test: filtrates were treated with dragendroff's reagent (potassium bismuth iodide) formation of red ppt indicates the presence of alkaloid.

Preparation of Poly-Herbal Anti-aging Cream

Oil in water (O/W) emulsion- based cream (semisolid formulation) was formulated. The emulsifier (stearic acid) and other oil soluble components (cetyl alcohol, liquid paraffin) were dissolved in the oil phase (Part A) and heated to 75°C. The preservatives and other water soluble components (methyl paraben, glycerol, propyl glycol, and ethanol extract of *Citrullus Lanatus*, *Vaccinium Corymbosum*, *Punica Granatum* and green tea) were dissolved in the aqueous phase. (Part B) and heated to 75°C. After heating, the aqueous phase was added in portion to the oil phase with continuous stirring until cooling of emulsifier took place. The formulated cream was subject to the following evaluation parameter such as pH determination, viscosity, dye test, homogeneity, appearance, after feel, Type of smear, removal, acid value, saponification value, and irritancy test and accelerated stability analysis.

Table 1: Formulation Table of polyherbal formulation

| S.N | INGREDIENTS | QUANTITY |
|-----|--------------------|----------|
| 1. | Watermelon Extract | 1.0mg |
| 2. | Green Tea | 500mg |
| 3. | Blueberry | 2.0mg |
| 4. | Lavender Oil | 5ml |
| 5. | Stearic Acid | 6.5gm |
| 6. | Lanoline | 4.5gm |
| 7. | Mineral Oil | 5ml |
| 8. | Glycerine | 2.5ml |
| 9. | Trimethanolamine | 1.2ml |
| 10. | Methyl Paraben | 0.02gm |
| 11. | Propyl Paraben | 0.02gm |
| 12. | Water | 30ml |
| 13. | Pomegranate | 1.00gm |

PHYSICO-CHEMICAL CHARACTERISTICS OF THE DEVELOPED ANTI-AGING CREAM

Quality control consisted of the following determinations:

Organoleptic evaluation

The cream was obtained for its organoleptic properties like color, odor, and state.

PH determination

The pH meter was calibrated using standard buffer solution. About 0.5 g of the cream was weighed and dissolved in 50.0 ml of distilled water and its pH was measured

Determination of the viscosity

Viscosity of the formulation was determined by Brookfield Viscometer. The viscosity measurements were done using HAAKE Viscotester VT550 (spindle R = 6, shear rate D=5 s⁻¹, temperature 20⁰C). The developed formulation was poured into the adaptor of the viscometer and the angular velocity increased gradually from 0.5 to 20 rpm.

Accelerated stability studies

The developed cosmetic formulation was monitored under accelerated stability studies. Accelerated stability tests were performed over a period of 30 days while maintaining the product at 4, 20 and 40° C.

RESULT:

Table 2: Physiochemical Properties of Polyherbal Anti-Aging Cream

| Formulation | Cream |
|------------------|---------------------|
| Colour | Off White |
| Odour | Characteristic |
| Appearance | Homogenous Emulsion |
| pH | 6.9 |
| Spreadability | Easily Spreadable |
| Extrudability | Good |
| Foreign Partical | Free from Partical |
| Removal | Easily Remove |
| Irritancy test | Non Irritant |

Table 3: Evaluation of Polyherbal Anti-Aging Cream

| FORMULATION | COLOR | ODOUR | APPEARANCE | PH | VISCOSITY |
|-------------|------------------|----------------|---------------------|-------|----------------|
| cream | soft light white | characteristic | homogenous emulsion | 5-5.5 | 20.000 m poise |

DISCUSSION AND CONCLUSION

The fruits of Punicagranatum, VaccinumCorymbosum, CitrullusLanatus were extracted using three ethanol, and the extracts were subjected to formulation of polyherbal anti-wrinkle cream. Results revealed that most of the extracts exhibited good antioxidant effect among which the ethyl acetate fruit extracts of Punicagranatum, citrulluslanatus, VacciniumCorymbosum extracts. Furthermore those extracts exhibiting maximum activity were selected and their combinations were included in our prepared *cream* formulations.

Formulations were standardized by evaluating various physico chemical properties such as pH, spreadability, appearance, in which they exhibited satisfactory characters. However these formulations need to be further standardized as good anti-aging, skin shiner, and spots removal properties.

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