FORMULATION AND EVALUATION CLITORIA TERNATEA LINN. ALCOHOLIC EXTRACT FACIAL WASH GEL

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ABSTRACT:

It is concluded that Clitoria ternatea is a plant with a variety of ethnic medicinal uses. The qualitative analysis of Clitoria ternatea shows the presence of bioactive compounds such as Alkaloids, Tannins, Glycosides, Resins, Steroids, Saponins, Flavonoids and Phenols. The quantitative estimation of total Saponins, Flavonoids and Phenols in roots and of Flavonoids in shoots, flowers and seeds is also reported which is very important for the pharmaceutical industry. This is valuable information for preparation of drugs in pharmaceutical industry and stress the need for more intensive research in this medicinal plant since the compounds play a great role in healthcare. Face skin is the major part of the body, which indicates the health of an individual. It is a consist of materials such as amino acids, lipids and carbohydrates etc so that a balanced nutrition is required for the skin to keep it clear glossy and healthy, Present review article deals with the formulation and characterization of cosmetic herbal face wash and scruber preparation. In ancient times women are very conscious about their beauty and started to dress themselves because they wanted to increase their own beauty. A small quantity of water was added with preservatives, propylene glycol and sodium lauryl sulphate were dissolved well. To the above solution carbopol was added little by little and stirred well until a gel like dispersion was obtained .To this the extracts were added one by one to get a complete gel like consistency .Then triethanolamine was added finally. QUALITY control tests found to be satisfactory.

Keywords: inflammation, Emolliency, spreadibilty, saponification value, Acid value, Alkaloids, Tannins, Glycosides, Resins, Steroids, Saponins, Flavonoids and Phenols

MATERIALS AND METHODS

Clitoria ternatea Linn. plants were collected from rural organic nursery garden, place : Bargaon, Sundargarh District, Odisha. The plant parts namely leaves, roots, shoots, flowers and seeds were shade dried and powdered in a mechanical grinder for preparation of extract. Preparation of plant extracts The powdered plant parts were Soxhlet extracted with methanol. The extract, on removal of solvent in vacuum, gave a dark greenish brown semisolid residue. The powdered material or the extracts of the plant parts mentioned above were used for the study. Qualitative analysis It comprised of tests for the presence of Alkaloids, Tannins, Glycosides, Resins, Steroids, Saponins, Flavonoids and Phenols. Test for Alkaloids About 0.5 gm of methanol extract was taken in a test tube and was diluted and homogenized with 10 ml distilled water, dissolved in 20 ml dilute HCl solution and clarified by filtration. The filtrate was tested with Drangendroff's and Mayer's reagent. The treated solution was observed for precipitation of white or creamy colour.

Test for Tannins: Five grams of the ground powder was extracted with 10 ml ammonical chloroform and 5 ml chloroform. The mixture was filtered and the filtrate was shaken with 10 drops of 0.5 M sulphuric acid. Creamish white precipitate was observed for the presence of tannins.

Test for Glycosides: About 0.5 gm of methanol extract was taken in a test tube and 1 ml glacial acetic acid containing traces of ferric chloride was added to it. To this solution, 1 ml concentrated sulphuric acid was added and observed for the formation of reddish brown colour at the junction of the two layers and the upper layer turned bluish green in the presence of glycosides.

Test for Resins: For the tests concerning the presence of Resins, 0.5 gm of methanol extract was taken in a test tube and 5 ml of distilled water was added to it and observed for turbidity which indicates the presence of Resins.

Test for Steroids: About 0.5 gm of methanol extract was taken in a test tube and 2 ml of acetic anhydride was added to it and 2 ml of sulphuric acid was added by the sides of the test tube and observed for the colour change to violet or blue green.

Test for Saponins: About 0.5 gm of methanol extract was taken in a test tube and 5 ml distilled water was added to it. The solution was shaken vigorously and observed for persistent froth. The frothing was mixed with 3 drops of olive oil and shaken vigorously after which it was observed for the formation of an emulsion

Test for Flavonoids: About 0.5 gm of extract was introduced into 10 ml of ethyl acetate in a test tube and heated in boiling water for 1 min. The mixture was then filtered. About 4 ml of the filtrate was shaken with 1 ml 1% aluminium chloride solution and incubated for 10 min. Formation of yellow colour in the presence of 1 ml dilute ammonia solution indicated the presence of flavonoids.

Test for Phenols: About 0.5 gm of extract was taken in a test tube, mixed with 100ml distilled water and heated gently. To this, 2 ml of ferric chloride solution was added and observed for the formation of green or blue colour. Quantitative analysis Quantitative analysis of the root extract was carried out for total Flavonoids, Saponins and Phenols and the shoot, flower and seed extract for total flavonoids. The root extract was prepared as explained above. Determination of total

Flavonoids: The Aluminium chloride colorimetric method (Chang et al. 2002) with some modifications was used to determine total Flavonoids content. The liquid extract was prepared (with mixing 0.5 gm of root/shoot/flower/seed extract in 100 ml of water) and 1.0 ml of this was mixed with 1.0 ml of methanol, 0.5 ml of aluminum chloride (1.2 %) and 0.5 ml of potassium acetate (0.1176 %). The mixture was allowed to stand for 30 min at room temperature. Later, the absorbance was measured at 415 nm in a spectrophotometer. Quercetin was used as standard. Flavonoid content is expressed in terms of quercetin equivalent (mg/g of extracted compound).

Determination of Saponins: The method of Obadoni and Ochuko (2001) was used for determination of Saponins. The root extract (20 gm) was put into a conical flask and 100 ml of 20 % aqueous ethanol was added. It was heated over a hot water bath for 4 h with continuous stirring at about 55º C. The mixture was filtered and the residue re-extracted with another 200 ml 20 % ethanol. The combined extracts were reduced to 40 ml over water bath at about 90º C. The concentrate was transferred into a 250 ml separator funnel and 20 ml of diethyl ether was added and shaken vigorously. The aqueous layer was recovered while the ether layer was discarded. The purification process was repeated and 60 ml of n-butanol was added. The n-butanol extract was washed twice with 10 ml of 5 % aqueous sodium chloride. The remaining solution was

heated in a water bath. After evaporation, the samples were dried in the oven to a constant weight. The content of Saponins was estimated as mg/gm of extracted compound.

Determination of Phenols : The method Gupta et al. (2010) was followed presently. To 5 gm of the root extract in a 250 ml beaker, 200 ml of 10 % acetic acid in ethanol was added, covered and allowed to stand for 4 h. This was filtered and the extract was concentrated on a water bath to one quarter of the original volume. Concentrated ammonium hydroxide was added drop wise to the extract until the precipitation was complete. The whole solution was allowed to settle and the precipitate was collected and washed with dilute ammonium hydroxide and then filtered. The residue comprising of the phenols was dried, weighed and expressed as mg/gm of extracted compound..

Phytochemical screening of medicinal plants is very important in identifying new sources of therapeutical and industrial importance (Salhan et al. 2011).

METHOD OF PREPARATION:

Preparation of gel : small quantity of water was added with preservatives, propylene glycol and sodium lauryl sulphate were dissolved well. To the above solution carbopol was added little by little and stirred well until a gel like dispersion was obtained6 .To this the extracts were added one by one to get a complete gel like consistency .Then triethanolamine was added finally[7] .

EVALUATION :

The prepared face wash gel was evaluated for various parameters as follows[8] :

1. Washability[9] Formulations were applied on the skin easily remove by washing with water were checked manually.

2. pH pH of 1% aqueous solution of the formulation was measured by using a calibrated digital pH meter at constant temperature[10] .

3. Colour: The colour of the face wash gel was checked visually[11] .

4. Odour: The formulation was evaluated for its odour by smelling it.

5. Consistency: It was determined manually.

6. Viscosity: Viscosity of the gel was determined using Brookfield viscometer. The values obtained for the sample and for water were noted.

7. Spreadability: The spread ability of the gel was found manually by applying the gel on the skin with hand or finger gentle rub which easily spread through the face..

8. Foamability: Small amount of gel was taken in a beaker containing water. Initial volume was noted, beaker was shaken for 10 times and the final volume was noted.

9. Grittiness: The product was checked for the presence of any gritty particles by applying it on the skin.

RESULT :

The pH of the formulation was found to be in range of B6.2-6.9 which is good for skin pH. The viscosity of was cream was in the range of 27020-27056 cps which indicates spreadibilty of cream. Acid value 5.6, saponification value 25.4. Irritancy test was conducted in this research work. Homogeneity: formulation of base produce uniform distribution. This was confirmed by visual appearance and by touch. Appearance When formulation kept for long time, it found that no change in color of cream base After feel emolliency, slipperiness and amount of residue left after the application of fixed amount of cream base was found Type of smear After application of cream base, the type of smear formed on the skin were non greasy Removal The cream applied on skin was easily removed by washing with TAP WATER and result found to be satisfactory. The skin irritation study exhibited that no such sign of irritation, itching, redness and inflammation was found over lip over extended period of time.

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