



Preparation of Eco-friendly cosmetics & medicines by extraction of valuable essential oils and waters from flora

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Received on 01st January and finalized on 15th January 2013

ABSTRACT

Nature is an ultimate gift given by the God. The things which we get from nature are eco-friendly and less harmful. Nature is the most beautiful and it has ability to make everyone like itself. By using eco-friendly cosmetics and medicines not only we can protect our skin and body from toxic materials but also we can get better results. We line our eyes, coat our faces and cover our lips. We may absorb five pound of toxic chemicals a year from our beauty products and they are going straight into blood streams and may produce very harmful and bad effects. Modern medicines are necessary when we fall ill which may decrease our body's resistance power and results in weak immunity system. An essential oil is concentrated, hydrophobic liquid containing volatile aroma compounds from plants and is "Essential" in the sense that it carries a distinctive scent or essence of the plant.

Keywords: Eco-friendly cosmetics and medicines, Essential oil and water, Toxic chemicals, weak immunity system.

INTRODUCTION

People spend lot of money on cosmetics to look beautiful and on medicines for good health. These harmful chemical based cosmetics and medicines can be replaced by eco-friendly cosmetics and medicines to get better results which are prepared by extraction of essential oils and waters from flora. Essential oils are generally extracted by distillation and solvent extraction processes. They are used in perfumes, cosmetics, soaps and other products. Various essential oils have been used medicinally at different periods in history also. The techniques and methods first used to produce essential oils were first mentioned by Ibn al-Baitar (1188–1248), an Andalusian physician Pharmacist and Chemist [1]. Rose Essential oil and water are the soul of plant and this soul has two aspects to predict itself. One is Biochemical part and the second one is the vital energy, the vital force which generates Lives in plant. This vital force is responsible for all natural expressions of plant. This natural expression of rose seems just like when we feel mental relaxation and enhancement of our intellectuality standing between rose flowers [2]. In herbal application, the neem leaves, flowers, bark, seeds and oil are used. People have used it to treat various ailments internally as well as externally. Although all parts of neem tree are used for the purpose but neem leaf is especially beneficial for treating ailments like diabetes, ulcer, piles, malaria, hypertension, heart ailments hair problems, skin problems etc [3].

MATERIALS AND METHODS

Materials used: Rose petals, Neem leaves, Glycerine, Aloe vera gel, Fuller's Earth (Multani mitti), Fatty acids, Honey and water.

1. Preparation of essential oils and water:

Domestic Method: Essential oil and water can be prepared at our home easily. For this take heavy deep bowl and place it in a boiling pot of large size. Fill the heavy deep bowl with water to weight it down. Put rose petals on neem leaves in boiling pot and cover with water halfway up the side of the heavy deep bowl. Now place a shallow soup bowl on the top of heavy deep bowl. Cover the whole arrangement with a stainless steel bowl and it should be large enough to seal the boiling pot. Fill the top of the stainless steel bowl with ice. Let the water and rose petals or neem leaves boil. Rose/Neem extract with water or rose/neem water will be vaporised and due to ice at top it will be condensed and collected in the shallow soup bowl. The upper layer of condensed liquid contains rose/neem oil and lower layer rose/neem water which can be separated by simple decantation method.

Laboratory Method: Extraction of volatile oil from plant is determined by an apparatus called "Clevenger Apparatus". But in present work essential oil and water are prepared by simple distillation plant. Distillation plant will be assembled and round bottom flask will be filled with water and rose petals/neem leaves. Let the mixture allow boiling. Rose/neem extract with water will be vaporised and will be condensed and collected in the beaker. The condensed liquid is transfer in to separating funnel or simple burette. The upper layer of condensed liquid contains rose/neem oil and lower layer rose/neem water. Both layers can be separated.

2. Preparation of eco-friendly cosmetics and medicines:

- (i) *JIET Moisturiser*- 1 tea spoon rose oil + 1 tea spoon rose water + 6 drops glycerine.
- (ii) *JIET Eye-Wash*- Rose water.
- (iii) *JIET Aftershave cum Toner*- 1 tea spoon rose water + 1 tea spoon neem water.
- (iv) *JIET Throat Wash*- Rose water.
- (v) *JIET Acne treatment Cream*- A paste of 10-12 ground neem leaves+ 1 tea spoon rose water+ 1 tea spoon neem oil.
- (vi) *JIET Face wash*-1 tea spoon neem oil+1 tea spoon rose water+ fatty acid.
- (vii) *JIET Cream*- 1 tea spoon rose water+1 tea spoon rose oil+1 tea spoon glycerine + aloe vera gel to make creamy paste.
- (viii) *JIET Antiseptic Cream (Especially for boils treatment)*-10-12 ground dry neem leaves+1 tea spoon honey.
- (ix) *JIET Anti skin allergic cream*-1 tea spoon rose oil+ 1 tea spoon neem oil.
- (x) *JIET Face cleanser*-1 tea spoon rose oil+1 tea spoon rose water+ 1 tea spoon neem water.

RESULTS AND DISCUSSION

All above ten products are prepared in the laboratory of Chemistry and Environmental Engineering Department, Jodhpur Institute of Engineering and Technology (JIET), Jodhpur successfully. Eco friendly and green cosmetics and medicines are free from toxic chemicals and manufactured sustainably. Chemicals like parabens, petrochemicals which are derived from petroleum, synthetic dye etc. are very harmful for skin and body, they may cause of cancer, pore blockage and inflammation, exacerbating common skin conditions like dryness and acne. By using eco friendly cosmetics and medicines body skin can be protected from above mentioned diseases. The substances used in manufacture process of all products are easily available and can be prepared at home also [4,5].

APPLICATIONS

- (i) By using JIET moisturiser on body at night it will protect moisture of skin.
- (ii) JIET eye wash can be successfully utilised to wash eyes in case of eye strain inflammation.
- (iii) JIET after shave cum toner is particularly appropriate for skin disinfection after shaving. Simultaneously, it soothes and tones the skin.
- (iv) Five to six times daily gargling with JIET throat wash alleviates or even cures tooth ache, apthae, gingival, oral or throat inflammation, husky voice [6].
- (v) In severe acne cases a remarkably favourable effect is achieved if four or five times a day the affected skin area is treated with a cotton swab imbued with JIET Acne treatment Cream[6].
- (vi) JIET_Face wash gives softness and treat acne, brown spots, scars, pigmentation and various face problems.
- (vii) JIET cream gives smoothness to face even in harsh weather conditions.
- (viii) Due to antiseptic properties of neem leaf it is highly beneficial for treating boils. JIET Antiseptic Cream especially used for boils treatment[6].
- (ix) JIET Anti skin allergic cream cures skin allergies [6].
- (x) JIET Face cleanser cleans skin deeply and removes dirt and excess oil from face which are the main cause of pimples and many face problems.

CONCLUSION

Get petroleum derivatives off your face. Many cosmetics especially the cosmetics which we use during winter season contain petroleum derivatives that can be also toxic. In petroleum based lip balms and foundations, beeswax and minerals are better alternatives. One of the best ways to green our beauty routine is to go minimal. Cut out products that we don't really need because make-up artists advocate less products for a younger and healthier appearance. Do research about cosmetics which you are using, you can get eco-friendly, less harmful and suitable products according to your needs [7].

REFERENCES

- [1] The Chemistry of Essential Oils and Artificial Perfumes, 1921.
- [2] C. Leffingwell, John, **1999**, "Rose (Rosa damascene)". *Aroma from Carotenoids*. Leffingwell & Associates. Retrieved 2006-06-08.
- [3] WWW.essentialoils.co.za/neem-oil-chemical-composition.htm.
- [4] D.Klaassen, Curtis, O. Amdur, Mary, J. Casarett, Louis, Doull, John, **1991**. *Casarett and Doull's toxicology: the basic science of poisons*. New York: McGraw-Hill. ISBN 0-07-105239-9.
- [5] Gilman, Alfred; Goodman, Louis Sanford **1990**, *Goodman and Gilman's the pharmacological basis of therapeutics*. New York: Pergamon Press. ISBN 0-08-040296-8.
- [6] Sapeika, Norman. *Actions and uses of Drugs*, Pub: A.A.Balkema, **1963**.
- [7] E.J. Brill's first encyclopaedia of ... - Google Books.