Laxmi B & Pranita K./ *International Journal of Pharmacy & Therapeutics*, 5(1), 2014, 5-8.

e- ISSN 0976-0342
Print ISSN 2229-7456

International Journal of Pharmacy & Therapeutics

Journal homepage: www.ijptjournal.com

IJPT

FORMULATION AND EVALUATION OF HERBAL MULTIPURPOSE CREAM

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ABSTRACT

Herbal Medicine sometimes referred to as Herbalism or Botanical Medicine, is the use of herbs for their therapeutic or medicinal value. The herb is a plant or plant part valued for its medicinal, aromatic qualities. Herb plants produce and contain a variety of chemical substances that act upon the body. The Herbal Cosmetics defined as beauty products, which possess desirable physiological activities, such as skin healing, smoothing, and appearance, enhancing and conditioning properties because of herbal ingredients. The herbal multipurpose cream was prepared and evaluated with an aim to design and developed new formula for herbal multipurpose cream. Formulations were evaluated for various physicochemical parameters include appearance, type of emulsion, Stability of color and odor, extrubility, pH, Texture, feel upon application, particulate contamination, spredability, etc. Formulation **C** was found to be best with regards to its used and demonstrating better product stability. Such a superior performing stable formulation could be attributed to its use.

Key Words:- Multipurpose cream, Herbal Formulation, Medicinal Herb.

INTRODUCTION

Herbal products in cosmetics or in herbs in cosmetics can also be referred as botanical origin products in cosmetics. Personal care product containing ingredients from the plant origin are finding an increasing receptive trend in domestic as well as world market (Kaliya, 1998). Beginning in the 1990's, cosmetics manufacturers adopted a trend of using the terms cosmeceuticals to describe the OTC skin care products that claims therapeutics benefits by the addition of the plant based active ingredients such as Alfa-hydroxyl acids, retinoic acid, ascorbic acid and co-enzymes Q-10 (Ubiquinone) to increase the skin elasticity, delay skin aging by reducing the wrinkles, antioxidants as protectants against UV radiation by antioxidant property and check the degradation of collagen respectively (Pawar and Gaud, 2001). The Herbal Cosmetics defined as beauty products, which possess desirable physiological activities, such as skin healing, smoothing, and appearance, enhancing and conditioning properties because of herbal ingredients.

The herbal cosmetics can be grouped in to following major categories.

1. For enhancing the appearance of the facial skin.
2. For hair growth and care.
3. For skin care, especially in teenager (acne, pimples, sustaining)
4. Shampoos, soap, powder and perfumery etc.
5. Miscellaneous products.

Among the above mention categories, skin care will dominate cosmetically demand in the coming years especially for the professional products used for appearance enhancing facial implants, chemical peels and related products (Kokate CK *et al*., 2003). The key market demand was of the products effective in antiwrinkle

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treatment, to increase micro circulation, sunscreens, analgesic and promotion of hair growth. Creams are semisolid emulsions intended for application to the skin or mucous membrane. Cream posses pseudoplastic flow properties with very little yield value.

MATERIAL AND METHODS

FORMULATION OF HERBAL MULTIPURPOSE CREAM:

A. Preparation of Cream Base:

Procedure

All ingredients were weighed accurately. Bees wax was melted into a porcelain dish and then liquid paraffin was added. After homogenization, almond oil was added into above melted base. Borax was dissolved into sufficient quantity of water and it was warmed. The water was added drop by drop with vigorous stirring into the oily portion. Then melted mass was allowed to cool to get desired consistency (Ahmad *et al*., 2005).

B. Preparation of Herbal Multipurpose Cream

Procedure

Aloe, Papaya, Amla, Neem, Tulsi and Turmeric were weighed accurately and homogenize it separately. Pulp of Papaya was smashed and was mixed with aloe and amla powder. Extract of neem and tulsi was added into above mixture. The resulted mass was added into the base with constant stirring. Then turmeric powder was added in it and perfume was added.

EVALUATION TESTS FOR CREAM

Evaluation of *In-Vitro* Skin Permeation:

A) Determination of Amount of Drug Deposited in Skin:

In this method the *in vitro* drug release study is performed in two stages using diffusion cell 32 ±1 °C. In the 1st stage PBS (pH 6.5) 10ml is used as receptor medium for period of 10hrs and in-vitro skin permeation is carried out. At the end of 10 hrs, the donor compartment is washed 5 times with warm receptor fluids (45°C) the 2nd stage uses 50% v/v ethanol as receptor solution for further period of 12 hrs and performs without any donor phase. During this stage ethanolic receptor will diffuse into skin disrupting the carrier system which may have penetrated and deposited in the tissue and thus releasing both carrier bound and free drug for collection in the receptor.

B) Evaluation of Skin Sensitivities

Open Epicutaneaous Test:

The irritancy profile is determined by applying 0.025mm of varying concentration of 2cm sq. area of the shaved flanks of 6-8 guinea pigs. Test sites are visually evaluated 24 hrs after application of test solutions to erythema. The dose not causing a reaction in 25% of animals (minimal irritant conc.) is determined. As defined earlier, topical dosage form are those designed for application to the skin for the treatment of local condition. Some penetration below the stratum corneum may not occur, and may or not be desirable. Unlike a Tran dermal formulation, topical product is not intended to result in any appreciable absorption into the systemic circulation. The ideal topical product is one that (1) achieves a concentration in the target tissue that is sufficient to result desired pharmacological response; (2) has an acceptable systemic toxicity end (3) leaves the skin in an inactive form.

Draize Test

The draize sensitization test (DT) was the 1st predictive sensitization test accepted by regulatory agencies. One flank of 20 guinea pigs is shaved and 0.05 ml of a 0.1% solution of test material in saline, paraffin oil or polyethylene glycol is injected into the anterior flank on day 0. Every other day through day 20, 0.1 ml of the solution is injected into a new injected into each animal (challenge). Twenty previously untreated flanks are shaved and 0.05 of test solution is visually evaluated 24 hr and 48 hr after injection. A larger or more intensely erythematous response than that of controls is considered a positive response (Tortora *et al*., 1993).

RESULTS

The herbal multipurpose cream was prepared and evaluated with an aim to design and developed new formula for herbal multipurpose cream. Prior to the formulation of herbal cream, herbs were selected and collected from different sources. In the present work, total four formulations were prepared. The detailed composition is shown in Table no. 5 Formulations were evaluated for various physicochemical parameters include appearance, type of emulsion, Stability of color and odor, extrubility, pH, Texture, feel upon application, particulate contamination, spredability, etc. An optimum formulation with regards to desired physicochemical properties was evaluated **.**The selected formulation was subjected to following test parameters –

1. Appearance
2. Type of emulsion
3. Stability of color and odor
4. Extrubility
5. pH
6. Texture
7. Feel upon application
8. Particulate contamination
9. Spredabilit

Table 1. Medicinal Herbs Used for the Beuty Therapy (Abdolhossein *et al*., 2003)

Sr. No.	Action	Medicinal herbs
1	Antiseptic	Amba haldi, neem, tulsi, Liquorice, Bavachi, citrus peel
2	Anti-inflammatory	Chandan, Khus, rose, Lodhra, Aloe, Raktchandan, Anantmul
3	Antiwrinkle	Manjishtha, Papaya, Aloe, Nagarmotha, Ginseng
4	Astringent	Arjun, Harada, Triphala, Manjishtha, Neem
5	Bleaching	Amba haldi, Kachur sugandhi, Aloe, Rakta chandan, Anantmul.
6	Cleansing	Aloe, Papaya, citruspeel, amla, Lemon.
7	Enzyme action	Aloe, Rose, khus, papaya.
8	Moisturizers	Aloe, Rose, Khus, Neem.
9	Nutritive	Liquorices, Ashvagandha, Ginseng, nagarmotha, tulsi.
10	To increase circulation	Kachur sugandhi, Nagarmotha, bavachi, Amba haldi.
11	Rejuvenating	Ginseng, papaya, Liquorices, Aloe, Raktachandan, Anantmul.

Table 2. Materials used in the preparation of Herbal Multipurpose Cream (Jerajani *et al*., 2004).

Sr. No.	Name of Ingredients	Role of Ingredients
1.	Beeswax	Flavouring agent
2.	Liquid paraffin	Preservative
3.	Almond oil	Vehicle
4.	Rose oil	Flavouring agent
5.	Borax/methyl paraben	Preservative
6.	Aloe	Antiwrinkle, Cleansing and Moisturizers
7.	Papaya	Antiwrinkle, Cleansing and Enzyme action
8.	Amla	Antioxidant property and cleansing
9.	Neem	Antiseptic, astringent, and moisturizers
10.	Tulsi	Antiseptic and nutritive
11.	Turmeric	Colouring agent and antiseptic
12.	Water	Vehicle

Table 3. Formula for preparation Cream Base

Sr. No.	Name of ingredient	Quantity
1	Beeswax	10 gm
2	Liquid paraffin	12 gm
3	Almond oil	30ml
4	Rose oil	2 ml
5	Borax/methyl paraben	01gm
6	Water	q.s. upto 100 gm

Table 4. Overall formulation design for the Herbal Multipurpose Cream

Sr. No.	Ingredients	A	B	C
1	Aloe	25	30	30
2	Papaya	15	25	15
3	Amla	15	10	20
4	Neem	1.5	2.5	4.0
5	Tulsi	2.5	2.5	4.0
6	Turmeric	2.5	4.0	3.0
7	Acacia	5.0	3.0	3.0

Table 5. Evaluation Parameters of all formulations

Sr. No.	Evaluation Parameters	A	B	C
1	Appearance	Pale Yellow	Pale yellow	Orange Colour
2	Type of emulsion	O/W	O/W	O/W
3	Stability of color and odor (After 2 week)	Unstable	Unstable	Stable
4	Extrubility	Good	Good	Good
5	P^H	6.3	6.5	6.4
6	Texture	Gritty	Smooth	Smooth
7	Feel upon application	Cooling	Cooling	Cooling
8	Particulate contamination	No	No	No
9	Spreadability	Not good	Good	Good

DISCUSSION AND CONCLUSION

The study was undertaken with an aim to formulate herbal multipurpose cream. The literature review showed that demand of multipurpose cream is increases day by day. Nowadays Aloe and papaya is the major ingredient used in various creams due to their antiwrinkle, cleansing, moisturizers properties and enzyme action (Jain, 1997). Amla shows antioxidant property. Neem and tulsi have antiseptic, astringent, moisturizing and nutritive property. Turmeric have antiseptic and coloring property.In present work an attempt has been made to formulate herbal multipurpose cream containing aloe, papaya, amla, neem, tulsi and turmeric. Total four formulations (A, B and C) were prepared by varying the proportion all ingredients of herbal origin. All four formulations was O/W type of emulsion. All formulations have cooling sensation after application and good extrubility. All formulations were free from particulate contamination. Formulation A was pale yellow in colour and it was unstable after 2 weeks. P^H of A was found to be 6.3 and its texture was gritty and spreadability was not good. Formulation B was pale yellow in colour and it was unstable after 2 weeks. P^H of B was found to be 6.5 and its texture was smooth and spreadability was enough good. Formulation C was orange in colour and it was stable after 2 weeks. P^H of C was found to be 6.4 and its texture was smooth and spreadability was very good. It was concluded that a stable herbal multipurpose cream was successfully developed. Formulation C was found to be best with regards to its used and demonstrating better product stability. Such a superior performing stable formulation could be attributed to its use.

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