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Formulation and Evaluation of Anti-Ageing Herbal Facepack

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ABSTRACT:The purpose of the present work is to formulate and evaluate a herbal face pack for anti-ageing. The ingredients like pomegranate peel, lemon peel, egg shell, red gram and green tea were gathered from the local market as well as from home itself. The ingredients were thoroughly washed, shade dried, powdered and passed through sieve no # 44. The powdered items were mixed in depth and evaluated for its organoleptic, physicochemical, physical, chemical, phytochemical and antioxidant properties. The powder showed good flow property. The formulation showed the presence of carbohydrates, proteins, tannins and flavonoids. Face packs were mainly used for improving blood circulation and to maintain the structure and flexibility of skin. Natural ingredients, less toxicity, lesser side effects, were the added advantages of herbal cosmetics. Antioxidants have the potential to prevent ageing. Thus in the present work it is a great effort to formulate and evaluate an anti-ageing herbal face pack and additional studies are required on this work to discover the beneficial effects of face pack as herbal cosmetics for human use.

KEYWORDS: Facepack, Anti-aging,Anti - oxidant,Physicochemical.

I. INTRODUCTION

Pharmacognosy is the study of medicines acquired from natural sources, mainly from plants. It deals with the standardisation, authentication and study of natural drugs. Pharmacognosy is derived from the Greek word "Pharmakon", 'a drug' and "Gignosco",'to acquire knowledge of [1-2].

According to the Drugs and Cosmetics Act, 1940 cosmetics is defined as any articles intended to be rubbed, poured, sprinkled or sprayed on, introduced into or otherwise applied to the human body or any part thereof for cleansing, beautifying, promoting attractiveness or altering the appearance[3].

Herbal Cosmetics, referred as Products, are formulated, using various permissible cosmetic ingredients to form the base in which one or more herbal ingredients are used to provide defined cosmetic benefits only, shall be called as "Herbal Cosmetics"[4].

Today the interest on cosmetics are increasing tremendously. Among these herbal cosmetics are getting more demand due the belief that herbal cosmetics are of natural origin and they are safe to use. Most of the people wants to be the centre of attraction and they are very conscious about their beauty. Natural origin, easy availability, economic, safe to use, less toxic, less side effects etc. are the added advantages of herbal cosmetics. But the disadvantage is that they are the victims of adulteration, it may take longer time, may not be effective for all.

Today, herbal cosmetics are growing popular not only in developed countries like United States, Canada, United Kingdom, Australia, Germany and France etc but also in other developing countries like the Philippines, China and India etc. At present global market for herbal cosmetics is $ 1500 billion and is estimated to grow at the rate of 25% per annum. Indianayurvedic products market is estimated to be Rs. 2500 crore per annum out which Rs. 450 crore is the market of natural herbal cosmetics. In time of recession along with some vital sectors the cosmeceutical sector also shows growth. The major reason for this could be the intention of consumers not to compromise with their appearance[1-5].

Face pack is the smooth powder which is used for facial application. These preparations are applied on the face in the form of liquids or pastes and allowed to dry and set to form film giving tightening, strengthening and cleansing effect to the skin and prevent premature ageing.

Face packs helps improve the blood circulation and to rejuvenate the skin and also helps to maintain the texture and flexibility of the skin. It

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also helps to remove wrinkles, acne, pimples and dark circles.

Use of face pack may lead to skin irritation, redness, and may worsen acne. Takes longer time to dry and these are the supposed disadvantages of face pack [6-7].

Now a days one of the major concern among people is the ageing. Antioxidants are chemical compounds that prevent the free radicals which damage the healthy skin cells. Ingredients with antioxidant properties are capable of preventing ageing. The present work deals with the formulation and evaluation of a face pack with objective of anti- ageing with naturally available ingredients like pomegranate peel, lemon peel, egg shell, red gram and green tea[8-9].

II. MATERIALS AND METHODS

Plant profile

INGREDIENTS	SYNONYM	BIOLOGICAL SOURCE	FAMILY	CHEMICAL CONSTITUENTS	USES	IMAGE
POMEGRANATE PEEL[39]	Punicaflioridasalisb, Punica nana L.	Dried outer part of Punicagranatum L.	Lythraceae	Tannins, Ellagic acid, Gallic acid, Terpenes, Terpenoids.	Improve hyperpig-mentation, treat acne, anti-aging.	
LEMON PEEL[52]	Limonisfructus, Limonis cortex.	Dried outer part of pericarp of Citrus limonis and Citrus medica.	Rutaceae	Limonene, Citric acid, Vitamin C, Pectin.	Treat acne and pimples, fade away dark spots.	
EGG SHELL[46]	Calcium carbonate crystal.	Calcium carbonate crystals obtained from Gallus domesticus.	Phasianidae	Magnesium carbonate, Calcium phosphate, Calcium carbonate.	Anti-aging, Treat acne and wrinkles, Clear pores.	
RED GRAM[58]	Lens culinaris, Pigeon pea.	Perennial legume of Cajanuscajan.	Fabaceae	Folic acid, Vitamin C	Exfoliating agent, Remove tans, dark spots.	

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GREEN TEA[59]	Camellia thea.	Dried leaves and leaf buds of Thea sinensis	Theaceae	Caffeine, Gallotannic acid, Saponins.	Treat acne and moisturizes skin, Antiaging.	

Formulation of face pack (F1)

Raw materials were gathered from market and home. The natural ingredients were shade dried, powdered and sieved using #44 mesh, weighed accurately and mixed. For the evaluation of various parameters, the formulated face pack (F1) was stored in an airtight container.

Table 1: Formulation of face pack (F1)

INGREDIENTS (20g)	**F1 (g)**
Pomegranate peel	2.5
Lemon peel	2.5
Egg shell	5
Red gram	5
Green tea	5

Procedure for application of face pack

The face pack should be applied to a damp face and mixed into a paste with enough water to achieve the desired thickness. It should be applied to the face using a brush or your hands. It was left for 15 minutes to dry completely. Then wash it off with cool water.

EVALUATION OF FACE PACK

Morphological evaluation: It refers to the examination of the herbal face pack by its color, odour, appearance, texture, smoothness etc. Physicochemical evaluation: Physicochemical parameters such as extractive value, ash value, pH and loss on drying were performed[12]. Physical evaluation: The flow property of the dried powder was evaluated by performing angle of repose. Tapped density, bulk density, carr's index, hausner's ratio were also evaluated[12]. Chemical evaluation: phytochemical screening of face pack was carried out. The in vitro antioxidant study was performed using DPPH and ABTS methods.

III. RESULTS

Organoleptic evaluation

Sl.no	**Parameters**	**F1**
1	Appearance	Powder (free flowing)
2	Colour	Slight yellow

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3	Odour	Slight
4	Texture	Fine
5	Smoothness	Smooth

Physicochemical evaluation

Sl.no	Parameters	F1
1	pH	6.9
2	Moisture content	0.65g
3	Ash value	42.77 
4	Extractive value Alcohol soluble	12 %w/w 
	Water soluble	55% w/w 

Physical evaluation

Sl.no	Parameters	F1
1	Tapped density 300 tap 500 tap	 0.71g/cm3 0.83g/cm3
2	Bulk density	0.66g/cm3
3	Angle of repose	47°93'
4	Carr's index	0.71%
5	Hausners ratio	1.25

Sl.no	Test	F1
1	Alkaloids	-

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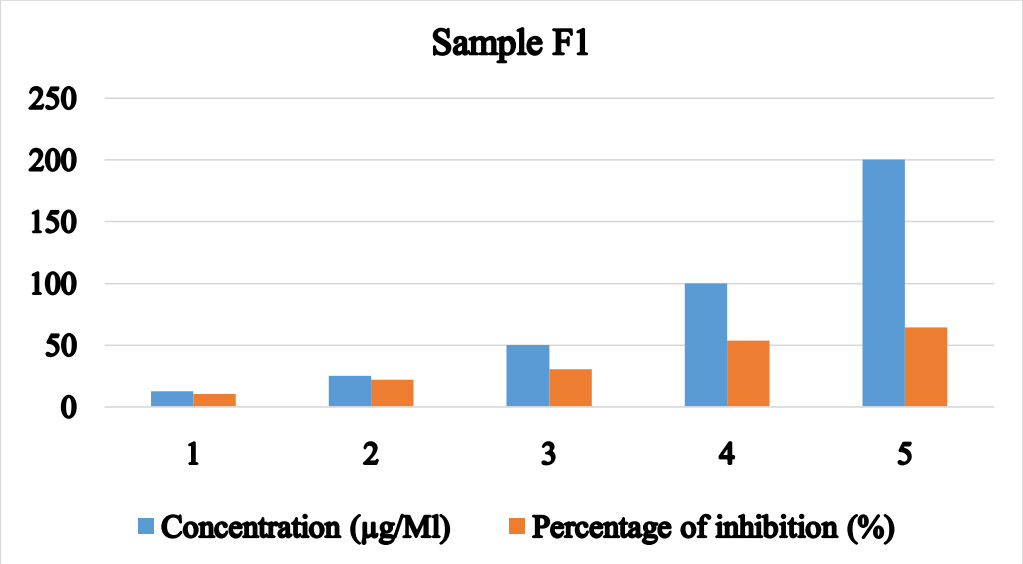
2	Glycosides	-
3	Carbohydrates	+
	Fehling's test	+
	Benedict's test	+
	Molisch's test	+
4	Flavonoids	+
5	Steroids	-
6	Glycosides	-
7	Tannins	+
8	Proteins	+
	Ninhydrin test	+

In-vitro studies

DPPH

Concentrations (µg/mL)	Absorbance	Percentage of inhibition
Control	0.2669	0.00
Sample: F1		
12.5	0.2395	10.26
25	0.2088	21.76
50	0.1863	30.19
100	0.1241	53.50
200	0.0956	64.18



ABTS

Concentration (µg/mL)	Absorbance	Percentage of inhibition
Control	0.1134	00
Sample: F1		

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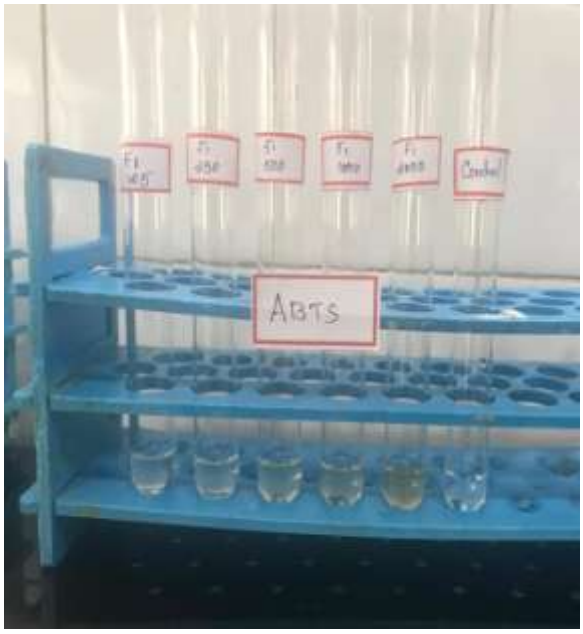
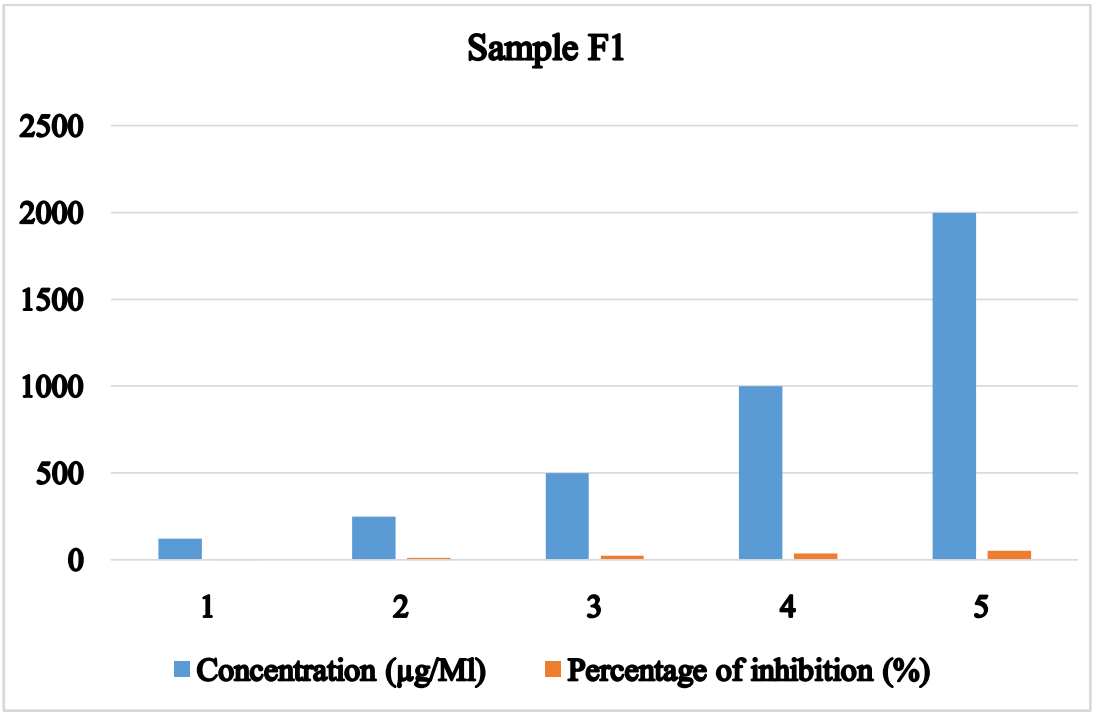
125	0.1058	6.70
250	0.0997	12.08
500	0.0838	26.10
1000	0.0689	39.24
2000	0.0511	54.93





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IV. CONCLUSION

Natural remedies are more reliable than synthetic ones because, they are safer with fewer side effects[10].In the global market, herbal formulations are in high demand. Herbal face packs are used to improve blood circulation, rejuvenate the muscles and helps to maintain the elasticity of the skin, while also removing dirt from pores [12]. Thus, in the present work it is a very good attempt to formulate an herbal face pack as a remedy for the aging problems using natural ingredients like pomegranate peel, lemon peel, egg shell, red gram and green tea.

SOME OF THE ADVANAGES FROM THE ABOVE RESULTS

1. The formulation was determined to be homogeneous, washable, and neutral in pH, making it compatible with normal skin physiology.
2. The face pack was slight yellowish in color. The odour of the formulation was slight and is acceptable for a desirable cosmetic formulation. Texture and smoothness were acceptable.
3. The ash value, moisture content and extractive value was within the limit. It was found to be free flowing and non-sticky in nature.
4. It showed the presence of phyto-constituents such as carbohydrates, tannins, proteins and flavonoids[7&66].
5. The formulation showed good antioxidant activity.

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