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FORMUALTION AND EVALUATION OF ANALGESIC VANISHING CREAM

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ABSTRACT

The purpose of the present research work was to formulate and evaluate analgesic vanishing cream. Vanishing creams offer several advantages over other creams. They are called vanishing cream are because they seem to disappear when rubbed into the skin. These preparations are stearic acid based and part of the stearic acid is saponified with an alkali and rest of the stearic acid is emulsified with this soap in large quantity of water. These preparations are emulsion type and have an aqueous phase and oil phase, so ingredients of oil phase should be mixed gradually in increasing melting order, starting with melting of lowest melting point substances, components of aqueous phase should be mixed together and warmed to about same temperature of oil phase and mix with oil phase with continuous stirring until a smooth cream is formed, add perfume after cooling. The above prepared analgesic vanishing cream was then evaluated. The physical parameters such as pH, homogeneity by visual and by touch appearance (color), viscosity, dye test, moisture absorption studies, and *in vitro* studies were determined. In contrast with other creams or ointments, which are greasy and messy in nature and may cause staining of clothes, the prepared analgesic vanishing cream was pleasant, easily washable thereby increasing patient compliance.

INTRODUCTION

Skin cream is the age old necessity of mankind. This necessity leads to the continuous modification and invention of more and more skin care cosmetic preparations.

1. VANISHING CREAMS:

They are called vanishing cream are because they seem to disappear when rubbed into the skin. These preparations stearic acid based and part of the stearic acid is saponified with an alkali and rest of the stearic acid is emulsified with this soap in a large quantity of water. After application the cream leaves a dry but tacky residual film which also has a drying effect on the skin. Because of this reason the stearic acid soap based creams are still favoured for use with greasy skin condition and particularly in hot climates which cause perspiration on the face and where more emollient creams are not suitable.Finest quality triple-pressed stearic acid of melting point of about 55^0C is normally used. The high quality stearic acid provides an oil phase, which melts above body temperature and crystallizes in a suitable form, provides an invisible and non-greasy film and can produce a very attractive appearance. Normally 20-30% of free fatty acids is neutralized by using alkali [11].

1.1 Composition of analgesic vanishing cream:

The following are theingredients used for preparation of analgesic vanishing cream active components as Methyl salicylate,

Turpentine oil, Eucalyptus oil, Lavender oil. Triethanolamine is used as an emulsifying agent.Stearic acid is used as a cream base.

2. MATERIALS AND METHODS*:*

The analgesic agents used are Methyl salicylate, Turpentine oil, Lavender oil, Eucalyptus oil. The other agents includes Triethanol amine(emulsifying agent),and other materials are stearic acid, sodium hydroxide, glycerine, rose water, distilled water.

2.1. PREPARATION OF VANISHING CREAM:

These preparations are emulsion type and have aqueous phase and oil phase. So ingredients of oil phase should be mixed gradually in increasing melting order, starting with melting of lowest melting point substance. Components of aqueous phase should be mixed together and warmed to about same temperature of oil phase and mix with oil phase with continuous stirring until a smooth cream is formed. Add perfume after cooling.

EVALUATION OF PREPARED VANISHING CREAM:

1. Physical appearance/Visual inspection: The cream was prepared and observed for colour, odour and appearance [3,8].

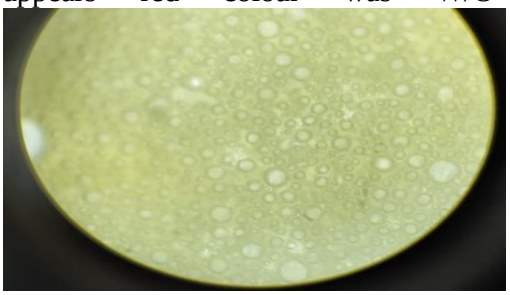
2. Determination of pH: About 0.5g of the cream was weighed and dissolved in 50.0ml of distilled water and its pH[2,4,7].

3. Removal: The ease of removal of the cream applied was examined by washing the applied part with the tap water[7,8].

4. Rheological evaluation: The viscosity of the vanishing creams was determined by using brookfield viscometer by setting different spindle speeds from 0.3 to 10 rpm. The viscosity of the shampoos was measured by using spindle T95. The temperature and sample container's size was kept constant during the study[1,9,6,9].

5. Homogeneity: The formulations were tested for the homogeneity by the visual appearance and by touch [5].

6. Dye test: The test was done by mixing the cream with red dye then placed the drop of cream on a slide and covered with cover slip, observed under microscope. If the dispersion phase appears in red coloured globules the cream was O/W type. If the continuous phase appears red colour was W/O type



7. *INVITRO* STUDIES:

Evaluation for permeability studies:

***In vitro* release:-** *In vitro* release of the drug can be performed by diffusion flask method. Here egg membrane is used as a biological membrane.

Preparation of egg membrane:- Egg membrane is prepared by a small hole was made on egg and separate the egg yolk. Egg membrane was separated out by placing the egg shell in conc.Hcl till the membrane was separated from shell. Then the separated egg membrane was continuously washed with purified water to make it free from Conc.Hcl and finally cleaned or washed in alcohol then experiment is carried out. Glass tube with two ends open was taken. At one end of the test tube egg membrane was tied and fitted to a burette stand such that surface of the membrane touches the buffer taken in a beaker which was placed on a magnetic stirrer before placing in buffer.

Permeability studies:-The invitro diffusion studies of the cream were performed using egg membrane. The membrane was soaked in methanol for 6-8 hr& was clamped carefully to one end of the hollow glass tube. Methanol was used for in vitro release as a receptor medium. The cream sample was applied on the

membrane and then fixed in between donor and receptor compartment of glass tube. The receptor compartment contained methanol (100ml) of pH 6.8. The temperature of diffusion medium was thermostatically controlled at 37º ± 1º by surrounding water in jacket and the medium was stirred by magnetic stirrer at 500rpm. The samples were withdrawn at predetermined intervals and were replaced by equal volume of fresh fluid. The samples withdrawn were spectrophotometrically estimated at 310 nm against blank [11].

S.NO	Ingredients(gm)	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11
1.	Methyl salicylate	6	-	-	-	3	0	1	2	2.5	0.5	1
2.	Turpentine oil	-	6	-	-	2	3	0	1	2	2.5	0.5
3.	Lavender oil	-	-	6	-	1	2	3	0	1	2	2.5
4.	Eucalyptus oil	-	-	-	6	0	1	2	3	0.5	1	2
5.	Stearic acid	10	10	10	10	10	10	10	10	10	10	10
6.	Triethanol amine	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
7.	Sodiumhydroxide	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
8.	Glycerin	4	4	4	4	4	4	4	4	4	4	4
9.	Water	30	30	30	30	30	30	30	30	30	30	30
10.	Perfume	Qs	Qs	Qs	Qs	Qs	Qs	Qs	Qs	Qs	Qs	Qs
11.	Preservatives	Qs	Qs	Qs	Qs	Qs	Qs	Qs	Qs	Qs	Qs	Qs

Table 1: Composition of Analgesic vanishing cream

Table 2: Evaluation of Formulation for Physical Appearance, P^H, Removal, Viscosity, Homogeneity

S.NO	Formulation	Physical Appearance	PH	Removal	Viscosity	Homogeneity	
						By Visual	By Touch
1.	F1	White	6.3	Easily washable	9540	Homogeneous	Smooth and consistent
2.	F2	White	6.5	Easily washable	10810	Homogeneous	Smooth and consistent
3.	F3	White	6.4	Easily washable	8537	Homogeneous	Smooth and consistent
4.	F4	White	6.3	Easily washable	8600	Homogeneous	Smooth and consistent
5.	F5	White	6.5	Easily washable	9622	Homogeneous	Smooth and consistent
6.	F6	White	6.4	Easily washable	9701	Homogeneous	Smooth and consistent
7.	F7	White	6.5	Easily washable	8650	Homogeneous	Smooth and consistent
8.	F8	White	6.3	Easily washable	8820	Homogeneous	Smooth and consistent
9.	F9	White	6.4	Easily washable	11961	Homogeneous	Smooth and consistent
10.	F10	White	6.6	Easily washable	10034	Homogeneous	Smooth and consistent
11.	F11	White	6.3	Easily washable	8709	Homogeneous	Smooth and consistent

CONCLUSION:

In the present work, efforts have been made to prepare and evaluate Analgesic cream by using Methyl salicylate, Turpentine oil, Eucalyptus oil, and Lavender oil by various combinations. All the prepared formulations were evaluated for various tests. Formulation F9 shown best viscosity which could deliver maximum active ingredients for analgesic activity. It may shave fair analgesic activity. Hence the Formulation F9 has met the objectives of the study which may hold promise for further studies.

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