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Review Article Formulation and Evaluation of Moisturising Cream

Miss. Rutuja Rameshwar Rakh[1], Miss. Pooja Eknath Phupate[2], Mrs. Madhuri Bade[3], Prof. Gulshan Rathi[4]
Students, VSS Institute of Pharmacy, Badnapur, Jalna, Maharashtra, India[1,2]
Guide, VSS Institute of Pharmacy, Badnapur, Jalna, Maharashtra, India[3]
Vice Principal, VSS Institute of Pharmacy, Badnapur, Jalna, Maharashtra, India[4]

Abstract: *Moisturisers are one of the most widely used preparations in cosmetics and have been extensively used to soften the skin for consumers. Moisturisers work effectively in combating dry skin which may cause pain, tightness, itch, stinging, and/or tingling. The aim of this review is to evaluate published studies on the history, ingredients, preparation processes, characteristics, uses, and applications of moisturisers. Moisturisers bridge the gap between medicine and consumer goods by being used to make the skin more beautiful and healthy. In the future, in moisturiser therapy, the capacity to adapt specific agents to specific dermatological demands will be crucial. Cosmetically, moisturiser's make the skin smooth by the mechanism of increasing the water content in the stratum corneum, hence exerting its most vital action, which is moisturising action and maintaining a normal skin pH.*

Keywords: *Moisturisers*.

I. INTRODUCTION

Moisturiser's are products that help the skin retain moisture and maintain a normal skin barrier function. Great moisturiser's need to deliver superior hydration while achieving a high level of consumer acceptance. This can be difficult because good hydrating ingredients tend to leave the skin feeling tacky. Facial moisturiser's, in particular, need to be non-greasy, non-tacky, and fast absorbing. Oil in water emulsions based on polymer-sthbilized lamellar gel networks are the dominant product form due to superior skin feel and moisturising performance

CLASSIFICATION

There are four main types of moisturiser's depending on their mechanism of action.
1) Emollients
2) Humectants
3) Occlusives
4) Protein rejuvenators

1. Emollients:
They are mainly lipids and oils, which hydrate and improve the skin softness, flexibility, and smoothness. Eg: Cholesterol, pseudo ceramides , squalene, fatty acids

2. Humectants:
They are basically hygroscopic compounds which mean they attract water from two sources, from the dermis into the epidermis and in humid conditions from the environment. Eg: Glycerol, propylene glycol, pantheons sorbitol, urea, alpha hydro u acids, hyaluronic acid .

3. Occlusives:
Oils and waxes which form an inert layer on the skin and physically block trans epidermal water loss. E.g.: Petrolatum, beeswax mineral oil, silicones, lanolin, zinc Oxide

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4. Protein rejuvenators

Small molecular weight proteins thought to help is skin-rejuvenation by replenishing essential proteins. Eg: Collagen, elastin, keratin.

II. MECHANISM OF ACTION

In the human body, water constantly evaporates from the deeper layers of the skin through an effect known as transepidermal water loss.

By regulating its water content, human skin naturally maintains a dry, easily shed surface as a barrier against pathogens, dirt, or damage, while protecting itself from drying out and becoming brittle and rigid. The ability to retain moisture depends on the lipid bilayer between the cornel cures.

Moisturiser's modify the rate of water loss, with active ingredients of moisturiser's falling into one of two categories occlusives and humectants.

Occlusives form a coating on the surface of the shin, Keelung moisture from escaping. The more occlusive the formulation, the greater the effect. Ointments are more occlusive than aqueous creams, which are more occlusive than lotion. Water loss through the skin is normally about 4-8 g/(m²-h).

A layer of petrolatum applied to normal skin can reduce that loss by 50-75% for several hours. Oils naturally produced by the human body moisturise through this same mechanism.

Humectants absorb water. They can absorb this water from the air and moisturise the skin when the humidity is greater than 70%, but more commonly they draw water from the dermis into the epidermis, making skin dryer

Evaluation :

1. PH measurement:

The pH of the 10% w/v cream suspension was determined at 25 °C using a pH meter, standardised using pH 4.0 and 7.0 standard buffers before use and average of triplicates were determined.

2. Spread ability:

The spread ability of test samples was determined using the following technique: 0.5 g test formulation was placed within a circle of 1 cm diameter pre-marked on a glass plate over which a second glass plate was placed. A weight of 500 g was allowed to rest on the upper glass plate for 5 min.

3. Viscosity:

Brookfield Synchro-Lectric Viscometer (Model RVT) with heli path stand was used for rheological studies. The sample (50 g) was placed in a beaker and was allowed to equilibrate for 5 min before measuring the dial reading using a T-D spindle at 10, 20,30,50,60,100 rpm. At each speed, the corresponding dial reading on the viscometer was noted.

4. Thermal stability :

+ Thermal stability (at 20 °C, 30 °C and 40 °C) of the prepared formulations was determined according to Indian standard guideline.16

5. Measurement of particle size:

A laser diffraction particle size analyser (Mastersinger Hydro2000 MU, Malvern Instruments) was employed for measuring the globule size distribution of the emulsion droplets. Brie fly,the sample was dispersed in 0.2 micron filtered distilled water to obtain an obscuration of 5-15%.

6. In vitro occlusivity test:

The test was performed by placing 10 g of distilled water in each beaker and closing the open end with What man filter paper (0.45 pore size) on the upper surface of which 200 mg of the sample was evenly distributed. These beakers were then placed at 37±2 °C/607±5% RH for 48 h.The occlusion factor F was calculated as-F=(A-B)/A×100

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Advantages

- Moisturising reduces the chances of skin problems.
- Moisturising can reduce the appearance of other blemishes.
- Moisturising helps your skin stay young.
- Moisturising fights wrinkles.
- It's the perfect end to a hot shower.
- Non-irritating when applied to the skin.
- Easily water washable.
- Less greasy compared to ointment.9. Easy to spread on
- the skin's surface.

Disadvantages :

- Stability is not as good as ointment.
- They are less hydrophobic than other semi- solid preparation, so risk of contamination is high than the others.
- Skin irritation of contact dermatitis may occur due to the drug and / excipients.
- Poor permeability of some drugs through the skin Possibility of allergic reactions.
- Can be used only for drugs which require very small plasma concentration for action

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