

FORMULATION AND EVALUATION OF MUSTARD CREAM FOR PSORIASIS

Ms. Prerna C. Patil¹

Assistant Professor,
G.H.Raisoni University
Saikheda, M.P.

Mr. Vrushabh Paleriya²

B.Pharm, G.H.Raisoni University
Saikheda, M.P.

ABSTRACT

Psoriasis is a prolonged autoimmune and non transmissible inflammatory disease of skin and joints. The formulation was prepared for the purpose as the relief of the psoriasis symptomatically.

INTRODUCTION

As we know the use of mustard oil in cooking and for the skin as massage purpose in India from the pre historic time. The fatty acids are available in mustard which are extracted from the black mustard seeds, then have been macerated in warm water by steam or distillation.

The word psoriasis comes from a Greek word:

- “Psora” which means being itchy and “Iasis” means a condition .

- The disease has a worldwide dominance of about 4.6% in THE developed countries.
- It shows the symptoms with sharply demarcated scaly, red, coin sized, skin lesion most often on the elbows, knees, scalp, hand, feet. Symptoms include itching, irritation, stinging and pain.
- The cause and behaviour of the disorder is not clear. Symptomatic treatment can be provided to the patient.

FACTORS

- Stress
- Patient with chronic, disorder like crohn's disease.

DRUG TREATMENT

- Beta-bloker,
- Lithium,
- Synthetic antimalarial,
- Non-steroidal,
- Anti-inflammatory drugs (NSAIDS), and
- Tetracyclines

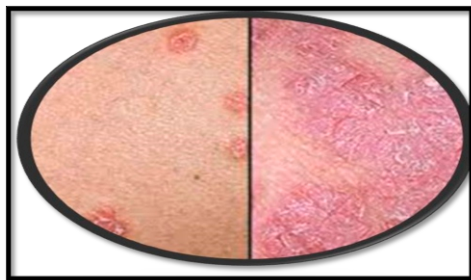


Fig. 1: Types of Psoriasis

PLANT PROFILE

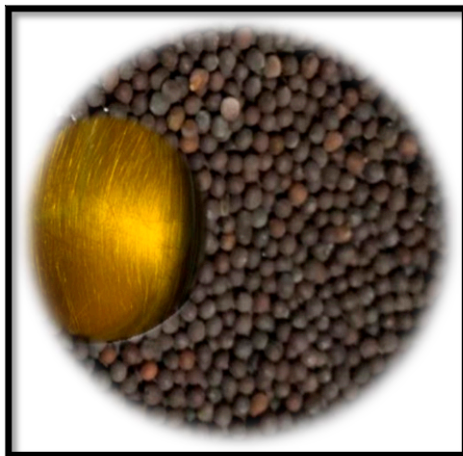


Fig.2: Mustard and mustard oil

- It is a fixed oil gained from matured seeds of *Brassica nigra* Koch or *Brassica juncea* L. Czern, belongs to the family *Cruciferae* (*Brassicaceae*).
- As per sanskrit records dating back to about 3000 BC (Mehra, 1968), mustard is not only among the oldest recorded spices but was one of the first domesticated crops.
- In earlier time, it was the condiment known as mustard and the word was derived from the latin “mustum”.
- Mustard contain polyunsaturated fatty acids and antioxidants (carotenoids, phenolic compounds, tocopherols).
- Mustard also contain the high content of erucic acid in its seeds, and glucosinolates.
- Because of that, mustard has not been widely used in the human food industry or as animal feed.
- Mustard varieties with reduced levels of erucic acid and glucosinolates are now available on the market.

MATERIALS AND METHODS

MATERIALS	ROLE
Beeswax	Beeswax is been used as emulsifying agent
Mustard Oil	Mustard oil is used as a main ingredient in this cream Formulation
Borax	Borax is been used as an in-situ emulsifier
Methyl Paraben	Methyl paraben is been used as a preservative
Rose Water	Rose water is used to decrease the skin redness and to give pleasant odour to the cream
Distilled Water	Distilled water is been used as a vehicle

PREPARATION OF BORAX SOLUTION

Weighed 0.16g of borax powder in 6 ml of distilled water and mixed well. Heated the solution until it gets soluble.

METHOD

Weighed the beeswax, melted it with the mustard oil and paraffin and raised the temperature up to 70°C. Gradually added the solution of borax to the melted mixture and stirred preferably mechanically until the cream has set.

(Note: Stirring should be rapid but care should be taken enough to avoid excessive aeration as the preparation starts to thicken.)

EVALUATION PARAMETERS

TEST	METHOD
Color	Compared the color of the formulation in a bright place.
Homogeneity	The homogeneity of the formulated cream was judged by the visual appearance and touch.
Type of Smear	Cream was applied on the skin and the type of film or smear formed were noted.
Irritancy Test	Marked an area of 1sq.cm on the left-hand dorsal surface. The cream was applied on the specified area and time was noted. Irritancy, erythema, oedema, was checked, if any for regular intervals up to 24 hrs. and reported.
Removal Test	The ease of removal of the cream applied was examined by washing the applied part with tap water.
Greasiness	The cream was applied on the skin surface in the form of smear and checked if the smear was oily or grease-like.
Spread Ability	It was expressed as time in seconds. Two slides were slipped off from the cream, placed in between the slides, under certain load. Took Two sets of glass slides of standard dimension. The cream formulation was placed on one of the slides. Other slide was placed on the top of the formulation. A weight or certain load was placed on the upper slide so that the cream between the two slides was pressed uniformly to form a thin layer.

	The weight was removed and excess of formulation adhering to the slides was scrapped off. The upper slide was allowed to slip off freely by the force of weight tied to it. The time taken by the upper slide to slip off was noted. (Note: The spread ability will be better if the time taken for separation of two slides will be less.) Spread ability= $m \times l/t$ Were, m= Standard weight which is tied to or placed over the upper slide (30g) l= length of a glass slide (5 cm) t= time taken in seconds.
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RESULT AND DISCUSSION

TEST	METHOD
Color	The color was found to be yellow.
Oduor	Pungent
Texture	Smooth
State	Semi-solid
Homogeneity	The appearance and touch of the cream was found to be even, soft, creamy and smooth textured.
Type of Smear	After application of cream, the type of film or smear formed on the skin were checked.
Irritancy Test	No irritation found.
Removal Test	It was removed after application of tap water
Greasiness	Non greasy
Spread Ability	15g.cm/sec

CONCLUSION

The formulation of mustard cream using mustard oil is prepared and is evaluated with the appropriate parameters of evaluation. If compared with the other novel drugs, our formulation helps to reduce the inflammation occurred to the skin but may not produce comparative therapeutic effect which are traditionally used in psoriasis treatment. It produces some kind of soothing effect. It shows smoothness and flexibility in the skin.

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