

Journal of Pharmaceutical Advanced Research**(An International Multidisciplinary Peer Review Open Access monthly Journal)**Available online at: www.jparonline.com**Investigation, development, and Evaluation of herbal lipstick for Dysmenorrhea****Ghodke Amol D*, Jain Shirish P, Bhusari Dipak V, Bhalke Meena V, Petkar Pallavi P, Mankar Vaishnavi R .**

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ABSTRACT: Background: Dysmenorrhea is painful menstruation with abdominal cramps due to uterine contractions. Risk factors for dysmenorrhea include nulliparity, heavy menstrual flow, menstrual cramps, menstrual pain and depression. Oral contraceptives and NSAIDs produces gastrointestinal irritation and another side effects on body organs like liver and kidneys. **Aim:** The present study was aimed to formulate and develop the herbal lipstick for Dysmenorrhea patient. **Method:** The formulated herbal lipstick was evaluated and various parameters such as general appearance, melting point, breaking point, force of application, pH, skin irritation test and aging stability were determined. **Results:** The result revealed that the herbal lipstick formulations F3 and F4 possessed good physicochemical properties as their breaking point was better, perfume stability was good. The pH of all lipstick formulations was in the skin pH range. **Conclusion:** The selected optimized lipstick formulation could be used for the treatment of the dysmenorrhea.

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INTRODUCTION:

Menstrual cycle is a normal physiological process that occurs once a month in women of reproductive age as a result of breakdown of the endometrial tissue [1]. But dysmenorrhea refers to the occurrence of painful menstrual cramps of uterine origin. It is the most common gynecologic complaints in adolescence and young women, occurring in 60 to 93 % of school girls and young women [2,3]. Dysmenorrhea also called painful periods is defined as pain during menstruation. It is classified into two type's primary and secondary dysmenorrhea. In case of primary dysmenorrhea increased prostaglandin production by the endometrium

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in an ovulatory cycle which causes contraction of the uterus. Secondary dysmenorrhea caused due to pelvic or uterine diseases like endometriosis, pelvic infection, uterine fibroids and vaginal abnormalities [4,5].

Non-Steroidal Anti-Inflammatory Drugs (NSAIDs) are commonly the first-line therapy for dysmenorrhea, as it reduces the release of prostaglandins levels by the inhibition of cyclooxygenase-2. NSAIDs such as aspirin, naproxen, and ibuprofen are very effective in relieving dysmenorrhea [6,7]. However, NSAIDs have troubled side effects most commonly is the increased risk of gastrointestinal events [8]. The choice of using NSAIDs as the first line treatment should be based on effectiveness and tolerability of the individual patient since there is no NSAID that has been demonstrated more effective than others [9].

Cosmetics are the substances used to enhance the appearance of human body. It includes skin care creams, lotions, powder, perfumes, lipsticks, nail polish, eye and facial make up many more products are in great demand in both developing and developed countries [10].

The objective of the study is to develop a herbal lipstick that will be utilized in management of Dysmenorrhea.

MATERIALS AND METHODS:

Pre-formulation study:

Preparation of Colour Pigment:

Extraction of colour pigment was done by Homogenization of equal ratio of fruit pulp and solvent. Typically, 100 g of beet root pulp was macerated with 100 ml of hydro alcoholic solvent for 30 min under ice cooling condition. Coloring agent is obtained from Beet root juice by Centrifugation, filtration, and evaporation of mixture [11,12].

Preparation of Lipstick:

The herbal lipstick was formulated as per general method of lipstick formulation. The lipstick was prepared by using the components mentioned in Table 1. There are four lipstick formulations were prepared by using hot moulding method [13].

Evaluation of herbal formulations [14-22]:

Prepared herbal lipstick were evaluated for the following evaluation parameters.

Color and Odor:

Color and odor were examined by Visual Inspection.

Melting Point:

Determination of melting point is an important parameter. It indicates the limit of safe storage of

Formulation. The melting point of formulated lipstick was determined by capillary method by digital melting point apparatus.

Breaking Point:

Breaking point was done to determine the strength of lipstick. The lipstick was held horizontally in a socket ½ inch away from the edge of support. The weight was gradually increased by a specific value (10 g) at specific interval of 30 s and weight at which breaks was considered as the breaking point.

pH:

The pH of Herbal ointment was determined by using a digital pH meter. The determination of pH is indicating the formulation compatibility with skin.

Surface Anomalies:

This was studied by observing the surface defects such as no formation and no contamination by fungi.

Force of Application:

It is test for comparative measurement of the force to be applied for application. A piece of coarse brown paper can be kept on a shadow graph balance and lipstick can be applied at 45° angle to cover a 1 sq. inch area until fully covered. The pressure reading is an indication of force of application.

Solubility:

The formulated herbal lipstick was dissolved in various solvents to observe the solubility.

Perfume Stability:

The formulation herbal lipstick was stored in standard storage condition of cool temperature. It was tested for its fragrance after 30 days.

Washability:

Formulation was applied to the skin then washability with water was checked.

Non Irritancy:

Prepared formulation was applied to the skin and observed the effect.

Aging Stability Study:

The product was stored in 40 °C at 1 h. Various parameters such as bleeding, crystallization of on surface and ease of application were observed.

RESULTS AND DISCUSSION:

The evaluation data of the herbal lipstick formulations is given in Table 4. The result revealed that the herbal lipstick formulations F3 and F4 possessed good physicochemical properties as their breaking point was better, perfume stability was good. The pH of all lipstick formulations was in the skin pH range. All lipstick

formulations were found washable with non-irritant. They were found stable on storage.

Table 1. Formulation design of Herbal Lipstick formulations.

Sl. No.	Ingredients (g)	Importance	Batch			
			F ₁	F ₂	F ₃	F ₄
1	Tocopherol	Nutritional Supplement	0.5	0.6	0.7	0.8
2	Thiamine	Nutritional Supplement	0.5	0.5	0.8	0.8
3	Vitamin D	Nutritional Supplement	0.5	0.10	0.8	0.10
4	Folic Acid	Nutritional Supplement	0.1	0.2	0.3	0.5
5	Olive Oil	Blending agent	15	10	12	16
6	Paraffin Wax	Glossy & Hardness	25	25	25	25
7	Bees Wax	Glossy & Hardness	30	30	30	30
8	Safron Extract	Colouring Agent	0.5	01	1.5	02
9	Shikakai Powder	Surfactant	12	10	14	15
10	Lemon Oil	Antioxidant	01	01	01	01
11	Strawberry Essence	Flavoring Agent	1.5	1.5	1.5	1.5
12	Rose Essence	Preservatives	q.s.	q.s.	q.s.	q.s.
Total weight (g)			100	100	100	100

q.s. – Quantity sufficient.

Table 4. Evaluation of herbal lipstick Formulations.

Sl. No.	Parameters	F ₁	F ₂	F ₃	F ₄
1	Colour	Pink	Pink	Pink	Pink
2	Odor	Characteristic	Characteristic	Characteristic	Characteristic
3	Melting Point	55-60 °C	50-60 °C	60-63 °C	60-62 °C
4	Breaking Point	25	30	32	22
5	Surface Anomalies	No defect	No defect	No defect	No defect
6	Force Application	Easy	Good	Good	Poor
7	Perfume Stability	++	+++	+++	++
8	pH	6.4	6.6	6.2	6.5
9	Solubility:				
	a) Ether	Freely Soluble	Freely Soluble	Freely Soluble	Freely Soluble
	b) Alcohol	Miscible	Miscible	Miscible	Miscible
	c) Chloroform	Miscible	Miscible	Miscible	Miscible
10	Washability	Good	Good	Good	Good
11	Non Irritancy	Non irritant	Non irritant	Non irritant	Non irritant
12	Aging Stability study	Stable	Stable	Stable	Stable

+++ - Excellent, ++ - Good.



Fig 1. The herbal lipstick.

From the above evaluation parameters, it can be concluded that overall batches the F₂ and F₃ formulations show all parameter in acceptable limit. Therefore, it is considering as a good formulation.

CONCLUSION:

The present research concluded that the optimized formulated lipstick formulations could be successfully used for the safe and effective management of dysmenorrhoea.

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