



Journal of Drug Delivery and Therapeutics

Open Access to Pharmaceutical and Medical Research

© 2011-18, publisher and licensee JDDT, This is an Open Access article which permits unrestricted non-commercial use, provided the original work is properly cited



Open Access

Research Article

Black Pepper, Aloe-Vera and Turmeric: A Polyherbal Anti-Acne Remedy

Tajane Monali * Sawant Shubhangi, Londhe Reshma

VJSM's Institute of Pharmacy, Ale, Pune, Maharashtra-412411, India

ABSTRACT

In the present research work ethanolic extracts of Black pepper (*Piper nigrum*), Turmeric (*Curcuma longa*) obtained by maceration and Aloe vera gel (*Aloe barbadensis*) are mixed with a base to formulate a homogenized polyherbal cream formulation as a remedy against Acne would follow by the evaluation for its physical parameters like Colour and Odour, Consistency, Homogeneity Washability, pH, Stability, Irritancy test etc.

Keywords: maceration, antibacterial, antiacne

Article Info: Received 03 May 2019; Review Completed 05 June 2019; Accepted 10 June 2019; Available online 20 June 2019



Cite this article as:

Tajane M, Sawant S, Londhe R, Black Pepper, Aloe-Vera and Turmeric: A Polyherbal Anti-Acne Remedy, Journal of Drug Delivery and Therapeutics. 2019; 9(3-s):703-704 <http://dx.doi.org/10.22270/jddt.v9i3-s.2955>

*Address for Correspondence:

Tajane Monali, VJSM's Institute of Pharmacy, Ale, Pune, Maharashtra-412411, India

INTRODUCTION

Acne is one of the most common disorder that affects virtually all individuals at least once during life. Acne vulgaris is a disorder of Pilosebaceous gland where inflammatory lesions, seborrhea occurs which are associated with pus formation triggering inflammation due to *Propionibacterium acnes* and *Staphylococcus epidermis*.^[1,2] As the herbal medicines are considered as safer than allopathic, it has the wide global market.^[3,4] Also avoids many of the allergic side effects, local irritation, scaling, itching, redness skin peeling etc. which are often seen due to allopathic medicines if used for long duration. The herbs used in this said formulation would show potential effects on acne and might also exert some synergism against bacteria. In the present research work herbal medicine like turmeric, black pepper and aloe vera have used which are well known antimicrobial and anti-inflammatory agents.^[5]

MATERIALS AND METHODS

Black pepper fruits and rhizomes of turmeric were purchased from the local market and aloe vera was made available from the medicinal garden of institute. Collected plant specimens were dried and authenticated.

Preparation of Extracts

Preparation of turmeric extract

Dried rhizomes of turmeric were ground and the powder obtained was imbibed with 90% ethanol for 3 hrs. Followed by maceration for 7 days with occasional stirring.

Preparation of black pepper extract

Dried fruits of black pepper were crushed and the powder was followed for extraction same as that for turmeric extract.

Preparation of gel of aloe vera

Leaves of aloe vera were collected and washed with water, The leaves were peeled and pulp was taken and made into gel by using mortar and pestle.

Table 1: Formulation of herbal cream

Formula for cream (100gm)

Sr.No.	Name of ingredient	Quantity taken
1.	Ethanolic extract of turmeric	1gm
2.	Gel of aloe vera	1gm
3.	Ethanolic extract of black pepper	1gm
4.	Bees wax	16gm
5.	Liquid paraffin	50gm
6.	Borax	0.8gm
7.	Water	30gm
8.	Methyl paraben	0.18gm
9.	Propyl paraben	0.02gm

Procedure for preparation of herbal cream

Oily phase was prepared by melting bees wax, liquid paraffin and propyl paraben. Then aqueous phase was prepared by dissolving methyl paraben and borax in water at 75 °C. Aqueous phase was added to oily phase with

continuous stirring followed by addition of required quantities of extracts and then formulation was allowed to cool.

Evaluation

1. Colour and Odour
2. Consistency
3. Homogeneity
4. Washability
5. Determination of P^H
6. Stability
7. Irritancy test

Colour and Odour

Physical parameters like colour and odour were examined by visual examination.

Consistency

Smooth and no greediness is observed.

Homogeneity

The formulation was tested for homogeneity by visual appearance and touch.

Washability

Polyherbal anti-acne cream was applied on the skin and then ease extend of washing with water was checked.

pH

About 0.1gm of cream was weighed and dissolved in 10ml of distilled water and followed to determine P^H by using calibrated P^H meter. Test was repeated for 3 samples.

Stability

Stability study of cream was carried out by using three different temperature conditions (8°C, 27 °C and 40 °C) for 2 months.

Irritancy Test

Polyherbal anti-acne cream prepared was applied to the skin of human being and observed for the effect.

Table 2: Physicochemical evaluation of formulated ointment

Physicochemical parameter	Observation
Colour	Yellow
Odour	Characteristic
Consistency	Smooth
Homogeneity	Good
Washability	Good
p ^H	5.0
Stability (8°C, 27 °C and 40 °C)	Stable
Irritancy Test	Not irritant

RESULT AND DISCUSSION

In the present research work ethanolic extracts of Black pepper (*Piper nigrum*), Turmeric (*Curcuma longa*) obtained by maceration and Aloevera gel (*Aloe barbadensis*) are mixed with a base to formulate a homogenized polyherbal cream formulation as a remedy against Acne.

The physicochemical properties were studied which shows satisfactory results. Also the formulation was placed for a stability study at different temperature conditions like 8°C, 27 °C and 40 °C within 2 months. There were no changes observed in spreading ability as well as irritant effect.

CONCLUSION

As the herbal medicines are considered as safer than allopathic, it has the wide global market. Also avoids many of the allergic side effects, local irritation, scaling, itching, redness skin peeling etc. which are often seen due to allopathic medicines if used for long duration. The herbs used in this said formulation would show potential effects on acne and might also exert some synergism against bacteria.

REFERENCES

1. Ray Chanda. Acne and its Treatment Lines. International Journal of Research in Pharmaceutical ABD Biosciences 2013;03:1-15
2. Leyden JJ: Current issues in antimicrobial therapy for the treatment of acne. J Eur Dermatol Venereol. 2001; 15(3): 51-55.
3. Tepe BD Daferera M, Sokmen M, Polissou, Sokmen A, et al. Invitro Antimicrobial and antioxidant activities of the essential oils and various extracts of Thymus eigii. J. Agric. food chem. 2004; 52:1132- 1137.
4. Kimberly W. Lai, BS, Mary Gail Mercurio MD. Update on the treatment of Acne vulgaris.
5. Lalla JK, Nandedkar SY, Paranjape MH, Talreja NB. Clinical trials of ayurvedic formulations in the treatment of acne vulgaris. JEthnopharmacol. 2001;78(1):99-102.