Development Evaluation and Estimation of Phytobioactive Antifungal compounds for the treatment of Atopic Dermatitis

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Abstract

One of the most prevalent chronic inflammatory skin illnesses, atopic dermatitis (AD) is brought on by a variety of reasons, such as infections, host immunological responses, genetics, skin barrier abnormalities, allergen sensitivity, and environmental influences. Patients with AD frequently have bacterial and viral infections in their eczematous lesions, which obviously exacerbates the symptoms. Despite reports indicating that some dermatophytes, Candida, and Malassezia can impact AD symptoms, research on fungal infections in AD is very scarce. The current study created and assessed an antifungal cream that contained hydro-alcoholic extracts of *Tecoma stans* leaves. Chlorogenic acid, a phytobioactive antifungal component, was also evaluated in the produced formulation and extract.

Key-words: *Tecoma stans,* Anti-fungal cream, Phytobioactive

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Introduction

An inflammation of the skin is generally referred to as dermatitis. Dermatitis is a frequent ailment with a wide range of causes and manifestations. Usually, there is a rash on puffy, reddish skin or itchy, dry skin. Or it may cause the skin to boil, leak, and crust or flake off. Dandruff, contact dermatitis, and atopic dermatitis (eczema) are a few examples of this disorder.

Eczema, also known as atopic dermatitis, is a chronic (long-lasting) skin condition that causes skin irritation, redness, and inflammation. It's a prevalent ailment that typically manifests in childhood, however it can strike anyone at any age.[1-2]

People are turning back to nature in the hopes of safety and security as herbal preparations have grown in popularity as consumer goods and the name "herbal" has come to represent safety in contrast to synthetic preparations, which have a negative impact on human health. The medicinal, flavouring, and aromatic qualities of the herbs have made them highly valued, and they are now used in many different ways within civilization.[3] Tecoma stans family Bignoniaceae is one of the most used plant traditionally for the cure of the treatment of various diseases. Leaves, barks and roots have been used for a variety of purposes in the field of herbal medicine. Applications include the experimental treatment of diabetes, digestive problems, control of yeast infections and other medicinal applications.[4] The aim of the present work is to develop and evaluated the anti-fungal cream and estimates the phytobioactive compounds using spectroscopic techniques.

Material and Methods

Selection, Collection and authentication of Plant Material

The plant parts viz., TSB: *Tecoma stans* (L.) Juss. Ex Kunth (Leaves), was selected based on literature review, collected from local area of Bhopal region Madhya Pradesh and identified & authenticated Botanist and was deposited in our Laboratory. Voucher specimen was allotted.

Preparation of Extract

The powdered leaves were extracted using ethanol:water (90:10) in Soxhlet apparatus