

Practical Aspects of Pharmaceutical Organic Chemistry



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Practical Aspects of Pharmaceutical Organic Chemistry

Prof. Atish Sahare

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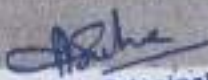


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Recent Formulation Development and Evaluation of Lozenges Containing Polyherbal Extract of *Cinnamomum tamala* and *Spilanthes acmella*

Pooja S. Dhoke^{1*}, Dinesh M. Biyani², Avinash O. Maske¹, Milind Umekar³ and Bhushan Hatwar³

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ABSTRACT

In recent years, the growing demand for herbal has resulted in a massive increase in the volume of plant material traded within and across the country. Tejpatra (*Cinnamomum tamala*) and Akarkara (*Spilanthes acmella*) are two major medicinal plants that are rich in therapeutic constituents. *Cinnamomum tamala* which is an evergreen tree up to 8 m in height is also cultivated. *Spilanthes acmella* is an annual hairy herb, up to 40-60 cm, tall with numerous stems of marigold yellow flowers. The goal of this study is to develop a modern dosage form, such as lozenges, that is related with a long-term local cure that has a favourable therapeutic impact. The extracts of *Cinnamomum tamala* leaves and *Spilanthes acmella* flowers have antibacterial properties against the selected microorganism (*Staphylococcus aureus*, *Streptococcus mutans* and *Escherichia coli*). The existence of various phytochemicals such as alkaloids, flavonoids, glycosides, and terpenes was confirmed by qualitative phytochemical screening of ethanol, methanol, and petroleum ether extracts of *Cinnamomum tamala* leaves and *Spilanthes acmella* flowers extracts. The optimised formula F3 was chosen for the formulation of tablet lozenges and was manufactured by direct compression method, which exhibits optimal friability, weight uniformity, hardness, and disintegration time, according to the results obtained.

Keywords: *Cinnamomum Tamala* and *Spilanthes Acmella* extract, antimicrobial evaluation, Phytochemical screening, lozenges, evaluation parameter.

1. INTRODUCTION

Herbal Medicine is as ancient as the history of mankind, with a well-documented history. Many people nowadays assume that herbal remedies are safer than prescription drugs since they are more natural.

Cinnamomum Tamala, an evergreen tree that grows up to 8 metres tall, is also grown. Natural habitat is found at heights of 900-2500 metres in the tropical and subtropical Himalayas [1]. Tejpat oil is the essential oil extracted from the tree's leaves. The flavouring and formulation of liquors and confections include this essential oil. The oil is principally used in medicine as a carminative, antifatulent, diuretic, and in the treatment of cardiac diseases [2]. The leaves yield an essential oil with lemon yellow colour and clove like peppery odour. The essential oil of *cinnamomum* leaves has a strong antibacterial activity [3].

For centuries *S. acmella* has been widely cultivated for horticultural, medicinal, insecticidal, and culinary purposes and application for this purpose is still widespread in different parts of the world [4,5]. *Spilanthes acmella* commonly known as 'akarkara' is an annual hairy herb, up to 40-60 cm, tall with numerous stems of marigold yellow flowers. Stems are glandular and hairy with pungent taste.

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