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Original Research Paper

Microbiology

ANTI-INFLAMMATORY ACTIVITY OF BOTANICAL EXTRACTS AGAINST LUNG INFECTION

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ABSTRACT Respiratory illnesses, including asthma exacerbation and lung infections, impose significant burdens on global public health. The scientific basis behind the antimicrobial and anti-inflammatory properties of these botanical extracts was elucidated, highlighting their potential effectiveness in combating respiratory pathogens. This paper explored the potential of utilizing botanical extracts, such as Illicium Verum (Star Anise), mace spices, marigold, and rosemary, to coat fabric as a novel approach to prevent asthma and lung-based infections. Fabric coating methodologies were discussed, emphasizing the need for uniform application and rigorous quality testing to ensure efficacy, durability, and skin compatibility

KEYWORDS : Asthma, Pathogens, Medicinal Plants, Fabric

INTRODUCTION

The Indian Traditional System of Medicine is one of the oldest systems of medical practice in the world and has played an essential role in providing health care service to human civilization, right from its inception. India has the exclusive distinction of its own recognized traditional medicine; Ayurveda, Yoga, Unani, Siddha, and Homoeopathy The Illicium verum (star anise) has long been used in traditional medicine and food industry with the actions of preventing cold, and relieving pain. Mace Spices(Myristica fragrans) Mace is a spice made from the dried aril, or lacy covering, of the nutmeg fruit of the tropical evergreen Myristica fragrans tree. Recent studies have shown that rosemary natural extracts have bioactive properties such as antifungal, antibacterial, antioxidant, and anti- inflammatory. Rosemary can withstand dry spells, warm conditions and thrive across many soil textures. Marigold is becoming a more important commercial source of carotinoid pigments

In this paper, two methods have been discussed: dilution and gradient used for MIC estimation. Factors which affect MIC results.

MATERIALS AND METHODS

Sample Collection and Extraction

Mace, Star anise, rosemary and marigold was collected from a local nursery. They grinded and the powder is send for ethanol extraction. Then phytochemical analysis, anti inflammatory activity and antibacterial activity was done.

RESULTS

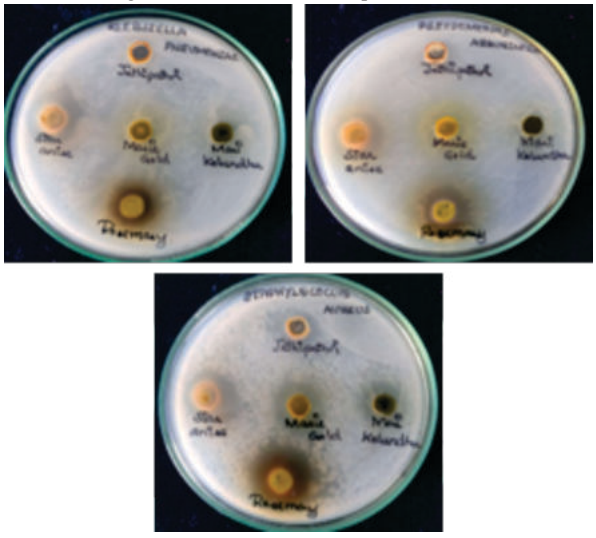
Table shows phytochemical analysis

S. No	Observation	Mace	Star anise	Rosemary	Marigold
1	Flavonoids	+	+	+	+
2	Saponins	-	-	+	-
3	Tannins	+	+	+	+
4	Glycosides	-	-	+	-
5	Steroids	-	-	-	-
6	Phenol	-	-	-	-
7	Quinone	+	+	+	+
8	Terphenoids	-	-	-	-
9	protein	-	-		+

Table shows anti-inflammatory activity

Concentration (µg/ml)	ALBUMIN DENATURATION (OD at 600 nm)
25 µg	15.92
50 µg	34.61
75 µg	32.79
100 µg	51.66
250 µg	64.00
500 µg	87.52
750 µg	80.86
1000 µg	73.79

Plate showing the antibacterial activity



Summary and Conclusion

From the present study aqueous and ethanolic extract of Respiratory illnesses, including asthma exacerbation and lung infections, impose significant burdens on global public health. In response, innovative preventive strategies are essential to mitigate the risks associated with these conditions. The scientific basis behind the antimicrobial and anti-inflammatory properties of these botanical extracts was elucidated, highlighting their potential effectiveness in combating respiratory pathogens.

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