



INTERNATIONAL SEMINAR ON THE ROLE OF AI IN INTEGRATING TRADITIONAL AND MODERN MEDICINE (AIM-ITM - 2025)

07.08.2025
ABSTRACT BOOK



Organised by

DEPARTMENT OF PHARMACOGNOSY

In association with

THE TAMIL NADU DR. M. G. R MEDICAL UNIVERSITY

CONTINUING EDUCATION PROGRAMME

CATEGORY IV (CREDIT POINTS - 10)

PERIYAR COLLEGE OF PHARMACEUTICAL SCIENCES
TIRUCHIRAPPALLI - 620 021

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Title: International Seminar on “The Role of AI in Integrating Traditional and Modern Medicine (AIM-ITM - 2025)”

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ISBN Number: 978-93-343-5875-9



ORAL PRESENTATION

AIM-ITM OP01

EXPLORING THE INVITRO BIOASSAY OF *Dolabella auricularia*: MARINE INK TO MEDICINAL LEADS

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Abstract

Humans today are steadily becoming susceptible to a broad spectrum of diseases, thus creating an increasing demand for new and effective therapeutic agents. Marine habitat has emerged as treasure reservoirs of bioactive compounds, with molluscs reported to reveal pharmacological properties: antibacterial, antiviral, antifungal, antiparasitic and other pharmacological activities. In this study, bioassay of purified *Dolabella auricularia* ink was evaluated using in vitro biochemical assays: α amylase inhibition, inhibition of protein denaturation, metal chelation, antioxidant activity, and membrane stabilization. The extract exhibited clear dose dependent activity in all assays, with 57.3% inhibition of α amylase, 86.3% inhibition of protein denaturation, 79.5% metal chelation, 78.9% antioxidant activity, and 68.2% membrane stabilization at 1000 $\mu\text{g/ml}$. Findings of this study disclose that *D.auricularia* ink exhibits strong antidiabetic, anti-inflammatory and antioxidant activities. Further study will be helpful in bringing out novel therapeutic agents.

Keywords: *Dolabella auricularia*, Biochemical assay, Ink, Pharmacological properties.

AIM-ITM OP02

CYTOTOXIC AND LIPID-MODULATING EFFECTS OF RIVEA HYPOCRATERIFORMIS EXTRACTS ON HEPG2 CELL LINES: IN VITRO EVALUATION

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Abstract

The present study investigates the in vitro cytotoxic effects of *Rivea hypocrateriformis* extracts on Hep G-2 cells using MTT assay and lipid droplet accumulation analysis. Phytochemical analysis confirmed the presence of bioactive compounds, including alkaloids, glycosides, flavonoids, and saponins, which may contribute to the observed effects. Four different extracts were prepared from the plant, including pet ether (HEP), chloroform (HEC), ethyl acetate (HEA), and ethanol (HEE) extracts. The MTT assay revealed a dose-dependent cytotoxicity across all extracts, with varying cell viability at different concentrations (10–500 $\mu\text{g/ml}$). The cell viability was lowest at 500 $\mu\text{g/ml}$ and highest at 10 $\mu\text{g/ml}$ for all extracts, with HEC

exhibiting slightly higher potency at lower concentrations compared to other extracts. The IC₅₀ values for the extracts were determined to be 50.64 µg/ml for HEP 53.14 µg/ml for HEA, 61.49 µg/ml for HEC, and 87.08 µg/ml for HEE, indicating their potential cytotoxicity in hepatic cancer cells. In addition, lipid droplet accumulation was assessed using Oil Red O staining, which demonstrated that pre-treatment with *Rivea hypocrateriformis* extracts, particularly the ethanol extract, modulated lipid storage in HepG2 cells. The results of this study suggest that *Rivea hypocrateriformis* holds potential as a source of bioactive compounds with cytotoxic and lipid-modulating properties.

AIM-ITM OP03

ROLE OF FUNCTIONAL FOODS IN THE PREVENTION OF NON-COMMUNICABLE DISEASES

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Abstract

Introduction: Non-communicable diseases (NCDs) such as cardiovascular disease, diabetes, obesity, and cancer remain leading global health concerns, with dietary patterns playing a central role in their development and progression. Functional foods, which deliver physiological benefits beyond basic nutrition due to bioactive constituents, have gained growing attention as preventive dietary agents. **Methodology:** This review examines peer-reviewed literature from 2014 to 2024, retrieved from databases including PubMed, Scopus, and ScienceDirect. Studies included systematic reviews, meta-analyses, and clinical trials focusing on the preventive effects of functional foods on NCDs. Emphasis was placed on foods containing polyphenols, flavonoids, omega-3 fatty acids, probiotics, prebiotics, dietary fiber, and phytosterols. **Results:** Evidence from the past decade supports the role of functional foods in reducing risk factors for NCDs by modulating oxidative stress, inflammation, dyslipidemia, insulin resistance, and hypertension. Regular consumption of whole grains, legumes, nuts, fermented foods, fruits, vegetables, and traditional Indian ingredients such as turmeric, garlic, and amla was associated with improved metabolic and cardiovascular outcomes. These foods offer significant potential as culturally acceptable and affordable options for disease prevention. **Conclusion:** Functional foods serve as accessible, cost-effective tools to mitigate the burden of NCDs. Strengthening public health nutrition policies and encouraging evidence-based food choices can significantly improve quality of life and support global efforts to reduce NCD-related mortality.

Keywords: Functional foods, Non-communicable diseases, Bioactive components, Preventive Nutrition

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