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**37<sup>TH</sup> MSPP ANNUAL SCIENTIFIC MEETING**

*in conjunction with*

**9<sup>TH</sup> MEDICAL RESEARCH SYMPOSIUM**

# ABSTRACT BOOK

**INTEGRATING MISSION ORIENTED RESEARCH IN MEDICAL SCIENCES**



**WED & THU**

11 & 12 SEPT 2024



**TIME**

8:00AM - 5:00PM



**VENUE**

AC HOTEL BY MARRIOTT  
KUANTAN, PAHANG, MALAYSIA

P014

## Screening of Antioxidant and Anti-Acetylcholinesterase Active Compounds in *Dillenia grandifolia* Wall. ex Hook. F. & Thomson Leaf Extracts

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**Introduction:** Dementia, including Alzheimer's disease (AD), is increasingly common among the elderly, with few approved medications providing only symptomatic relief. Plants, rich in phytochemicals, offer promising AD therapy due to their antioxidant, anti-cholinesterase, and anti-inflammatory properties. *Dillenia grandifolia* has been identified as one of *Dillenia* species that contains oleamide, a compound with AD-fighting properties. This research is a preliminary study on antioxidant and anti-acetylcholinesterase properties of *D. grandifolia* for its potential in this context. **Materials and Method:** Thin layer chromatography (TLC) bioautographic screening was employed to assess the antioxidant and anti-acetylcholinesterase properties of fresh and senescent leaf methanolic extracts. Total phenolic and flavonoid contents were determined using the Folin-ciocalteu and aluminium chloride assays, respectively. **Results:** The fresh leaf extract exhibited a higher percentage yield (10.20%) compared to the senescent leaf extract (8.25%). TLC analysis revealed six spots in each extract, with seven spots showing terpenoidal and phenolic terpenoidal antioxidant activity-three in fresh leaf extracts and four in senescent leaf extracts. One spot in each extract exhibited phenolic terpenoidal anti-acetylcholinesterase activity. Furthermore, the total phenolic content surpassed the total flavonoid content in both extracts, with the fresh leaf extract containing ( $75.0018 \pm 1.2816$  mg GAE/g extract) and the senescent leaf extract containing ( $66.1372 \pm 0.9079$  mg GAE/g extract) for TPC. The TFC screening showed ( $10.0980 \pm 0.4160$  mg CE/g extract) for the fresh leaf extract and ( $3.8235 \pm 0.1387$  CE/g extract) for the senescent leaf extract. **Conclusion:** This study sheds light on the potential medicinal benefits of *D. grandifolia*, highlighting its high total phenolic and notable total flavonoid contents. Fresh leaf extracts showed superior antioxidant and anti-acetylcholinesterase potential compared to senescent leaf extracts. Although limited to screening, these findings pave the way for further research using advanced detection techniques.

**Keywords:** *Dillenia grandifolia*; thin layer chromatography analysis; bioautographic screening; antioxidants; anti-acetylcholinesterase