

Phytochemical compound analysis and Antioxidant activity in *Piper betle* L. Methanolic Extract

Abstract

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Abstract

Introduction: *Piper betle* L. (Betel) leaves are type of flowering plant in the family Piperaceae. Betel, known commonly as “Mlue” in Cambodia, has several uses in traditional medicine. High contents of secondary metabolites and essential oils in betel leaves have antioxidant; and antibacterial activities.

Methods: The extract was filter dried under vacuum using a rotary evaporator at 30°C, 150 rpm. Methanol extract of *P. betle* powder was utilized to determine the total phenolic content (TPC) using the Folin-Ciocalteu method, total flavonoid content (TFC) using aluminum chloride buffer assay and antioxidant activity using DPPH radical scavenging assay.

Results: The percentage yield of crude extract (CE) was found to be 33.45%. The analysis showed significant levels of phytochemical compounds with TPC (19.99 ± 4.68 mg GAE/g of CE); and TFC (54.47 ± 5.07 mg QE/g of CE); and antioxidant activities via radical scavenging was 0.28 ± 0.9 µg/ml of CE. This results shown that crude had high extraction yield and was rich in phenolic and flavonoid compounds. The extract also exhibited strong radical scavenging activity, suggesting that its antioxidant potential is largely contributable to its phytochemical constituents.

Conclusion: This study showed that *P. betle* contains useful bioactive compound such as TPC and TFC that have a good benefit for further research tests on antioxidant activities and antibacterial activities to develop into pharmaceutical products from natural sources.

Ethics statement: This study involved laboratory testing of plant materials only and did not include human or animal subject with following biosafety guideline.

Conflicts of interest: The author have no interest of conflict.

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