

Effects of extraction methods on total phenolic and flavonoid contents and antioxidant activity of *Barlerialupulina Lindl*

ABSTRACT

Barlerialupulina Lindl. is a popular perennial herb species commonly used by indigenous people in Malaysia as folk medicine due to its wide range of biological effects on human health. The present study reports on extraction and assessment of antioxidants from the species, with an aim of exploring potential antioxidants source for application in the production of pharmaceuticals, functional foods and other applications. Several methods of extraction were used in the study: microwave assisted extraction (MAE), Soxhlet extraction (SE) and ultrasound assisted extraction (UAE) from leaves of *B. lupulina Lindl.* Each extraction method assessed phenolic content, total flavonoid content and antioxidant activity. The results have shown no variation between the three extraction methods ($P < 0.05$). The extracts of samples exhibited more than 80% inhibition scavenging activity against 2,2-diphenyl-1-picrylhydrazyl (DPPH) radical and almost 50% inhibition scavenging activity against Azino-bis-3-Ethylbenzothiazoline-6-Sulfonic Acid (ABTS) radical. The study identified that MAE was more efficient method of extraction for antioxidants from the species under study based on the short timeframe required. The present paper provides information to existing knowledge on available technologies for the good of mankind.

Keyword: *Barlerialupulina*; Total phenolic content (TPC); Total flavonoid content (TFC); Diphenyl-1-picrylhydrazyl (DPPH); Azino-bis-3-Ethylbenzothiazoline-6-sulfonic acid (ABTS)

