

Phytochemical content, antioxidant activity and reducing power of five ethnic medicinal plants of Manipur

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■ **ABSTRACT :** Phytochemical content, antioxidant activity and reducing power of five ethnic medicinal plants of Manipur was analysed to study the antioxidant content commonly used by the traditional healers for the treatment of different inflammatory diseases and ailments. Antioxidant activity of methanolic extracts of five medicinal plants was investigated by using DPPH method which ranged from 47.82 ± 0.041 per cent to 72.62 ± 0.08 per cent inhibition. The phytochemical contents like total alkaloids, total flavonoids, total phenol, total carotenoids content ranged from 5.95 ± 0.01 to 16.11 ± 0.01 mg caffeine /100g on dry weight, 34.95 ± 0.02 to 228.15 ± 0.02 mg quercetin (QE)/100g on dry weight, 88.46 ± 0.01 to 225.50 ± 0.01 mg catechol equivalents (CE)/100g on dry weight, 0.81 ± 0.005 to 3.80 ± 0.005 mg/100g, respectively. Pearson correlation revealed a positive correlation between total phenol content, total flavonoids content, total carotenoids content and free radical scavenging activity (DPPH) of five medicinal plants extracts. However a negative correlation was found between total alkaloids content and free radical scavenging activity of medicinal plants extracts. The reducing power five medicinal plants extracts was statistically significant and positively correlated with DPPH free radical scavenging activity ($r = 0.651$; $p < 0.01$). The study revealed that the plants with higher antioxidant activity (DPPH) showed high absorbance. Higher absorbance indicates more reducing power.

■ **KEY WORDS:** Phytochemicals, Free radicals, Antioxidant, Reducing power, Medicinal plants

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