

Quantitative Analysis of Polyphenol, Tannin, Flavonoid Compounds and Antioxidant Activity in Leaves and Seeds of *Ginkgo biloba* Linn.(ကမ္ဘာ့ဦးပင်)

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Abstract

Plants either in raw form or their isolated bioactive constituents are utilized as alternative and complementary medicine in various disorders. This study was carried out to evaluate the phytochemical constituents and antioxidant potential of leaves and seeds extracts from *Ginkgo biloba* Linn. The antioxidant activities of ethanolic and aqueous extracts were evaluated by using 2, 2-diphenyl-1-picrylhydrazyl (DPPH) assays. The total polyphenol and tannin were determined by Folin-Ciocalteu method. The flavonoid content was measured by aluminum chloride colorimetric method. In antioxidant activity, ethanolic and aqueous extracts of leaves exhibited IC₅₀ values 7.91 µg/100 µl and 15.89 µg/100 µl respectively. While IC₅₀ value of ethanolic and aqueous extracts of seeds revealed that 32.13 µg/100 µl and 33.29 µg/100 µl. However, antioxidant activity of all extracts did not exceed that of standard ascorbic acid (IC₅₀ = 0.27 µg/100 µl). An ethanolic extract of leaves resulted in the greatest phenolic content (60.24 mg gallic acid equivalent (GAE)/g). While the smallest content was recorded for aqueous extract of seeds (7.36 mg GAE/g). The ethanolic extract of leaves was greatest tannin content (12.26 mg tannic acid equivalent (TAE)/g) and smallest content of seeds aqueous extract (2.62 mg TAE/g). The greatest flavonoid content was observed with ethanolic extracts of leaves (52.1 mg quercetin equivalents (QE)/g). While the least was recorded for seeds aqueous extract (3.97 mg QE/g). The ethanolic extract of leaves showed the highest DPPH free radical scavenging activity which could be related to its higher phenolic, tannin and flavonoid content. According to this study, the antioxidant activity of *Ginkgo biloba* leaves is higher than that of seeds. Therefore, *Ginkgo biloba* Linn. is the good sources of natural antioxidant and provide a remedy against disorder caused by oxidative stress.

Keywords: *Ginkgo biloba* Linn.; phenolic content; tannin content; flavonoid content and Antioxidant activity