

ABSTRACT

*Traditional medicinal plants are widely used by many people. The Indonesian Herbal Pharmacopoeia (FHI) has collected data containing traditional medicinal plants and their identified compounds. The weakness in FHI is the absence of quantitative data on the number of compounds from traditional medicinal plants contained in it. The use of two standard compounds will make it easier to compare the total value of bioactive compounds so that it can be seen which standard compound is better to use. Research with large quantities for research on the content of compounds in traditional medicinal plants requires efficient use of standards in it. This research has analyzed total phenolics, total flavonoids, and antioxidant activity testing of five selected medicinal plants, namely green basil (*Ocimum sanctum* L.), kepel (*Stelechocarpus burahol*), gotu kola (*Centella asiatica* L.), purple basil (*Ocimum basilicum* L.), and tea (*Camellia sinensis* L.).*

Five traditional medicinal plants were extracted by maceration using 96% ethanol solvent. Tests for the presence of bioactive compounds in the extracts were carried out on phenolic and flavonoid active ingredients. Total phenolics and flavonoids of the five samples were analyzed by colorimetric method using Folin-Ciocalteu and $AlCl_3$ reagents with gallic acid and catechin compounds as standard phenolic compounds and quercetin and rutin compounds as standard flavonoid compounds. Antioxidant activity in medicinal plant extracts was tested using DPPH radicals (2,2-diphenyl-1-picrylhydrazyl) and H_2O_2 (hydrogen peroxide).

The results showed that the five samples had extract yields and physical parameters with good quality in line with those found in the FHI. Phytochemical screening tests of the extracts of the five samples used were also positive for phenols and flavonoids. The total phenol values of tea leaves were the highest at 425.74 mg GAE/g and 445.79 mg CE/g followed by green basil leaves, purple basil leaves, gotu kola leaves, and kepel leaves. The total flavonoid value of tea leaf extract was the highest, namely 12.27 mg QE/g and 20.42 mg RE/g. followed by basil leaves, basil leaves, gotu kola leaves, and kepel leaves. Based on the results obtained, in the total phenol and total flavonoid values, the catechin equivalent value is greater than the gallic acid equivalent value and the rutin equivalent value is greater than quercetin. The highest antioxidant activity was in tea leaf extract followed by basil leaf extract, basil leaf, gotu kola leaf, and kepel leaf. Based on the results obtained, the antioxidant activity of the five sample ethanolic extracts is classified as very strong to strong.

Keywords: total phenolic, total flavonoid, antioxidant, traditional herbal medicine