ID 478

A Mixture of Two Endemic Plants as Various Forms of Food Supplements with Heightened Biological Activity

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Evidence-based medicines/supplements have emerged as an important dimension in the modern world. We developed two food supplements with two plants: *Osbeckia octandra* (OO) and *Wrightia antidysenterica* (WA). The two food supplements were a tea bag and a capsule, and they were developed with a 1:1 ratio of OO and WA. The newly developed supplements demonstrated good phenolic content by the Folin-Ciocalteu assay. The tea bag food supplement showed 87.20 mg /Gallic Acid Equivalent/Grams and the capsule food supplement showed 68.63 mg /Gallic Acid Equivalent/Grams. The products also showed good flavonoid content by the aluminum chloride colorimetric assay; tea bag- 44.52 mg /Quercetin Equivalent/Grams and capsule- 34.09 mg /Quercetin Equivalent/Grams. Further, the selected combination mediated very high anti-oxidant activity, which was estimated by the DPPH assay when compared with individual plant material where we found that the tea bag food supplement showed an IC_{50} of 0.004 mg/ml and the capsule food supplement showed an IC_{50} of 0.01 mg/ml. Butylated hydroxytoluene only showed an IC_{50} of 0.02 mg/ml. Anti-oxidants mediate significant protection against oxidative stress and play a protective role in malignancies, and inflammatory and neurological diseases. Furthermore, the products showed anti-inflammatory activity, which was an added benefit, of the egg albumin assay which is a protein denaturation assay. The tea bag showed an IC_{50} of 0.363 mg/ml and the capsule showed an IC_{50} of 0.651 mg/ml while Ibuprofen demonstrated an IC_{50} of 0.169 mg/ml. These supplements/nutraceuticals will benefit in maintaining a healthy lifestyle. It is also a useful invention developed from our very own endemic species which could be developed as a commercial application that will bring revenue to Sri Lanka.

Keywords: *food supplements, nutraceuticals, medicinal plants, endemic plants*