

3.5 Identification and Quantification of Phenolic Antioxidants in Some Selected Traditional Sri Lankan Medicinal Oils

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ABSTRACT-

Several medicinal properties of seed oils are known to originate from the nonsaponifiable compounds present in the oils. Among the nonsaponifiable compounds, phenolic fraction includes phenolic acids and flavonoids. These compounds are known to render several beneficial health effects. In the present study, phenolic compounds of the seed oils of *Brassica juncea* (Aba), *Madhuca nerifolia* (Mee), *Sesamum indicum* (Thala), *Calophyllum inophyllum* (Dhomba), *Canarium zeylanicum* (Kekuna) and *Ricinus calamus* (Endaru) were identified by high performance liquid chromatography (HPLC) technique and individual phenolic antioxidants were quantified by the integration of the signal areas of chromatograms. The results are given in the Table 1.

Table 1. Phenolic antioxidants in selected traditional Sri Lankan medicinal oils

Phenolic compound	HPLC retention time (min)	Amount of phenolic compound (mg/ kg of oil)					
		Domba	Aba	Mee	Kekuna	Thala	Endaru
3,4- DHBA	12.8	-	0.43 ± 0.02	0.21 ± 0.02	1.29 ± 0.20	-	-
CH	14.4	1.82 ± 0.12	1.33 ± 0.30	1.24 ± 0.10	-	-	-
PHBA	16.6	0.10 ± 0.01	0.32 ± 0.03	-	1.04 ± 0.20	1.0 ± 0.02	-
Vanillic	18.5	-	-	-	-	-	2.33 ± 0.30
Caffeic acid	18.9	-	1.61 ± 0.10	0.44 ± 0.04	-	0.83 ± 0.03	-
Syringic acid	19.7	-	-	0.56 ± 0.06	-	-	0.90 ± 0.10
Vanillin	21.3	0.24 ± 0.04	0.13 ± 0.02	-	-	0.31 ± 0.02	0.74 ± 0.04
Ellagic acid	28.9	-	1.54 ± 0.30	-	2.12 ± 0.30	1.55 ± 0.20	-
Cinnamic acid	37.9	1.93 ± 0.20	0.32 ± 0.02	-	-	-	1.30 ± 0.10

Each data point represents the mean of three replicates ± S.E

3, 4- DHBA – 3, 4-Dihydroxybenzoic acid

PHBA – *P*-hydroxybenzoic acid

CH – Catechin hydrate

The results indicate that these medicinal oils contain several phenolic acids and flavonoids whose beneficial health effects and antioxidant properties are already known.

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