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## A new way to compare the antioxidant activity of phenolic substances of different plant extracts

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With the growing evidence of potential health risks associated with the consumption of synthetic antioxidants, the demand for natural antioxidants has increased rapidly. In the assessment of the antioxidant activities of plant extracts IC 50 values of the extracts or antioxidant activity of a known concentration (g/L) (but not the concentration of active ingredients) of an extract, is determined. However, the results of such experiments do not clearly reflect the quality of antioxidants of the plant extracts due to the fact that the amounts of active antioxidant ingredients are not considered for such evaluations. In the present study the DPPH radical scavenging activities of phenolic extracts from different plant sources were compared. For this comparison, the colorimetrically measured total phenol contents of the phenolic extracts of different samples were adjusted to an equal concentration by suitable dilutions and the DPPH radical scavenging activity of each phenolic extract was measured (Figure 1). Five samples from each plant extract were used for the study and the measurements were done in triplicate

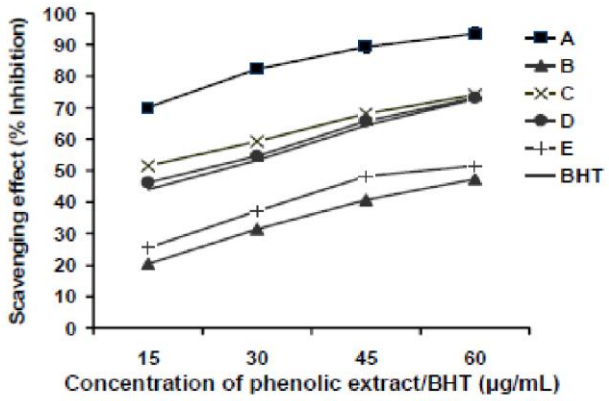


**Figure 1.** DPPH radical scavenging activity of the extracts of seed hulls of *Madhuca nerifolia* (A), *Sessamum indicum* (B), *Brassica juncea* (C), *Calophyllum inophyllum* (D) and *Ricinus calamus* (E).

Interestingly, observation of the variation of DPPH radical scavenging activities along y axis at a given concentration of phenolic substances indicates that the antioxidant activities of the phenolic extracts from different sources vary even at equal total phenol concentrations. This can be attributed to the fact that the antioxidant quality of the individual phenolic compounds is different in different plant extracts. The antioxidant activity by DPPH assay of the seed extracts of A and C is even superior to that of synthetic antioxidant, BHT.

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