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Inhibition of lipid peroxidation in egg yolk homogenate by phenolic compounds in coconut cake

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The effect of phenolic compounds of coconut cake (PCCC) on the inhibition of lipid peroxidation, induced by ferrous sulphate in egg yolk homogenate as a lipid rich media was analysed and compared with the standard butylated hydroxy toluene (BHT) by measuring the amount of thiobarbituric acid reactive substance (TBARS), a secondary product of lipid peroxidation using a spectrophotometric method. To determine the concentration required to achieve 50% inhibition (IC_{50}) of phospholipid oxidation in egg yolk, the percentage of lipid peroxidation inhibition was plotted against extract concentration. The IC_{50} values obtained for PCCC and BHT are 6.46 ± 0.10 µg/ mL and 2.77 ± 0.43 µg/ mL respectively. At lower concentration of the PCCC, the lipid peroxidation inhibition was marginal but significant inhibitory response was evident as the concentrations were increased. The results suggest that the PCCC could be used as a potential source of natural antioxidants in certain food model systems to prolong the shelf life.

Keywords: Coconut cake, egg yolk homogenate, phenolic compounds, thiobarbituric acid reactive substance

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