

Original article

Antioxidant properties of methanolic extracts from different parts of *Sclerocarya birrea*

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Summary

The methanolic extracts from *Sclerocarya birrea* leaves (SCL), roots (SCR), barks (SCB), and kernel oil cake (SCK) were examined for radical scavenging capacities and antioxidant activities. The total phenolics of the extracts was determined spectrophotometrically according to the Folin-Ciocalteu method using gallic acid as standard solution. The total phenolic compounds were found as 304.5, 367.5, 593, 148.0 and 258.0 mg g⁻¹ of dry product, respectively. The extracts of SCL, SCR, SCB and SCK were markedly effective in inhibiting the oxidation of linoleic acid and subsequent bleaching of β -carotene in comparison with the control. Based on oxidation of β -carotene/linoleic acid, the SCK extract is the most effective followed by SCR, SCL and SCB extract. The antioxidant activity determined by the DPPH (1,1-diphenyl- β -picrylhydrazyl) method revealed that the SCK extract had the highest antioxidant activity on DPPH free radicals followed by SCB, SCR and SCL extracts. The effect of different extracts on the oxidative stability of sunflower oil at 70 °C was tested in the dark and compared with BHA. The oil peroxide values (PVs) were generally lower with the addition of extract in comparison to a control.

Keywords Antioxidant activity, β – carotene-linoleic acid assay, 1,1-diphenyl- β -picrylhydrazyl, methanolic extracts, *Sclerocarya birrea*.