

Antioxidant activity of phenolics-saponins rich fraction prepared from defatted kenaf seed meal

ABSTRACT

The current study is aimed to determine the antioxidant properties of crude ethanolic extract (CEE) of defatted kenaf seed meal (DKSM) and its derived n-butanol (BF) and aqueous (AqF) fractions. Spectrophotometric assays showed that BF contained the highest amount of phenolic compounds and saponins, followed by CEE and AqF ($p < 0.05$). Similarly, HPLC-DAD analysis revealed that level of all the detected predominant phenolic compounds was significantly higher in BF ($p < 0.05$). Through multiple antioxidant assays, BF exhibited higher antioxidant activity than CEE and AqF, except for iron chelating activity ($p < 0.05$). Antioxidant activity of CEE and fractions were strongly correlated to their phenolic and saponin contents. This study showed that phenolic compounds and saponins could be extracted and partially purified simultaneously from DKSM by employing a simple alcoholic extraction–fractionation procedure. High antioxidative phenolics–saponins rich fraction from DKSM is a potential active ingredient that could be applied in nutraceuticals, functional foods as well as natural food preservatives.

Keyword: Defatted kenaf seed meal; *Hibiscus cannabinus* L.; Phenolic compounds; Saponins; Antioxidant activity