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Evaluation of the antioxidant activities in aqueous extract of the fresh Madeni rose petals

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Madeni rose (Rosa damascene Mill.) is considered one of the most important economic products of Al-Madinah Al-Munawarah, Saudi Arabia. It is used as popular drink and reported to have antioxidant properties. In this research, the total phenolic (TPC) and the total flavonoid contents (TFC) of the aqueous fresh petals extracts were estimated by Folin-Ciocalteu and aluminum chloride methods, respectively. Parameters measured in different concentrations of extracts (2.5, 5 and 10 mg/ml) include 1,1-diphenyl-2-picrylhydrazyl (DPPH) scavenging activity, the reducing power, ferrous ion chelating and hydrogen peroxide (H2O2) scavenging activity. Qualitative analysis of the major phenolic compounds was performed using high performance liquid chromatography (HPLC). The results showed that the TPC and TFC of the extract were 118±0.04 µg gallic acid equivalent and 17.8±1.19 µg catechin equivalents in 10 mg/l, respectively; the flavonoid content was low and started at 5 mg/ml of rose extract. The scavenging activity of DPPH, H2O2 and the reducing power were 78.1±0.9%, 73.1±2.9% and 1.25±0.09 compared to Trolox as a standard (94.3±1%, 71.2±1.8% and 1.3±0.07, respectively) at the same concentration. Iron chelating activity of 63.8±3.6% at 10 mg/ml compared to EDTA as a standard (83.4±4.6%). The phenolic compounds identified by HPLC were gallic acid, catechin, rutin and quercetin. In conclusion, fresh rose petals aqueous extracts contains a high content of phenolic and flavonoid which contributes to its antioxidant ability to scavenge free radicals and chelate iron. Thus, the extract of fresh Rosa damascena Mill., of Al-Madinah region of Saudi Arabia is a significant source of natural antioxidant and may have beneficial effects on human health.

Biography

Arwa A Algarni has her thesis in evaluation of the antioxidant activities of Madeni rose petals.

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