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The antioxidant capacity of the leaf part of *Phoenix dactylifera* through ferric thiocyanate (FTC) method

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Background and Aims: Phoenix dactylifera has a lot of benefits and almost all part of this plant are used properly.It is one of the most important source of polyphenolic substances that leaf part of its is not analyzed so far. There is increasing evidence indicating that reactive oxygen species (ROS) and free radical mediated reactions are involved in degenerative or pathological events. As consumption of synthetic antioxidant is limited because of its adverse effect on human health and tend to use of natural antioxidant is increased,This study was designed to investigate the antioxidant capacity of the leaf part of Phoenix dactylifera through ferric thiocyanate (FTC) method.

Methods: A mixture containing the extract (4 ml) in absolute ethanol,final concentration: 200 µg/ml, 2.51% linoleic acid in absolute ethanol (4.1 ml), 0.05 M phosphate buffer pH 7 (8 ml) and distilled water (3.9 ml) was placed in a vial with a screw cap, and then placed in an oven at 40°C in the dark. To this solution (0.1 ml) was added 75% ethanol (9.7 ml) and 30% ammonium thiocyanate (0.1ml). Three minutes after adding 0.02 M ferrous chloride in 3.5% hydrochloric acid (0.1 ml) to the reaction mixture, the absorbance of red color was measured at 500 nm, each 24 h until one day after absorbance of the control (without sample) reached maximum. BHT was used as standard.

Results: Phoenix dactylifera extract carries the antioxidative potential for chain-breaking inhibition of lipid peroxidation as it has shown 49.0 % inhibition when compared with BHT (78.0% inhibition).

conclusions: This study shows moderate antioxidant activities of the leaf part of Phoenix dactylifera ethanolic extract against lipid peroxidation.

Keywords: FTC; Antioxidant capacity; Phoenix dactylifera; Leaf