

STUDY OF SOME COMPOUNDS IN THE EXTRACT OF *MORINGA OLEIFERA* LEAVES IN IRAQ AND ITS IMPORTANCE AS AN ANTIOXIDANT

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ABSTRACT : *Moringa oleifera* Lam (Moringaceae) contain highly medicinal and nutritional value. *M. oleifera* is socially beneficial alternative, inexpensive and eco-friendly, particularly for the socially suffering from malnutrition, poverty, neglected population and those have restricted access to resources technology. The current review is interested on, emphasising its pharmacological, nutritional and chemical constituents. The leaves are rich in vitamins, minerals and other important phytochemicals. The leaves extract are used to malnutrition treatment and it used as a potential antioxidant. The plants were extracted and analysis by HPLC that obtained from the dried leaf extract indicated several vitamins to used as an antioxidant. The results highlight the *M. oleifera* contains several essential antioxidants such as vitamin C, E and A.

Key words : *Moringa oleifera*, antioxidant extract, nutrition, HPLC.

INTRODUCTION

Medicinal plants contain many material that have natural are compounds resource with nutritional and pharmacological properties that help to treat and prevent diseases (El Sohaimy *et al*, 2015). The bioprospective studies that evaluated different plants, *Moringa oleifera* (Lam) (*M. oleifera*) known as “quiabo-de-quina” or “moringa”, “lírio branco” has stood out in alternative medical treatment, showing good for many diseases control (Jed and Fahey, 2005; Anwar *et al*, 2007). The secondary metabolites, such as vitamins, tannins, alkaloids, steroids, flavonoids, coumarins, saponins, resins and quinones have potential medicinal derives (Anwar *et al*, 2007).

Chemical constituents

There are several important chemical compounds derived from *M. oleifera* specially vitamins and secondary metabolites such as gallic acid, phenolic acids, ellagic acid, ferulic acid, chlorogenic acid, flavonoids, quercetin, glucosinolates, kaempferol and vanillin, which have, antimicrobial, pharmaceutical and nutritional properties (Singh *et al*, 2009; Mbikay, 2012).

Pharmacological activity of *M. oleifera*

Administration leaves extract of *M. oleifera* leads to reduce the cholesterol levels (Ghasi *et al*, 2000). Consumption of *M. oleifera* causes reducing the levels

of high-density lipoprotein, low-density lipoprotein and very-low-density lipoprotein (Mehta *et al*, 2003). Additionally, atherosclerotic plaques formation has been reduced by using extract of *M. oleifera* leaf (Chumark *et al*, 2008). Some studies explained the potential activity of *M. oleifera* that using for treatment dyslipidemia, hyperglycemia and type-2 diabetes as well as triglycerides, total cholesterol, very-low-density lipoprotein and low-density lipoprotein cholesterol were reduced (Kumari, 2010). Leaves of *M. oleifera* have a potential role to decrease the damage of kidney and liver induced by drugs and have anti-inflammatory activity. *M. oleifera* pod, leaf and seed extracts have strong antioxidant activity (Nambiar *et al*, 2010).

Decrease the oxidative damage to the main bio molecules by the high phenols and flavonoids content in several plant parts, especially leaves, through the lipid peroxidation inhibition, the nitric oxide action, preventing free radicals production of and induction of deoxyribose degradation (Singh *et al*, 2009; Sasikala *et al*, 2010).

MATERIALS AND METHODS

Plant collection

We obtained the *M. oleifera* from a local farm / Baghdad city and classified by Herbarium, Center of Desert Studies, University of Anbar (Fig. 1). Leaves of the plant were at room temperature dried, then stored for use.