USE OF SOME NATURAL ANTIOXIDANT SOURCES IN PREPARING OF SOME NUTRACEUTICAL FOODS

By

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B.Sc. Agric. Sc. (Food Science), Cairo University, 2005

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ABSTRACT

Eman Hemaia Mohamed Motawe : Use of Some Natural Antioxidant Sources in Preparing of Some Nutraceutical Foods
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Antioxidants may function by preventing the formation of radicals or by scavenging radicals or hydrogen peroxide and other peroxides. Special attention is focused on the substitution of synthetic food antioxidants by natural ones has fostered research on animal and vegetable sources and the screening of raw materials for identifying new antioxidants. The herein study aimed to focus on the utilization of natural antioxidant compounds from inexpensive or residual sources from agricultural industries namely carrot leaves, mango leaves, wheat, permeate and orange peel.

In addition their biological properties such as their safety utilization and their antidotal role as antioxidant against the oxidative and hepatotoxicity induced in adult albino rats by oral ingestion of CCl_4.

In vitro study, obtained data showed that the antioxidant activity and scavenging capacity were found to be in between 80- 90% . In vivo study biological analysis including liver functions namely GPT, GOT, alkaline phosphates and total proteins, kidney function and lipid profile namely total cholesterol , HDL, LDL and triglycerides, MDA and histopathological examination were performed after 4 and 8 weeks.

The results indicated that the reactive oxygen (ROS) and oxidative stress associated with CCl_4 induced hepatotoxicity. In addition the safety utilization of the natural sources understudy was noticed after 8 weeks of treatment. The obtained data also exerted the prophylactic effect of these natural raw materials by pre- oral ingestion for 8 weeks against the

hepatotoxicity and oxidative stress caused by ccl_4 as indicated by the recovery in the levels of lipid profile and malondialdehyde (MDA).

Also, histopathological examination was performed, similar trend of results associated with fluctuation in the prophylactic effect, were corresponding to the biochemical parameters.

Key words: Carrot leaves, Mango leaves, Wheat, Milk permeate , Orange peel, Antioxidants, Carbon tetra chloride, Malondialdehyde (MDA) Histophtology and Rats.

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