

THE INFLUENCE OF POLYPHENOLS FROM NETTLE EXTRACT ON IRON METABOLISM AND SOME MICROELEMENTS THAT PARTICIPATE IN MAINTAINING IRON HOMEOSTASIS

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Abstract

Iron is integrated into metabolic processes, cell growth and proliferation, while also being an essential cofactor of the mitochondrial respiratory chain, the Krebs cycle and DNA synthesis. Maintaining iron homeostasis in the body has always been in the sights of researchers at different levels of organization and composition of living organisms, its role can be determined by the biological functions of some proteins that contain this biometal, such as hemoglobin and myoglobin, enzymes involved in biological oxidation processes, enzymes that neutralize ROS and maintain redox balance in the body. At the same time, the excess of iron is associated with cytotoxic effects, which are caused by the peculiarities of iron, as a metal with variable valence, to trigger chain reactions of free radical formation, which lead to lipid peroxidation (LPO) of biological membranes, toxic damage to proteins and nucleic acids. Therefore, the content of this microelement is strictly regulated, which allows us to talk about iron homeostasis. The purpose of this paper is to familiarize with new scientific results of iron homeostasis under the influence of polyphenols extract from nettle.

Key words: antioxidants, iron homeostasis, iron overload, oxidative stress, plant extracts.